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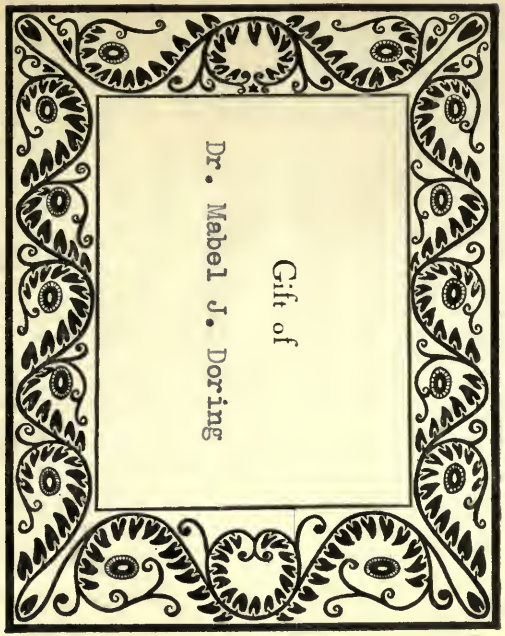
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SYPHILIS

PLATE 1.—CHRONIC GLOSSITIS WITH ADVANCED SCLEROSIS—THE "WHITE PAINT PATCH" (page 216)

The patient was a man in good health who had formerly suffered from syphilis and who had smoked heavily. The conditions shown had been slowly advancing for many years. A dense, firmly-adherent white coating with well-defined edges covered the anterior two-thirds of the upper surface. At the sides and on exposed portions there were abrasions and large, firm papillary growths. These probably represented the fungiform papillæ; the filiform had long been lost.

SYPHILIS

BY

SIR JONATHAN HUTCHINSON

F.R.S., LL.D., F.R.C.S.

Consulting Surgeon to the London Hospital and to the Royal London Ophthalmic Hospital; sometime President of the Royal College of Surgeons

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To

ALFRED FOURNIER

AS A SMALL EXPRESSION OF FRIENDSHIP

AND HIGH ESTEEM

THIS WORK IS DEDICATED

PREFACE TO THE NEW EDITION

The present edition of this work has been largely re-written and in parts condensed, but no important modifications of the opinions expressed have been found needful. The book is still, in the main, clinical, and is based upon observation of syphilis as it occurs in the human subject and in European races. Careful attention has been given to the recent results of experimental work, and especially to what has followed from the demonstration by Schaudinn and Hoffmann of the parasite which is now generally accepted as the immediate cause of syphilis. A considerable, and otherwise regrettable, delay in the publication of this edition has resulted from the desire to secure for it the full advantage of this addition to our knowledge. The discovery had, however, been so confidently foreseen, and had become by inference so definitely interwoven with the texture of our creed, that now that it has been actually made it brings us but little help. The phenomena of syphilis had been claimed as being certainly the result of a parasitic contagion, and the disease had been placed in the category of specific fevers which observe stages. We had, therefore, but little to learn from the ocular demonstration of the parasite and the giving to it of a name. To those minds incapable of accepting as practically proven anything not actually demonstrated, the discovery is invaluable; and, at the same time, it furnishes an important weapon of defence to those who for themselves had long ago accepted its conclusions.

When the frequently repeated attempts to convey syphilis to the lower animals were, in the able hands of Metchnikoff, crowned with success, much

was hoped for as the result of experiments on apes, of a kind forbidden on men. With most praiseworthy zeal and industry, numerous inquirers—amongst whom I may perhaps mention Professor Neisser as one of the foremost—engaged in this department of work. The results have, however, been in the main a confirmation of principles upon which we were already acting. It had already been argued that in mercury we had a true antidote for syphilis, and that it killed the virus and anticipated its effects. The small-dose plan of administration had been introduced, and its long and uninterrupted continuance had been insisted upon. The anticipatory method, under the name of "suppression treatment," had been urged, and clinical proof had been offered that the secondary stage might, as regards all its most conspicuous phenomena, be wholly prevented. The suggestion was added that such prevention was probably of the utmost importance in reference to tertiary phenomena. Acting under this conviction, it had been urged that the old rule, to wait for skin eruption before beginning mercury, was a mistake very prejudicial to the interests of the patient. It was well recognised that the period during which the virus of syphilis remains localised in the part infected is very brief; and that the occurrence of induration is by no means a symptom which usually precedes blood-infection. These facts have, indeed, recently culminated in the suggestion that mercury should be given internally in all venereal sores concerning which reasonable suspicion is unavoidable.

The results of clinical observation and those of experimental and microscopical research should always be considered together. It is not for good that either should be allowed to rank as a court of appeal from the decisions of the other. There are special liabilities to error which are incident to each, and when their conclusions differ the case should be tried over again. The present is an age of experiment, and there is, perhaps, some danger that conclusions based upon the

study of minutiæ quite inaccessible to most may, when announced with confidence, be accepted by the many as beyond dispute. Experimental research as regards syphilis, as initiated by John Hunter himself, did not lead to prosperous conclusions, and it is quite possible that, unless more caution is exercised than for the present is promised, some of the conclusions so confidently vouchsafed to us may share the fate of that which recorded that gonorrhœa and syphilis were really the same disease. We have recently been assured that inheritance of syphilis from a male parent has been proved to be an impossibility, and by another authority that tropical frambœsia is specifically distinct from European syphilis. Both these conclusions must be regarded as in direct antagonism with clinical facts. We listen with much respect to the arguments which those who propound these views urge in their support, but decline to accord them that infallibility which they seem desirous to claim. As yet, but little is known as to the natural history of the *Spirochæta pallida*, and much is possible where little is certain.

In view of the uncertainties just expressed, it has been deemed best to allow the present work to retain the almost exclusively clinical character which the first edition possessed. I have, however, carefully incorporated such conclusions, resulting from recent researches, as seemed trustworthy, and some of the most recent of these will be found in the Appendix.

It may, perhaps, be helpful if I here briefly allude to some of the general facts in reference to the nature of syphilis which are in the following pages assumed to be established.

The parasite itself, although essentially the same all over the world, is no doubt susceptible of some modification by climate and food, and differs in minor characters in different countries and races. It may probably assume, and retain for a time, such peculiarities without losing essential specificity, as we know to be possible in the species *canis*, and as all mycologists are familiar with in their departments of

botanical work. To such local and temporary evolutions the term "variant" is perhaps more applicable than is "variety" or "sub-species." Probably the majority of widely separated countries and widely dissimilar races have their own variants of syphilis, as would be seen if the facts were carefully observed.

We may recognise several distinct steps in the development of modern practice in the internal treatment of syphilis by mercury.

The first was the recommendation of small doses and the avoidance of salivation.

The second was the recommendation of long-continued courses of small doses. As time has gone on, and the drug has become less and less feared, the length of the course has been increased.

The third step was accomplished when, about 1887,* it was advocated that the remedy should be resorted to as early as possible, and that when the chancre was characteristic there should be no waiting for the secondary eruption.

I have, I believe, been accused of entertaining views respecting the treatment and prognosis of syphilis which are too optimistic, and it is desirable, perhaps, that a few words should be said as to the opportunities for observation from which my conclusions have resulted. It is necessary to confess, in the first place, that I have for many years worked but little in the post-mortem room, and still less in the laboratory. What is stated in the pages of the present work in reference to these important topics is, for the most part, borrowed from others. I have, however, during a long series of years been a diligent observer of all that concerns syphilis in the living subject, and my opportunities in this department have been extensive. My interest in the disease was first excited when, as an apprentice-dresser, I had to visit daily a young gentleman, the surface

* Even much prior to this date early treatment had been advised, and it had been urged that it was easy to keep the secondary stage free from symptoms. I do not find, however, that in the first edition of this work I definitely advised anticipation of the secondary stage or used the expression "suppression treatment."

of whose skull was extensively laid bare by suppurated nodes. The case interested me extremely, as I was told that the boy's father had died of syphilis. During several years' studentship at the York County Hospital I saw exceedingly little of syphilis, and when, in 1849, I came up to London and took my diploma I am sure that I could not have diagnosed an indurated chancre.* In the early 'fifties, having become Surgeon to the Metropolitan Free Hospital, I obtained a wide range of observation amongst the poorest classes and in all races. Not long after this date I became attached to the staff of the Royal London Ophthalmic Hospital, and also to that of the Blackfriars Hospital for Diseases of the Skin, with both of which I maintained official connection for a long series of years. It was at the former that the observations were made which resulted in my papers on the teeth and physiognomy of congenital syphilis, and the nature of interstitial keratitis and other affections of the eye not previously suspected to be syphilitic in causation. In 1859 I became Surgeon to the London Hospital, without resigning my appointments at the special institutions just mentioned, and thus secured what was the object of my desire—a very wide range of both general and special study of disease. I had not at that time, nor, indeed, subsequently, any desire to cultivate practice in venereal diseases—rather, indeed, to avoid it—but my papers having attracted attention, more especially my recommendation of the small-dose but long-continued courses of mercury, private patients were sent to me, and I soon had plentiful opportunities for observing syphilis among those whose education and intelligence enabled them to afford information far more trustworthy than that obtainable in hospital practice.

Now commenced the collection of experience in

* I mention this in order to ask attention to the importance of affording special instruction in syphilis. I feel sure that a large number of those who now take their diplomas do so, as I did, without having obtained any practical knowledge of this very important disease.

reference to the social aspects of syphilis, and more especially as to the marriage question and the remote effects of inheritance. Year by year my records accumulated, and, as I was always a diligent note-taker, it became possible to complete, through more than one generation, many cases which would otherwise have remained fragmentary and comparatively useless. No week passed but some patient whom I had treated many years previously, and quite lost sight of, would turn up again and give me the history of his subsequent life and facts as to his children. My own years having been unusually prolonged, in association with fair powers of memory and mental vigour, I have been able to secure a kind of experience which falls to the lot of but few. I have seen many of those whom in their early adult vigour I had treated for syphilis, now in honoured grey hairs and apt to boast of their grandchildren.

If I am asked to display the reverse of the shield, I may truthfully say that I have exceedingly little to disclose. In a certain small number of cases I have seen the symptoms of tabes threatened, but hardly ever have they been aggressive, whilst of the more serious affections of the nervous system in connection with syphilis I have, amongst those who had been my own patients, known nothing.

It would be absurd to speak of syphilis as in the main a bugbear, but the impressions derived from my own experience as to its curability and remote results incline me to suspect that the gross exaggerations prevalent respecting it cause more misery than is produced by the disease itself.

Amongst the features in the present edition to which especial attention is invited are the following suggestions :

That, although it is admitted that a spirillum invasion is the first stage of syphilis, it would be a serious error if this parasite were regarded as representing the sum total of syphilis.

That from the first the spirillum goes into a sort

of partnership with the pre-existing tendencies of its victim.

That the complex and often very peculiar group of symptoms which results from a spirillum invasion is often more importantly due to the patient's proclivities than to the parasite itself. This fact should be always kept in mind, and, whenever convenient, recognised in a compound name.

That the spirillum may itself receive modification, which, whilst not destroying its specific identity, may modify its results, and that it is convenient to recognise such modifications under the name of variants or sub-species.

That the affections which have been known under the names of sibbens, morula, pian, button scurvy, yaws, parangi, etc., are variants of syphilis, and not specifically distinct from it.

That it is important to recognise a large group of recurring affections, hitherto regarded as directly syphilitic, as being in the main of herpetic (*i.e.* neurotic) origin, and curable by remedies different from those appropriate for syphilis.

That syphilis gives proclivity to herpes, especially in conjunction with malaria, or in those who have previously suffered.

That in all forms of herpetic or bullous syphilis, arsenic, and not mercury, or arsenic with mercury, is the proper treatment.

That the terms "hard" and "soft" in application to chancres lead to innumerable errors in practice, and that they should, for the most part, be disused.

That the importance of beginning the parasiticide use of mercury as early as possible is so great that it is wise to resort to mercury for all suspected sores which do not at once yield to iodoform.

That in the more serious forms of nerve disease in late syphilis it is wise to continue mercury for very long periods—"lifelong courses."

Three topics urgently await investigation as to the

relationship of the spirillum to the observed facts: (1) The "*chancre redux*," in which, after long intervals, characteristic hardening returns in the site of a former chancre. (2) *Interstitial keratitis*, in which a very peculiar and well-characterised form of cyclo-keratitis may, in connection with inherited taint, but thirty or forty years after the patient's birth, occur symmetrically, and prove spontaneously curable, without liability to recurrence. (3) The "*gumma-tumour*," which may, wholly solitary, grow rapidly to a large size, and may yet disappear very quickly under iodide of potassium, without any tendency to return.

Amongst many to whom I am indebted for suggestions, either personal or through their published works, I must most especially mention my friend and colleague Mr. Waren Tay. To Mr. Tay's sagacity and extensive knowledge I owe not less than to his unwearied zeal in assisting me in the preparation of the present edition as well as of the former one.

J. H.

November, 1909.

PREFACE TO THE FIRST EDITION

The literature of Syphilis is encumbered with ill-founded opinions and untrustworthy facts. Although in some respects the study of this specific disease may be considered more easy, and as offering more definite data to work upon, than most other maladies, yet it has also many special sources of fallacy. Our patients often have reasons for not telling us the exact truth, and, still more often, they are not themselves cognisant of it. The disease is a slow one, and the case-histories which we have to investigate frequently extend over many years. Very often we are precluded, by circumstances, from asking the questions which we should like to put. None of the symptoms of the disease are pathognomonic, and, with the best desire in the world to be candid, both patients and their advisers may give us misleading evidence. Such being the sources of error, it becomes wise to distrust all isolated facts, however definite they may appear to be, and to give our confidence almost solely to propositions which are in accordance with general experience. The subject is one concerning which there is as yet, on many important points, much uncertainty in our knowledge.

In the following pages I have aimed less at systematic completeness than at clinical exposition. To the latter subject I have devoted my best efforts, and my hope is that those who may honour this work by their attentive perusal will obtain from its pages clear impressions of the present state of our knowledge on most of the topics which it concerns. Nor will they, I hope, miss suggestions as to the kind of research which is yet needed in many directions. It has been my endeavour to make the numerous case-

narratives tell their own story, and to allow their various weak points, as items of evidence, to be apparent. I trust it will be found that no attempt has been made to exaggerate the precision of our knowledge, and that, as far as possible, all dogmatic assertions have been avoided. The attempt has been to point the way to general principles, which, once accepted, may obviate the necessity for much of the detail which we find in systematic treatises. That the diagnosis of syphilis is often beset with difficulty, and that its recognition, in the various forms of disease which it produces, is to be attained rather by careful appreciation of all the facts of the case than by placing confidence in any one symptom, has been repeatedly enforced.

The creed which will be found to interfuse not only this work, but almost all that I have ever written on syphilis, is that the disease depends upon a living and specific microbe, and that it is contagious or transmittible only so long as that microbe retains its vitality. It is, I believe, of the utmost importance to keep this doctrine clearly in mind, for it simplifies our reasoning, and clears our view at every step. Considering the successes which the study of Bacteriology has attained of late years, it is certainly surprising that no one has as yet been able to demonstrate the special microbe of syphilis. That this discovery is in reserve for some future investigator, I have the utmost confidence in believing.

I have to offer some apology to the innumerable writers on the subject of syphilis for the comparatively small number of references to their works which will be found in this book. Its limited size has entirely precluded anything like controversial discussion, and at the same time almost all attempts at the history of the development of opinion. It is, however, a matter of mere justice that I should here acknowledge my indebtedness to the admirable and systematic works of Messrs. Hill and Cooper, Professor Baumler, and Drs. Bumstead and Taylor. My great obligations to

Professor Alfred Fournier I have endeavoured to imply in my dedication. No one is better aware than myself that the advance in our knowledge as regards syphilis during recent years has been the result of the labour of many observers, and to no one would the office of grateful recognition of all have been more pleasing had the conditions of my work permitted it.

CONTENTS

SYPHILIS

CHAPTER I

THE HISTORY OF SYPHILIS

All who have, with any degree of care, studied the history of syphilis will probably incline to accept the opinion of the learned Astruc that "the disease was unknown to the ancients, whether Jews, Greeks, Latins, or Arabians, nor did it make its appearance in Europe till towards the close of the fifteenth century."

Place of origin.—The place which Astruc, in common with others of his day, assigns as the parental home of European syphilis is Hispaniola (now St. Domingo). "The Spaniards who arrived there in the years 1492 and 1493 under Christopher Columbus first contracted the disease by lying with the women of the country, and thence conveyed it to Naples, which they went to relieve an. 1494." Several authors, and Hirsch amongst others, have endeavoured to refute this belief by alleging that syphilis did not exist on these islands nor on the American continent until introduced by Europeans. Their mistake lies in the attempt to separate what has been named "yaws" from syphilis; for all admit that "yaws" was indigenous there. Hirsch tells us that Oviedo,* who was the first to write on yaws, had observed it in St. Domingo, and spoke of it under the name of *bubas*, which the Spaniards had given it. As we now know that the protozoan parasite of

* Hirsch has the following curious note: "It is a not unlikely guess that Oviedo's opinion of the American origin of syphilis partly arose out of confounding the latter disease with 'the Bubas.'" All the while Oviedo was quite right, for the two were the same. No better instance could be cited of the injury to progress in clinical knowledge which results from hasty and ill-considered efforts at differentiation.

syphilis is present also in yaws, the confusion disappears. This parasite was doubtless brought into Spain by Columbus's sailors, and the disease which it produced became known (much later) under the name of "syphilis."

Spread of the disease in Europe.—The date of Columbus's return from his first visit to the West Indies was March, 1493. We have no certain information as to the existence of syphilis in Europe before this, but its spreading occurred so promptly after his return as to suggest doubt whether it might not have been introduced a few years earlier. If it were, we must fall back on the not improbable supposition that the Portuguese who were trading with the West Coast of Africa had brought it from thence. The prevalent belief at the time was that it came from America, and the state of sexual morality and the social habits of the time, favouring in various ways accidental communication, may explain the very rapid international diffusion which followed. The siege of Naples by Charles VIII. of France was in 1494, and Ferdinand of Spain sent a Spanish army to assist in his expulsion. Charles returned from Italy in 1495, but did not reach Paris till the following year.* He brought with him the "Neapolitan disease," and its spread in Paris was such that it soon obtained the name, which it long retained, of "the French disease." From these events we date what has been called "the great epidemic of syphilis." Hirsch gives the dates of its appearance in Spain as 1493, in Italy 1494, in Germany and Switzerland 1496, and in the same year in the Netherlands, Denmark, and England. The earliest information of its occurrence in Bohemia and Russia dates from 1499. It is possible that it attracted attention in Scotland before it had done so in England, and if this were the case it might be explained by the freer intercourse of Scotland with France. In all these places it excited surprise, followed by consternation, and everywhere it

* Dean Kitchin, in his History of France, writes: "The poor remnants of his army, bringing with them the seeds of loathsome contagious diseases, found their way back to France in 1496."

was regarded as wholly new; and, as I have already said, an examination of the facts makes it almost impossible not to believe that it was so.*

An argument which may, I think, be conclusively urged against the belief that syphilis existed in Europe before the end of the fifteenth century is, that if it had been present at all it must have prevailed extensively. It is not in the nature of things that there should have been only a few cases, one here and one there. It is not possible to conceive of syphilis spreading as an international epidemic in the present day. It is now generally diffused, and those sections of the population likely to be exposed to risk furnish regularly from year to year their quota of cases. A very large majority are almost wholly prevented by social habits and moral laws from encountering any risk whatever. Nothing short of a complete revolution in these matters could possibly permit syphilis to overrun Europe as an epidemic in the present day. Yet in the close of the fifteenth century it did so prevail, and to the astonishment of the communities whom it affected. Nothing whatever had occurred, apart from the movements of armies (which were no new thing), to explain such epidemic prevalence. The evidence is, that everywhere it was regarded as a new disease, and that it was not understood. Not only the public, but the doctors were perplexed. It was soon found to be contagious, but it was not until after some lapse of time that it came to be regarded as in the main a sexual matter, and as involving more or less of discredit.

The inference from these facts that it was really a new disease seems overwhelming.

Some writers, Hirsch amongst them, who have laid most stress on the "epidemic" character of the post-Columbian outbreak, have insisted that it not only began suddenly, but subsided quickly, as if it were comparable to influenza or plague. A moment's consideration of the probabilities will, however, convince

* More detailed statements on these matters may be found in vol. x. of my *Archives of Surgery*, p. 166 *et seq.*

us that nothing of this kind is possible in connection with such a disease as syphilis. Its wide prevalence could only conduce to a still wider spread, subject, however, to the controlling influence of two factors. These factors are, that the disease protects from second attacks those who have suffered from it; and next, that observations of its contagiousness would lead to precautions.* These considerations well explain all that is recorded as to the subsidence of the syphilis epidemic. It had come suddenly, and to those who, wholly ignorant of its nature, took no precautions. Whilst suitable material existed it had prevailed extensively, but, the material being in part exhausted and precautions being taken, it subsided. It had, however, unfortunately, although no longer epidemic, come to stay.

As regards the possible introduction of the disease from Africa, I find that both Sydenham, in the seventeenth century, and Daniel Turner, writing in 1724, entirely anticipate my own recent statement that "yaws" was probably the parent form of European syphilis, and that Sydenham believed it was imported from Africa.

The west coast of tropical Africa, known as "Guinea," had been visited freely by Europeans (Portuguese and French) during the fifteenth century, and as "yaws" was probably endemic there as well as in the West Indies it is obvious that, in asking the question as to its being a new disease in Europe towards the end of that century, we are not restricted to the supposition that it was imported by Columbus. It may have come both from Africa and America, and its introduction from the former may have been some years earlier than from the latter. This is not at all improbable.

Joseph Grundbeck, a German physician, published in 1496† a treatise (probably the earliest) on the Venereal Disease. He described it as an infliction from the gods upon the French, and said that it was "a

* It is related that Mary Queen of Scots refused to allow her infant son at his baptism to be kissed by a "pocken priest."

† *See* Astruc, p. 32.

most horrid and terrible prodigy, unheard of, hated, and altogether unknown to mortals." From this it might appear that the disease was known in France at the time of the return of Charles's army.

At no period during the Middle Ages, nor indeed since, has sexual morality been such as in itself to prevent the spread of syphilis, and there is probably no reason whatever for attaching any special stigma to the close of the fifteenth century. Nor in fact, as has been already suggested, was the epidemic spread of syphilis in any very special manner connected with sexual libertinism. It spread, in the main, by accidental modes of contagion, and only after a certain interval did it settle down into a sexual disease. Those who think that there was anything special in the moral laxity of the times will find it very difficult to explain the subsidence of the epidemic during the next half-century. That it did decline we have unanimous testimony. On the supposition that it was a novelty we can easily explain this, for a large number of persons would have become immune and all would have become careful. That there was any general improvement in morals we have not the slightest proof. Had the decline occurred in the middle of the next century—the age of Puritanism—there might, so far as England was concerned, have been some plausibility in the suggestion; yet even then we must remember that Cromwell's army advancing into Scotland was responsible for local outbreaks of syphilis.*

The facts above stated make it, I think, improbable, in a very high degree, that syphilis could have existed in Europe before the great outbreak in the end of the fifteenth century. There remains, however, to be advanced another kind of evidence, the supposed allusions to it by medical writers prior to that date. It is supposed that Celsus described it, and that some of the Greek and Roman poets referred to it. It is admitted, however, on all hands that such references are fragmentary and vague. None of them approach in force the words which Shakespeare has put into the

* ee *Archives*, vol. vii. p. 23, "Frambœsia Cromwelliana."

mouth of Timon. Now, if syphilis existed at all in the times of Greece and Rome, it must have become very prevalent, for there was nothing in the moral law to prevent it from doing so. It is incredible that, if the English people were now to be placed under social laws as to sexual continence as lax as were those of the nations referred to, syphilis would not become an almost universal malady. If it had existed in those days it could not possibly have been overlooked; it could not possibly have failed to attract the attention, not only of physicians, but of moral censors and of law-makers. There could have been no mistake about it; nor could it have escaped attention that the disease spread by other modes of contagion. Yet of all this we find nothing. Medical writers described diseases of the genitals, but they did not write about any venereal maladies in the least resembling syphilis.

Let us imagine syphilis wholly absent from England. Surgeons would still take note of balanitis, of herpes, of urethral discharges, and of cancer of the genitals. Dealing with these topics they would write just such chapters as Celsus and others wrote. Some have fancied that Celsus knew the characteristics of the indurated core, but the expressions which he uses seem to me far more applicable to epithelioma. I repeat, it is impossible that syphilis, if present at all, could have occurred only as a rare disease. If the physicians of the day knew anything of it they must have known all, and it is quite clear that they did not. The same argument applies to the literature of the day. If syphilis were extant in Italy and England at the time they wrote, it is inconceivable that such writers as Petrarch, Boccaccio, and Chaucer should make no reference to it.

Why syphilis ceased to be epidemic.—The explanation of the supposed decadence of the great fifteenth-century epidemic of syphilis may be given in several ways. In part, probably the fact has been much overrated. The disease was probably never so nearly universal as some suppose. Next, the early discovery of the antidotal efficacy of mercury, and the

habitual use of the drug in the earliest stages, may have much mitigated the virulence of the symptoms. This efficacy is mentioned by the author of "Don Quixote" within a century of the advent of the disease, as if it were a matter of common knowledge and had long been such. The discovery of its contagiousness would also soon lead, as already remarked, to precautions against accidental communication; and it is certain that it soon began to be regarded as a venereal malady and as involving disgrace. Further, there is not much doubt that, in those countries where it was thought little of, a large portion of the population soon became immune, and under the known law of progressive reduction of virulence the disease itself became milder.

The present distribution of syphilis.—It is highly probable that the parasite of syphilis has been present from periods antecedent to history in several, perhaps many, distant parts of the globe. Not only the West India Islands and the West Coast of Africa, but China, Peru, and Fiji may with much plausibility claim this record. Under the influence of European commerce it has unfortunately obtained a greatly increased prevalence during the last two centuries, and it is now met with in all parts of the world to which that commerce has extended. In some places the European virus has appeared simply to reinforce an old-standing malady, but in many it has probably developed as a new disease. Its prevalence has been much influenced by the habits and state of civilisation existing in the locality. Its rapid spreading has in some cases been much helped by the almost absolute absence of sexual morality. This, however, has by no means been the sole influence. Social carelessness as to the use of utensils and articles of clothing, the habitual exposure of the skin which occurs in warm climates, and the abundance of insects, have combined with ignorance as to contamination to favour the infection of multitudes who had not been sexually exposed to risk. This, we may remember, was the case in Europe on its introduction in the end of the fifteenth century. Neglect and ignorance as to treatment have conduced

to give to the malady an aspect of severity which it does not at present exhibit in England.

Schaudinn's discovery helps us to clearer perception of the possibilities as regards different degrees of virulence of syphilis in different races. The protozoan organism, whilst retaining its specificity, may easily be supposed to be susceptible of some modifications of activity by passing through successive generations of hosts. Thus, whilst syphilis is always the same disease, and its poison always capable of manifesting its pristine vigour, it may not improbably undergo degradation under favourable conditions. These conditions may concern climate, race, habits of diet, etc. It is by reference to these possibilities that we may probably explain the differences in external features which have led some good observers to be reluctant to admit that syphilis and "tropical frambœsia" (yaws) are really the same malady.

CHAPTER II

ON PRIMARY SYPHILIS

In any case of suspected infection of syphilis, inquiry should first be made as to whether the patient has ever had the disease before, since this may influence the diagnosis and also much modify the course of things. The exact dates of exposure to risk and of the first appearance of the sore should be carefully noted. In order to do this clearly I am in the habit of using the "space-for-time" method of record. A sheet of paper ruled in lines is taken, and each several line is dated so as to represent a week, a month, or a year, as may seem most desirable. Thus no portion of time can escape notice, and the resulting schedule will exhibit the relative position of events at a glance. The sheet of which I make most constant use is one spaced for years. If, however, the case is under observation in its early stages, then one for weeks or months should be taken. These ruled schedules are kept constantly at hand, and their use will be found repeatedly illustrated in subsequent pages of this work.

The next step will be to describe the appearance of the local lesion. Is there only a single sore, or are there several? Is it abruptly defined, or otherwise? superficial, or deep? attended by swelling, or not? If there be swelling, does it assume any special degree of induration? The character of the secretion should be noted, and the microscope may be used. Those well experienced and suitably provided may search for the parasite, but must proceed with great caution. Note will, of course, have to be recorded as to the part of the body on which the suspected lesion is placed, and as to the nature of the risk which has been encountered.

Not essentially a venereal disease.—In order that we should understand syphilis, it is necessary

to recognise that it is by no means essentially a venereal disease. Its various phenomena result from the introduction into the patient's system of a specific poison; and this poison, in all probability, consists of particulate and living elements.* It can be conveyed from one person to another only by direct contact of surfaces. The thinner and more delicate the tissues exposed to its contagion, the more easy is the implantation of the virus. The existence of cracks, abrasions, or ulcers, although probably by no means essential, much favours the success of the contagion. It does not matter in the least upon what part of the body the contagion is effected; for syphilis is always one and the same disease, and is modified in its course only by the inherent peculiarities of the person acquiring it, and the antidotal drugs which are used. It is obvious that the venereal act affords peculiar facilities for the transference of a virus of this kind, needing direct implantation upon delicate tissues. Hence the fact that syphilis, as seen in England, is in the great majority of cases communicated in this way, and hence its popular synonym. We meet, however, in practice, with numerous cases in which the contagion takes place upon parts distant from the genitals: on the finger, as so often seen in the case of medical men and midwives; on the lips, from kissing or from the use of contaminated pipes or drinking-vessels; in the sores produced by vaccination, and, in fact, upon any part of the surface which has been by accident inoculated. The study of some of these cases is of even greater value than of those in which the disease is received in the usual way, since the dates can often be more accurately fixed, and it also sometimes occurs (as in the case of syphilis by vaccination) that a number of persons receive the disease on the same day and from the same source. When these accidents happen, we have exceptionally good opportunities for observing the natural development of the malady.

The early stages.—The study of such cases leads

* We may now believe with considerable confidence that the protozoan parasite discovered by Schaudinn is the element concerned.

us to a very strong conviction that the early stages of syphilis are fairly uniform in their duration; quite as much so as those of the other exanthemata. We may conveniently specify the following stages: (1) the period which intervenes between the date of contagion and the first evidence of local change; (2) that which occurs between the latter date and the full development of local peculiarities; and (3), to go back again to the date of contagion, that which precedes the occurrence of constitutional symptoms. Syphilis, like the exanthems with which I have allied it, is followed in due course, after the poison has had time to breed in the blood, by constitutional symptoms. Those symptoms are: febrile disturbance, sometimes acute, sometimes almost absent; an eruption on the skin and mucous surfaces; and transitory congestions or inflammations of the most various organs and tissues. It is customary to speak of the local phenomena, resulting directly from the contagion, as *primary symptoms*, and of those which follow, when the whole blood is poisoned, as *secondary*, or constitutional; whilst the terms *tertiary* and *remote* are reserved for a different class of phenomena, which may appear at very various periods after the primary and secondary symptoms have long cleared away.*

Varying severity.—Although, as has just been asserted, the stages of syphilis are probably, when uninfluenced by antidotal treatment, fairly uniform, yet it must be clearly recognised that its severity varies very much in different individuals. This remark applies to all its stages and to all its varied phenomena. Without any reference to the health or the age of the individual, to the part inoculated, or to the source of the virus, we may witness both in the primary and the secondary symptoms the widest possible differences as regards severity. The secondary stage

* The terms primary, secondary, and tertiary as applied to the several stages of syphilis are well established and will now hold their ground. They might, however, with great advantage be superseded by more exact expressions denoting merely the duration of the malady. We might, for example, speak of syphilis in first, second, or third month, first, second, or third year, and so on.

may be almost fatal in one case and scarcely to be recognised in another; the tertiary phenomena never happen at all in a vast number of persons who have suffered severely in the secondary period, whilst they may affect with great pertinacity, in exceptional instances, those who have suffered but little in the early stages. Differences in treatment no doubt account to some extent for these apparent discrepancies, but certainly not for the whole. There remains much which can be explained only by the idiosyncrasy of the individual. I believe that a similar remark is equally true of the specific fevers known as the exanthems.

Complications of the primary symptoms.—The study of syphilis has been rendered much more difficult than would otherwise have been the case by the fact that its contagion *is rarely effected by a pure fluid*. In a majority of cases the microparasite is not implanted alone, but with it the contagious products of peculiar forms of inflammatory action. In this way the local or primary symptoms are often complicated, and we witness on the same spot the results of the implantation of pyogenic organisms and of the true virus. Further, it may happen, and it often does, either that a contagion takes place from the adventitious organisms alone, or that the effects of these entirely overpower and destroy the specific virus which was mixed with them. It is to the study of these two classes of local phenomena that we will now proceed.

On infective chancres.—If the virus of syphilis in a pure form be inoculated, it rarely produces any irritation at first. A period of from three to five weeks may elapse before anything is observed. At the end of that time a little red spot will be noticed, which, extending from day to day, soon becomes a superficially ulcerated papule, and by the end of a week or ten days has obtained an indurated base. The induration is usually characteristic, and its margins definite. There is not much surrounding inflammation, and the surface of the ulcer usually secretes but little. In some cases, indeed, there may be no ulceration whatever, and not the slightest secretion. At

the end of five or six weeks from the date of contagion the induration will, probably, be well marked. It will continue for a longer or shorter period (usually in relation to the treatment pursued), but it never,* even when wholly let alone, persists indefinitely, and frequently it vanishes after a very short duration. Occasionally it may last for months. The number of these indurated spots, or chancres, will depend upon the number of different places which were inoculated at the same time, just as is the case with vaccination vesicles. It is not very often that more than one is seen, and if there be two, three, or more, they are always at the same stage of progress at the same time. No new ones are ever produced subsequently to the full development of the first.† If, for the sake of experiment, it were attempted by direct inoculation to produce others, the attempt would usually fail; just as we should fail to re-vaccinate on the eighth day from the patient's own vesicles.

Simultaneously with the development of local induration there is, usually, an enlargement and hardening of the nearest lymphatic glands. If the sore be on the finger, the glands in the armpit will enlarge; if on the lip, those under the jaw; if on the genitals, those in the groins. The character of the enlargement of the glands will be similar to that of the primary sore; that is, there will be great hardening and very little tendency to diffuse inflammation. The glands will usually remain separate from one another, and more or less movable. The degree of induration may often be such as to justify the term "bullet bubo."

It is desirable to keep in mind that the incubation stage of the chancre and that of syphilis are two different things. The one is usually a month, and

* The statement here made is perhaps liable to a few exceptions. I have known several cases in which gristle-like sclerosis was present, and in which, according to the patient's statement, it had never disappeared during several years. There are, however, sources of fallacy which induce me to let stand the statement made in the text.

† It is possible that certain rare exceptions to this statement may occur. I shall advert to them subsequently in speaking of satellite chancres.

the other, dating to the first appearance of roseola, two months or a little more.

On soft or non-infecting sores.—The conditions which result from the implantation of inflammatory, or of mixed, elements are various. It would appear that some of the inflammations occurring in connection with syphilis, but not attended by the actual presence of its virus, may produce a peculiarly irritating and very contagious secretion. This secretion, if inoculated, promptly produces inflammation. Sores form within a day or two of its contact, which are attended by ulceration, and by the secretion of pus which is capable in its turn of inoculating other parts. Hence these sores may be multiple in the beginning, or may become multiple afterwards; and if the experiment of artificial inoculation on some other part of the patient's person be tried, it may easily be proved that he is in no sense protected, since sores of a precisely similar character will be produced. Inasmuch as sores of this kind never show definite induration, they are often spoken of as "soft," but it must be remembered that it is quite possible that one or more of them may, at the end of the four weeks' incubation period, take on induration. It must also be most clearly understood that, although the infecting sore in its typical condition is "hard," it does not by any means always assume that character. The popular division of sores into "soft" and "hard" is productive of very numerous mistakes.

The characters of these non-indurated, pus-secreting sore are very variable; but their best-accredited features are those of an abruptly margined ulcer, with cut or punched-out edges, a grey, unhealthy surface, and much surrounding inflammation. It is a remarkable fact that the non-infecting sore is almost never seen except on the genitals. We must explain this probably by the suggestion that the vitality of the pus elements is much lower than that of the true virus of syphilis. Thus, should they come in contact with the lip or the finger, or even with an abrasion or a wound, they are probably far more easily washed

off and got rid of than is the true virus. The mucous folds on the genital organs, however, afford them a protection, and thus favour the success of their contagion. The non-indurated sore, like the hard one, is very prone to cause enlargement of lymphatic glands, and, as in the former case, this enlargement is of the same type as that of the sore which produced it. It is attended by excess of inflammation. The affected glands swell greatly and, the intervening tissue being involved, they become glued together in one mass. Suppuration both within and around the glands is not infrequent.

It is quite possible for a patient to suffer from non-indurated sores and suppurating buboes without having, subsequently, any constitutional phenomena. Some such cases do occur. I feel sure, however, that they are far less common than is generally believed, and that, in a majority of cases, sores which are at first "soft," and remain throughout their course so diagnosed, prove to be infecting. The surgeon must be most cautiously on his guard in giving opinions on this point; for if the patient has never had syphilis before, whatever are the characters of any primary sore which he may exhibit, the chances are two to one that the sequel will prove that it contained the germs of true syphilis. The terms infecting and non-infecting might perhaps conveniently displace the adjectives soft and hard. Whatever terms we use, however, we must clearly understand that the "soft" very often precedes the "hard," that the infecting is not always hard, or, to state it in other words, that the non-indurated may often prove to be infecting. So also with the bubo; an infecting sore may often cause suppuration of the glands, and a non-infecting sore may be attended by a quite moderate degree of enlargement of glands, which never show any tendency to suppurate. Such being the facts, it is absurd to attempt the formation of sharply-defined rules in the diagnosis of chancre. The general precepts in use are, however, safe enough, if we apply them lightly, and are careful to remember that they have many exceptions.

Leaving aside for the present the consideration of the non-infecting sores, we will now proceed to examine in more detail certain points in reference to the indurated chancre.

Is an abrasion of the surface necessary to contagion?—The reply to this question must be that, although undoubtedly the existence of a wound, or the occurrence of laceration, very much facilitates the introduction of the virus, yet probably neither condition is essential, nor perhaps even frequent. There is nothing improbable in the suggestion that the virus can easily penetrate the unbroken, but soft, moist, and very delicate mucous structures of the parts on which chancres are usually seen. On the skin itself it may be more difficult, and the intervention of a wound or sore may be almost essential. Beneath the prepuce in the male, and on the vulva of the female, imbibition must be supposed to be the more common event. On these parts it is probably sufficient that the virus finds protection in a mucous fold or a gland orifice. The evidence of a very large number of patients is to the effect that no abrasion whatever was noticed at the time of infection. In not a few cases very careful inspections have been made, accompanied by ablutions, and repeated through many days, and yet no such sore has been observed. It is obvious, then, that it is, for practical purposes, useless to contend that an abrasion is essential, since all must admit that the breach of surface is often so small as to escape the most careful examination. In many of the cases in which surgeons suffer from midwifery chancres there is no history of previous breach of surface, the virus appearing to have simply found lodgment under the nail, or in a fold at its edge.

On the most common positions of chancres.—In the male, the most frequent position for chancres is the roll of the prepuce (reverted), just behind the corona ("the furrow"). In this position, also, chancres assume their most characteristic features. Here induration is greatest, and is most easily estimated. The gristly, half-circular disc stands up conspicuously

when the prepuce is reverted, and assumes the well-known "collar" form. Often the induration extends across the furrow, and implicates the corona itself, but in the substance of the glans induration is usually not so definite, whilst inflammation is common. Chancres of the glans itself often become phagedænic. Of other regions, special mention should be made of the meatus, the frænum, and the free border of the prepuce. When the meatus is affected, which is not uncommon, the induration usually surrounds it in a ring. It does not often extend far into the substance of the glans. At the frænum inflammation is very apt to occur, and induration is often absent; implication of the glands in the groin is, I think, more certain to occur with frænal chancres than any others. Chancres of the free margin of the prepuce are often multiple and often mixed. Well-characterised induration is seldom present, and not rarely it is very difficult to judge of the real character of the sore.

On the skin of the penis sores do not differ from those which we observe on other parts of the body's surface, except, perhaps, that it is here more frequently than elsewhere that we notice what has been named the "parchment chancre." The peculiarities of this sore are that its area of induration is large, and its thickness very small, whilst there is little or no inflammation. It is a condition which is frequently seen in a stage of half-cure.

In the female, chancres are usually seen on the labia or nymphæ, less frequently on the fourchette or the clitoris. They are very seldom met with in the vagina itself, and only very rarely indeed on the os uteri. The exemption of the vaginal walls may be explained by the thickness of the epithelium, but more plausibly by the infrequency of gland orifices.

Multiplicity of the infecting chancre is perhaps more frequent in women than in men, probably because the labia come into contact and easily infect each other. This mode of duplicate infection can, of course, only occur soon after contagion. Multiplicity is, however, not very uncommon in men. A wax model in the

Hôpital St. Louis Museum shows, I think, five chancres, and as many as fifteen are on record as having been observed at once. I have myself repeatedly seen five or six with well-characterised induration.

The terms "accessory" or "satellite" indurations have been applied to masses which, in rare cases, form near to the original sore, but at a date considerably subsequent to its development.

On the natural course of the true chancre.—So constant, now, is the use of mercury that we but seldom have opportunities of observing the undisturbed course of a chancre through any long period. The persistence of induration would appear to be, under such conditions, variable within very wide limits. It may vanish in a few days or a few weeks, or it may persist for a year or more. The influence of mercury is invariably very marked, and usually very speedy. If suitable doses be given, in a few days the sore loses its extreme hardness, and in the course of a week or two it will have begun very definitely to melt away. But if the mercury be stopped, the sore will indurate again, and perhaps as characteristically as at first.

The tendency to recurrence of induration, just noticed, is sometimes observed under very peculiar conditions. At periods of a year, or of several, after the original sore has entirely disappeared, and without any fresh exposure, in the exact site of the first one, fresh hardening may take place. This may occur repeatedly to the same person. There is seldom any hardening of the lymphatic glands. The recurred chancres are not followed by any constitutional symptoms.*

On the other hand, it cannot be doubted that, wholly without help from mercury, indurated sores do, in some cases, disappear very quickly indeed. A recognition of this fact is essential to the correct interpretation of many histories given us by patients.

* *See* papers by the author on "Relapsing Chancre," *London Hospital Reports*, 1860, and *British Medical Journal*, 1885. *See* also subsequent statements in the present work.

A week, or even a few days, may, I feel assured, suffice for the disappearance of all that is characteristic in an infectious sore, and that quite independently of treatment.*

Can syphilis be cut short by destruction of the initial lesion, and, if so, at what stage?—Ricord at one time taught that cauterisation, if done freely within five days of the contagion, might be trusted to prevent the formation of a chancre and the development of syphilis. Subsequently, however, he was obliged to modify this opinion, and to believe that such treatment was often useless. It is obvious that we have to consider not alone the date at which the destruction is effected, but the precise details of the method. That which one surgeon may regard as an efficient cauterisation may, to another, appear quite inadequate. If nitric acid does not act deeply enough, it is yet possible that the actual cautery, or the knife, might do so. These are matters upon which experience must decide. I should certainly deem it a neglect of duty not to freely cauterise any venereal sore which a patient presented for my treatment within five days of exposure. I have cauterised many such, and in but very few instances have known syphilis follow. At the same time, it is to be freely admitted that the local absorption of the virus probably takes place much more rapidly than we should *a priori* have been inclined to suspect. Ricord's later experience with caustic proves this, and so does a well-known fact recorded by Berkeley Hill.

Recent experiments on apes have made it seem highly probable that the treponema may be killed by the local application of mercury, and thus the development of the chancre prevented. This is, however, efficient only in the very earliest stages.

* In proof that very large chancres may undergo spontaneous resolution I may cite the following. A man who had one on his cheek, so large that his surgeon had called it "a small carbuncle," came to me covered with a papular eruption. His sore, now eight weeks old, he considered to be well. It was contracted to the size of a sixpence and nearly healed, but was still hard. There were still enlarged glands, but they were subsiding. He had had no treatment.

As to the excision or destruction of chancres at later periods, and especially after their true character has been disclosed by the occurrence of induration, I have had but little personal experience. That little has usually been invalidated by the simultaneous use of specifics internally.

In whatever stage or condition a local venereal sore is seen, the local use of mercury should be prescribed. Black wash is perhaps the most convenient form, but it should be frequently renewed, or may be reinforced by dusting on calomel. Even after excision or destruction by cautery these precautions are most desirable.

CHAPTER III

FURTHER OBSERVATIONS AS TO THE PRIMARY STAGE OF SYPHILIS

Non-venereal true chancres.—These are much more common than is generally suspected. They are of great importance, not only on account of the social injury which errors respecting their source may cause to the individuals, but also from the mistakes to which they may lead in clinical observation as to the course of syphilis. Thus it may happen that a young child or an infant may have had a chancre which has never been recognised, and that the subsequent results may be attributed to congenital disease. The diagnosis of these chancres is often extremely difficult. I have frequently seen them on the hands of well-trained medical men, who themselves had never suspected the nature of the sore until secondary symptoms appeared. The limits of variability as to the conditions of these sores are very wide indeed. An infecting chancre on the finger may never show anything more than a small dusky spot, not ulcerated, not attracting attention for more than a few weeks, and leaving nothing but a little brown stain. Yet, after such a sore, there may be a full development of syphilis. On the other hand, there may be such an excess of inflammatory action that all trace of specific induration may be concealed. In young infants this usually occurs, as in chancres after circumcision. The chancre itself may, in some cases, spread very widely. Thus I have known a case in which an indurated sore, by no means phagedænic, included nearly the whole of the palm of the hand, and another in which almost the whole of one side of the face was involved in a huge chancre with indurated borders.

These sores may occur on any part of the body.

On the lips, from kissing, the use of drinking-vessels, pipes, etc., they are not uncommon. The midwifery chancre on the finger is a form from which medical men suffer most severely, and it assumes great additional importance from the risk there is of conveying it to their patients. Chancres on the nipple were formerly not very infrequent. Amongst the more infrequent positions, I may mention that I have seen primary sores in the middle of the sole of the foot and the palm of the hand, on the scalp and face, on the ear, on the nose, and on the skin of the chin at some distance from the lip. I have seen them on the tongue, on the tonsil, and on the conjunctiva of the eyeball. All these positions and many others are mentioned by other observers.

Even in cases in which chancres are met with on the genitals they are not always consequent on coïtus. In children they may be accidental (from towels, etc.), and in adults the stories which we so often hear as to infection at water-closets, etc., are, I doubt not, in exceptional cases, really true. In several instances epidemics of syphilis amongst lying-in women, and subsequently their husbands, have occurred from inoculation of the genitals by the finger of the accoucheur during labour.

Memoranda as to primary sores.—The following memoranda on this subject may be offered :—

So-called soft, or non-infecting, sores are almost never observed except on the genitals. It is difficult to assign a satisfactory reason for this. It may be that they seldom develop their peculiar features except on the genitals, and are thus not recognised when seen on other parts.

Non-venereal chancres, like those from coïtus, are usually single. In some cases, however, they may be multiple. Thus I have in policemen, in two instances, seen several present together as the result of injuries received in scuffles with infected men. In another case, a sailor who had fought with a diseased comrade, and been bitten in many places, had six or eight indurated chancres on his fingers, forearm, one ear, and chin.

Although induration is often present in a most marked degree, it is often absent, and the diagnosis may become most difficult. The surgeon should in such cases carefully examine the lymphatic glands. The chancre which affects the nail-bed, for instance, is scarcely ever definitely indurated, and often suppurates very freely.

It is impossible to make too much allowance for the extraordinary appearances which these erratic chancres sometimes assume. Their great size is often very misleading.

There is an opinion abroad in the profession that syphilis, when consequent on a non-venereal chancre on the skin, is a more severe disease than when following a sore on the genitals. I do not believe that there is any foundation for this creed. Syphilis, wherever inoculated, is one and the same malady. In different individuals it may vary very greatly in its severity, but these differences have nothing to do with the position of the infecting sore.

The midwifery chancre is so common, and its effects so disastrous, that it behoves those engaged in this line of practice to take the most scrupulous precautions. All abrasions or cracks on the fingers of surgeons should be protected by indiarubber finger-stalls, and even when the skin is quite sound, vaseline or some equivalent should be very freely used before making an examination.

Although in a few instances erratic chancres may result from immoral practices, yet it may be held that in a vast majority of cases they are matters of accident, and imply no fault whatever in those who suffer from them.

The incubation period of chancres.—Although I have, I believe, in previous writings, always put the incubation period of chancre as longer than that formerly given by authors, and have constantly asserted that it is far more regular and uniform than is generally believed, yet I have never hitherto given it a duration quite so prolonged as that which I am now inclined to claim. I have formerly held that a

month is its average, and that it is more frequently rather shorter than longer. I should now be inclined to say that a month is a short average, and that five weeks is a more common period. As will be seen by reference to the facts to be adduced, in most of the cases in which accuracy was more especially easy of attainment (where medical men, for instance, were the patients), five weeks usually elapsed before any trace of local irritation manifested itself. After this a week to ten days, or even a fortnight, passed before the sore assumed characters which could be considered diagnostic.

The explanation of what I hold to have been the errors in the former calculations as to the incubation period is probably to be found in the fact that data have often been accepted which were not worthy of trust. In order to avoid confusion, it is needful to be precise as to whether, by "incubation period," we mean the interval between contagion and the first sign of irritation, or between contagion and the first characteristic development of induration.

Cases illustrating the incubation period.—The following cases illustrating the incubation period have occurred under my own observation :

(1) A married physician, Dr. ——, on one single occasion went astray. He carefully observed all that followed, and it was not till the forty-second day that a pimple under the prepuce was noticed. A chancre developed itself, and syphilis resulted.

(2) A surgeon of much experience gave me the following fact. The circumstance occurred to himself. He had intercourse of a suspicious nature on one occasion only. He observed nothing whatever on the penis until five weeks and three days had elapsed, when he found a small papule. This soon afterwards became indurated, and was followed by secondaries.

(3) About the same time as the preceding case I had another patient, who had contracted a chancre after a single intercourse, and who alleged that he was certain that there was no visible sore until five weeks after the exposure.

(4) A well-trained observer (M.B. Lond.) exposed himself to the risk of syphilis on a single occasion, on March 4th, and afterwards anxiously noted the results. On the morning after connection he had a little abrasion in the prepuce close to the glans. He used lead lotion, and in three days it healed. It remained quite sound until the second week in April, when

it began to look a little dusky. On April 17th it was decidedly swollen, and just beginning to ulcerate. On April 23rd it was definitely indurated, and showed in the centre a group of minute ashy-grey ulcers. At this date he had no rash, and no appreciable enlargement of the glands. There being not the slightest doubt that the induration was specific, I now directed him to take mercury.

The course of events illustrated in this case is probably a very usual one. A small sore is noticed almost immediately after exposure, which heals in a few days. Then ensues a four weeks' period of rest, followed by inflammation about the little scar, and specific induration. It will be seen that seven weeks had passed before the induration was marked.

(5) In this case a young gentleman was exposed to risk of contagion but once. He caught a gonorrhœa, which developed immediately. Nearly five weeks after the exposure two sores formed on the skin of the penis, and one on that of the abdomen, between the umbilicus and pubes. They all then assumed the condition of large indurated chancres, and severe secondary symptoms followed.

(6) A young woman was attended in her confinement by a midwife who had a chancre on her finger. Fifty-three days after delivery she was found to have three indurated chancres on the labia, but no special gland-irritation and no rash. Eleven weeks after the confinement she had a copious rash, and her hair was falling out. In this case it is to be supposed that both the chancres and the rash had been present some little time before they were discovered.

Incubation periods illustrated in vaccination-syphilis.—The incubation period in eleven patients who received the virus by vaccination on the same day was remarkably regular. In all the cases the vaccination-sore healed perfectly for a time, and after an interval again inflamed. In all at the end of eight weeks it was characteristically hard. Nearly all the patients had begun to complain of irritability of the scar in the sixth week, and some in the fifth. Two of them, a father and son, began to find that their scars itched on the same day (March 18th), a little more than five weeks after the vaccination. In all these cases mercury was begun in the eighth week, before any eruption had appeared, and the latter was in almost all absolutely prevented.

In a second series of vaccination cases, treatment was delayed longer, and we had opportunities for observing the period at which the rash and sore throat made their appearance. In some the rash began to come out in the tenth week, and was fully out when the patient was first seen in the eleventh. The sores at that period in most cases remained characteristically hard. In some of the patients the rash might have been a week or two later in its appearance; and as the assignment of date depended upon the patient's observation, error to some extent was possible.

In some other series of vaccination-syphilis cases, the periods, according to my published notes, would appear to have been shorter. In these, however, we had only the patients' memory to guide us, and very possibly it was not accurate. We may safely hold that the interval preceding the first irritability of the sore is rarely less than five weeks, and that a week or ten days is then taken up before the sore is typically indurated. About two weeks after this, that is, at the end of two months, rash and sore throat will simultaneously appear.

In one of the above cases, in which no mercury had been given, iritis occurred in the eleventh week. It was coincident with a copious rash which had preceded it by two or three weeks, and with still persisting induration of the sore.

Exceptions, however, to what I have just said do occasionally occur. In the case of Dr. Cory, who vaccinated himself from the lymph of a syphilitic child, the sores became irritable as early as the twenty-first day, and at the end of the fifth week were characteristically hard, though still very small. In the eighth week a roseolous eruption appeared.*

Remarks on the preceding cases.—I have preferred, in what has just been stated, to give the results of my own observation, although on this important matter a great collection of valuable evidence has been recorded by others. Bärensprung, Fournier, and Le Clere have especially studied it. Some observers have, I think, a little failed in care to note fallacies, and hence the record of erratic opinions which it is much to be regretted should have found their way into print. For myself, I may own that I have no evidence for either very short or very long periods of incubation. A certain range of variability must be admitted, but it is probably quite restricted. If the contagion be effected with pure virus and in a healthy person, no definite effect will be manifest before the end of the third week, and more usually it will be the end of the fourth, or even of the fifth. All the supposed short periods are to be explained by the assumption either that the secretion was not pure, or the dates were inaccurate. The irritation which ensued may have been that of pus-contagion only, and not specific. We well know that nothing is more common than for an inflamed, non-infective sore to be the

* For full details respecting these cases *see* "Clinical Illustrations of Surgery," vol. i. p. 120.

precursor of an infective one. We must not admit such cases into our calculations of incubation periods.

In conformity with what has been said, the results of experimental inoculations, and of such modes of contagion as that which occurs in vaccination, appear to show that when blood, vaccine lymph, or any clean virus is taken, the incubation period is uniform; whilst if pus be present, as from a mucous tubercle, a pustule, or vaginal secretion, then the apparent incubation may be variable and in many instances short.

I will not attempt to explain away the individual examples which are recorded of very long incubation periods, but shall still venture to hint disbelief as regards them. The fallacies are obvious.

Local condition during incubation period.—If it be asked what is usually the local condition during the long incubation period, the reply must be that it is very various. In many the patient has, from within a week of exposure, or perhaps from within a few days, a suppurating sore, which is considered "soft." In many others not the slightest sign of irritation has been observed until the expiration of a long month. In a few there may have been in the first week a trifling sore, which healed, and in the scar of which induration subsequently took place.

Rarity of the occurrence of syphilitic contagion in relation to the frequency of exposure to risk of it.—I may suitably make use of several of the narratives here given to draw attention to the many facts which indicate that the contagion of syphilis is a very uncertain matter. In one instance an experimenter (Dr. Cory), who on all occasions used material equally likely to be efficient, failed three times, and succeeded only on the fourth. How very frequent, also, must be the exposure of the surgeon's finger in midwifery practice as compared with the rarity of contagion. How seldom do we see chancres on the lips from kissing, yet how very common must be the risk. How constantly do surgeons, accustomed to the daily examination of primary sores, run the risk of

infecting scratches on their fingers, and how rarely do they suffer. How abundant are the risks to nurses and others who have to do with syphilitic infants, and how seldom are ill results observed. Lastly, of sexual contagion, we may, perhaps, reasonably surmise that infection does not take place once in a hundred times that exposure of the most dangerous kind is incurred. These facts point to the conclusion that the virus is not always present in an active form in the secretions of those who suffer from the disease, and also that it is probably easily destroyed or removed by washing and other measures; and, further, that with the exception of parts where the epithelium is thin and protected, it requires for its implantation some breach of surface. So rarely do syphilitic infants, when put to wet-nurse, communicate the disease, that some surgeons to lying-in hospitals, with very large opportunities for observation, have expressed disbelief as to its possibility; although, as I need scarcely remark, the facts in proof of its occurrence are numerous and conclusive.

Fallacies which attend attempts to estimate the relative frequency of the different forms of primary sore.—Many statistical statements have been published as to the relative frequency of infecting and non-infecting sores. Unless the individual cases which go to make up such statistics have been collected with the utmost care, the resulting statements must be most misleading. In the first place, all cases in which the incubation period is not complete must be excluded; since the sore which is to-day classed as "soft" may, in the course of a week or two, take on induration. In the next place, the surgeon must not rely too much upon his own powers of diagnosis, and must recognise the fact that induration is often an ill-marked and very transitory condition. He must follow up his cases, and must not place any in the list of "non-infecting sores" unless he has ascertained by prolonged observation that no constitutional results of infection followed. It is a matter of everyday occurrence for patients to come under care with con-

stitutional syphilis and with the statement that the surgeon who saw the chancre said that it was only "a soft one." In many cases such statements may imply inexperience; but this is by no means always so.

In the collection of such statistics as those alluded to it is essential to note whether or not the patient has had syphilis before, since the peculiarities of his sore may possibly be in connection with a former attack. If such statistics have been obtained by simply counting up the results of the diagnosis on the patient's first application at some public institution, they are, I must repeat, quite valueless for any scientific purpose.

Progress of chancres when mercury is not given.—Dr. ——, a young physician, offered a very interesting illustration of the behaviour of indurated chancres when not treated by mercury. He had on the under surface of his reflected prepuce—some close to the corona and others at a distance from it—no fewer than seven distinct chancres. He had contracted them in Africa from a native woman, and the first of them had made its appearance exactly one month after the date of intercourse. It was in the roll of the reflected prepuce, close to the corona. It had preceded the others only by about two or three days, and the remaining six came almost simultaneously. At first, on account of the multiplicity of the sores, he had hoped that they were only herpes, but as they persisted, became indurated, and ulcerated more freely, he touched them all with nitric acid. When the effects of the acid had passed off he applied iodoform, but still took no medicine. Finally he had some fever and an abundant eruption came out.

Dr. —— came to me a few days after the appearance of his eruption, two months after the contagion and one after the recognition of the sores. He was freely covered on chest and abdomen with a characteristic erythematous and papular eruption. He had had much aching in his bones, and some sore throat. His seven chancres had all healed under the influence of iodoform, and were all in the well-known parchment condition.

CHAPTER IV

DIFFICULTIES IN THE RECOGNITION OF SYPHILIS IN ITS PRIMARY STAGE

In the present chapter it is proposed to consider certain special conditions which may cause perplexity in reference to the diagnosis of syphilis in its primary stage. In doing this, it will be preferable to deal with the narratives of cases rather than with general statements.

The material we have to review may be conveniently arranged under the following heads :—

1. Difficulties in connection with the history given by the patient.
2. Simulation of chancres by other conditions.
3. Simulation of primary sores by gummata.
4. Absence of primary sore.
5. Apparent insignificance of the primary sore.
6. Multiplicity of the primary sores.
7. Erratic position of the primary sore.
8. Infection by insects.
9. Absence of bubo.

Several of the topics named will be found dealt with in detail in subsequent chapters, and will receive only brief mention here.

Fallacies as to induration of chancres.—The avoidance of mistakes in reference to the diagnosis of infecting chancres is so important that I shall venture to state, in some detail, the evidence in respect to certain fallacies. I have to make two preliminary propositions, which are distinct, though possibly connected. The first is that it is possible, as the result of the application of caustics, to produce induration of a kind and character which cannot be distinguished

from that of the true infecting sore. The second is that those who have had chancres and gone through syphilis are liable in rare instances, without fresh infection, to have the site of the original chancre indurate again, and assume most deceptive features (the "recurred chancre").

Artificial production of conditions like those of the indurated chancre.—Mr. ——, a strong, healthy man, came to me on Monday, March 16, 1884, with two sores in the roll of the prepuce, which were well indurated. In each instance the induration stood up high, as a "collar," and the diagnosis might have been easily made by the eye, without the aid of the finger. The crescent of induration was in each as large as half a shilling. It was abruptly bounded and was very hard. Had I not known his history, and been aware also that artificial induration was possible, I should have felt sure that they were primary sores. It should be added that on the face of each, at its base, was a small ulcerated surface covered with a pellicle of soft grey lymph. This, again, is precisely a concomitant which we often see with an inflamed Hunterian chancre. Now, I had seen this gentleman only a fortnight before, and he then had nothing but some very small warts at the site of the present induration. These warts were touched with the acid nitrate of mercury. The pseudo-chancres had resulted solely from the use of this caustic.

There remains, however, the question, could they have been so produced in a person who had never had syphilis? Mr. —— had six years ago passed through an attack of syphilis, and he still had some white patches on his tongue in evidence of it. It was, however, one of those cases in which no chancre was ever discovered, so that there was but little probability in the suggestion that the present pseudo-chancres were in the sites of old ones. Nothing but gonorrhœa was noticed at the time by either Mr. —— or his surgeon, but a syphilitic rash, with sore throat and sore tongue, followed. These facts I had to take on Mr. ——'s statement. He had given this history before I applied

caustic to his warts. It may be plausibly suggested that he had, on the first occasion, a sore in the urethra.

I think that we may take this case as proof that it is possible, in a man who has formerly had syphilis, to produce, by the application of causties to the mucous membrane of the prepuce, a kind of induration which in all respects simulates that of the primary chancre.

A phagedænic sore on finger not followed by other symptoms.—In 1880, the house-surgeon of a provincial hospital came to London on account of a large phagedænic ulcer on the knuckle of his right middle finger. He had seen two surgeons before he came to me, and had been advised to commence the use of mercury without delay. I saw him on June 15th, and the history then given was that he had pricked his finger on June 2nd; that a little sore had immediately followed, and that phagedænic action had shown itself on the 6th. The ulcer was large, ragged, and very much inflamed. I advised that, before commencing treatment by mercury, we should try free cauterisation with nitric acid. This was done twice, with an interval of a few days. It produced healthy action and rapid healing of the sore. A gland, which had enlarged, rapidly subsided. There was never any induration of the scar, nor did any secondary symptoms follow. I saw the patient two months after his infection, when he was quite well. Six years later I learned that he was married and had healthy children. It is quite possible that in this case a sore which might have proved infective was wholly destroyed by the phagedænic process. It will be seen that the phagedæna set in within four days of the poisoning.

Reputed absence of the chancre in certain cases of syphilis.—However definitely, as a matter of pathological accuracy, we may repudiate the notion that acquired syphilis can ever begin without its initial lesion, yet for practical purposes we are obliged to admit that there are cases in which the primary sore wholly escapes notice. In women this is very common,

for the reason that the indurated sore is often free from inflammation, and causes no subjective symptoms. It is also quite possible that on the male genitals a quiet hard chancre, which would be easily recognised by a surgeon, may escape the notice of a non-observant patient, although present for some weeks. There are cases, however, much more difficult of explanation than these. I refer to those in which patients, well informed and nervously anxious about syphilis, assure us that they have carefully inspected themselves every day, and have certainly never had a sore. In such we may suspect a sore in the urethra; but if such be the fact, then it is certainly possible for the "urethral chancre" to be wholly devoid of local symptoms. I have seen such cases repeatedly, and several times when intelligent medical men were themselves the subjects, and have been from first to last quite unable to discover any probable site for the original sore. We are obliged, then, to admit that occasionally syphilis may occur without any primary sore having been discovered by careful and even by skilled search.

The phenomena which characterise a chancre are probably to be met with only in the cutaneous or mucous surfaces. If the parasite gains access to deeper parts, it is possible that it may also gain access to the blood without producing any local changes. Some such hypothesis is necessary to explain the occurrence of syphilis after pricks with needles, etc., which were not followed by any irritation. Several such are on record, and I have myself seen more than one. A nurse, who consulted me for symptoms which were certainly those of secondary syphilis, showed me a minute brown spot at the base of one thumb which had, she said, followed a deep prick from a needle. There had never been any inflammation or hardness, but the glands in the armpit were enlarged.

A medical man of middle age, who had never before had syphilis, attended a woman in her confinement who had on her vulva numerous condylomata. The perineum being torn, he was under the necessity of using stitches, and it unfortunately happened that

he pricked his hand. The prick was a quite definite one and drew blood, and, knowing as he did that the woman had syphilis, he was from the first very anxious about himself. On the same day that the accident occurred he consulted his partner as to whether anything could be done to prevent infection. As there was no abrasion, it was decided to be useless to attempt any cauterisation. No local changes whatever were afterwards observed. The accident occurred on December 16th, and about the middle of February some spots were noticed for the first time on the trunk. I was consulted on March 7th, and at that time there was a tolerably plentiful papulo-scaly eruption on the chest, abdomen, and fronts of arms, about the nature of which there could not be any doubt. The site of the prick in the hand could not be identified, and there was no swelling in the axilla. I was allowed to make a complete examination, and could find no trace of a chancre elsewhere.

Syphilis without well-developed chancre.—Mr. ——, aged about twenty, came to me complaining that he had a sore throat. I found symmetrical, rather deep ulcers in the tonsils, and taxed him with having had a chancre. "Why, that is just what Mr. —— said," he replied, "but I haven't had anything of the kind." I looked again, and felt certain I was right. I examined his penis, and found on the glans a red patch, as if from a slight abrasion. There was no trace of present sore, and not the slightest induration. I could find no trace of rash. He was perfectly candid, and admitted having had connection about six weeks before. A few weeks before that he had had a slight discharge from the urethra, but it lasted only a few days, and he took no notice of it.

This case may serve as an example of what is, I think, not very infrequent: an infecting chancre wholly without either induration or ulceration. An abrasion of the slightest possible character, or even a little inflamed patch, such as we often see from simple balanitis, may prove an infecting sore. I am sure that I have witnessed this repeatedly, and have

no hesitation whatever in asserting that the primary sore of syphilis is often wholly without induration.

Insect contagion.—In tropical practice, where non-venereal chancres are very common, not a few probably originate from insect contagion. Mosquitoes and fleas are more especially to be suspected. The form of syphilis which goes under the name of "yaws" is probably, as a rule, originated in this way. In England I have on several occasions had reason to suspect communication of syphilis by fleas. A case in which the evidence seemed almost complete was that of an elderly medical man, who came to me with an unquestionable secondary eruption. He was married and denied any exposure to risk. He submitted willingly to the inspection of all parts of his body. Nothing in the least suspicious could be discovered, excepting a small dusky patch on one leg. This, he said, was the remains of a papule which had followed the prick of a flea which he had acquired in an omnibus. He well remembered the occasion, for the prick had been attended by great irritation, and the date fitted with the suggestion that this had been the primary sore. The late Sir William Kynsey has recorded many cases of "parangi," in Ceylon practice, in which the sore that originated it had been on one leg and had been attended by enlarged glands in the corresponding groin. He was, I believe, quite convinced in later life that these were really cases of syphilis. In some of them the infection was not improbably carried by flies to some abrasion or small sore, but in, perhaps, the majority it is more likely to have been due either to mosquitoes or to fleas.

Syphilis without obvious chancre; infection through a wart.—The matron of a maternity home was brought to me on account of an eruption which had been diagnosed as syphilitic. It was characteristic and abundant, and had been attended by some fever and slight sore throat. It had been present more than a month. I felt no hesitation in confirming the diagnosis, and it was subsequently corroborated by the disappearance of all symptoms under mercurial treatment.

The problem in this case was as to how the disease had been contracted. Although the patient's avocation exposed her fingers to some risk, she denied having had any sore on them. She submitted willingly to an examination of the genitals, and I found the hymen perfect, and no trace of sore on the vulva. On looking at her hands I observed a depressed scar on one finger near the side of the nail. This, she said, was the remains of a wart which she had repeatedly cut and which had at one time been painful. The period at which it was somewhat sore fitted exactly with the supposition that it had supplied the place of entrance for the virus. It had never, however, been very painful, and she had not thought of it as a serious matter. Nor had it ever caused, so far as she knew, any enlargement of the glands of the armpit. It had healed without treatment.

I saw this patient a second time, four months after her first visit, when the above statements were confirmed. She had continued mercury, and was quite free from symptoms. I do not think that there can be any reasonable doubt that the wart which had been recently pared was the site of infection. It had never, however, assumed any of the conditions which usually denote a chancre.

Multiple chancres in association with scabies in both parties.—The occasional association of syphilis with scabies is of more importance than may appear at first sight. The two diseases may be caught on the same occasion. The coincidence may not only explain the occurrence of itching syphilitic eruptions, but may not improbably be the factor in many cases of erratic and unexplained contagion. A patient with the syphilitic virus in his blood and a scabies eruption on his skin may become a most serious source of danger to those about him. Such an eruption would be attended with far greater risk of communication to others than an ordinary secondary rash. The latter is not usually attended by secretion or by abrasions, but in scabies the spots would be scratched and would bleed, or afford purulent secretion, every particle

of which might contain the virus. We must also remember that the acarus, if transferred, would not improbably carry the poison. I have not often seen scabies with syphilis in a woman, but the frequency with which men are the subjects of both, and believe that they have acquired them on the same occasion, makes it probable that scabies does not always deter prostitutes from following their vocation.

A case which I have to relate may illustrate what is perhaps more common than we suppose :—

A gentleman was brought to me by his surgeon with the question, "How many indurated chancres may a man have at the same time?" "Any number," was my reply. "Well, this patient appears to have eight or nine at least, and, what is curious, they are not all on his genitals." The patient was a Jew and had been circumcised. His penis, scrotum, and pubes were enveloped in lint and powdered iodoform, but I was enabled to see enough to feel sure that he had at least the number of sores asserted, and that they were characteristically indurated at their bases. One was at the meatus, but others were on the skin of the penis and abdomen. There were also hard glands in both groins. The patient volunteered the statement that his paramour had freely manipulated the parts; and, on hearing this, his surgeon added, "And I have been treating her for scabies on her hands." In addition to the sores on the lower abdomen and genitals, there were on the upper arm and shoulders six or seven papules quite irregularly placed, and some of which were definitely indurated. None of these were ulcerated, but one of them was as thick and as large as a shirt-button. They were not in the least like a secondary eruption, and I have no doubt that they really were primary syphilitic sores. They were all that remained, the patient said, of a more general eruption which, in the first instance, itched very much. This eruption had disappeared under the use of mercurial ointment. To complete the narrative, I may add that the whole duration of the troubles was about two months, and that the tonsils showed commencing

ulceration. There was as yet no secondary eruption distinguishable from the remains of the scabies.

Chancre in connection with lice. — A man, usually continent, went astray with a common prostitute in Marseilles. It was a single occasion. He was a medical man, and, naturally, very anxious as to what might happen. He soon found that he had contracted lice, and he then shaved his pubes and applied ointment. Nothing whatever appeared on his penis, but a small sore which he attributed to the parasites formed on the skin of the abdomen amongst the pubic hair. This sore never indurated in the least, and was never larger than half a pea. Soon after it was observed, a hard gland was noticed in the corresponding groin. As the sore did not harden, its true nature was not suspected and no special treatment was adopted. In course of time a very abundant roseolous eruption covered the whole trunk. With this he came under my observation on November 25th, 1894. The rash was characteristic—one of the most abundant that I have ever seen—and there were small filmy sores on his tonsils. The pubic sore had for long been healed, but a florid scar as large as a split pea marked its site. There were hard glands in both groins.

The dates given me were: Exposure, September 6th; sore and enlarged gland observed, September 26th; eruption, November 19th; sore throat, November 25th.

I think it very probable that the infecting sore (the chancre) in this case was caused by the puncture of a pediculus freshly arrived from a syphilitic hostess.

CHAPTER V

SYPHILIS IN CONNECTION WITH VACCINATION, CIRCUMCISION, ETC.

Since the publication of the first edition of this manual, the subject of vaccination-syphilis has to a large extent lost its interest. During the twenty-two years which have elapsed, no new cases of the communication of syphilis by vaccination have been brought to my knowledge.* The introduction of calf-lymph into general use has, it may confidently be hoped, made such accidents all but impossible. Although, however, the subject has thus happily lost, almost wholly, its practical importance, the facts which concern it still constitute a very interesting chapter in the history of syphilis. I shall, therefore, deal with them in some detail. In close association with them are those which concern the communication of the disease in the rite of circumcision, and with both must be taken those of non-venereal syphilis in general.

General remarks on vaccination-syphilis.—1. *What are we to infer from the circumstance that, when syphilis is conveyed in the practice of vaccination, it does not affect all of those vaccinated from the tainted source?* Clearly, I think, we must believe that the specific poison of syphilis is either not contained in pure vaccine lymph at all, or that it may chance not to be equally diffused through it. In my first

* In the years 1871 and 1872 I had occasion to investigate two series of cases in which syphilis had been conveyed to several persons by vaccination. The facts concerning them were communicated to the Royal Medical and Chirurgical Society, and committees were appointed to see the patients and report upon them. They were afterwards summarised in my "Illustrations of Clinical Surgery," and in both places of publication (but in the latter alone of life size) coloured portraits were given. (See *Transactions* of the Society, vols. liv. and lvi., and "Clinical Illustrations," vol. i. p. 113 *et seq.*)

series of cases, two patients out of twelve were successfully vaccinated, and wholly escaped syphilis; in the second series, out of about twenty-six more than half escaped; and in the third, only one out of twelve was known to have suffered; whilst in the fourth, only one suffered, and six or eight escaped.

In the first and second series it was repeatedly observed that, in those who contracted syphilis, some of the vaccination punctures developed chancres, and others did not. There cannot be the slightest doubt that it is quite easy to vaccinate from a tainted vaccinifer without conveying syphilis, nor, on the other hand, that it is possible to convey syphilis either with or without the production of a normal vaccine vesicle. Now, the supposition that it is almost essential to convey some of the cell elements of the blood in order to convey syphilis, seems, to my mind, the most probable explanation. Presumably it is not necessary that these elements should be visibly red. That the vaccine virus in a pure state cannot, as a rule, produce syphilis, seems probable, since, in several recorded instances, vaccination has been inadvertently performed, on a considerable scale, from a child who was subsequently found to be syphilitic, yet without ill consequences. It is probable that in a great number of instances, in addition to those placed on record, this has happened, and the evidence supplied by them in reference to the impotency of pure vaccine lymph in the production of syphilis is very strong. On the other hand, experience has fully proved, and more especially the well-recorded experiment of Professor Pelizzari, that the blood of a patient in the secondary stage of syphilis can, when inoculated, produce a chancre which will be followed by the usual syphilitic phenomena. The facts in the case referred to afford, as regards dates, etc., a very exact parallel with what was observed in all the cases of vaccination-syphilis which I have recorded.

2. Next we may ask, *Is it absolutely necessary that blood should be drawn in vaccination in order to convey syphilis?* It seems almost certain that it is

not. At any rate, there is not the least evidence in three of the series of cases which I have recorded that the lymph used was visibly contaminated with blood. The vaccinator in each of these instances asserted that it was his habit most scrupulously to avoid making the vesicle bleed. Probably it is quite sufficient to allow the vesicle to drain or weep. With this drainage, no doubt, corpuscular elements of the blood and tissues become free. According to this supposition, as soon as the first contents of the vesicle are exhausted the risk begins. It is well known that it is the custom of many experienced vaccinators to allow the ruptured vesicle "to weep," and to continue to employ its secretion long after the exhaustion of its original contents. It is, however, after Dr. Cory's experiment,* no longer possible for us to doubt that "first lymph" and lymph apparently quite pellucid may convey syphilis.

3. *If the syphilitic virus and the vaccine virus be implanted at one and the same time, what will be the course of events?* The cases recorded show conclusively that, if the patient be susceptible to vaccination, the vesicle may pass through all its own stages in the most characteristic manner. Then, after healing of the vaccination sore, and at the end of about a month or five weeks from the inoculation, the syphilitic virus begins to show its effects, and the scar becomes irritable, inflames, and indurates. Although this course is the usual one, it is not invariable, and deviations from it may be observed in connection probably with the patient's state of health and tissue-proclivities.

In these exceptional cases the vaccination sore never heals, and the pus-scab, which forms over it, combines with the inflammatory swelling around to conceal the nature of the specific changes which subsequently occur. Should the vaccination not have "taken," it is usual for the puncture to heal, and for

* Dr. Cory inoculated himself with clear lymph carefully taken from the vaccine pocks of a syphilitic infant, and produced chancres which were followed by syphilis.

the patient to think no more about it until specific inflammation begins at the end of the month.

4. *What are the usual characters of the vaccination chancre?* As already stated, the amount of inflammatory effusion on the surface of the sore, and of inflammatory œdema at its base, may in certain cases be considerable. In several of the cases in my second series the specific characters of the chancre were in this way quite concealed. In these instances the patients were children. In the man who was the subject of my third observation, the history was that the sore had been very acutely inflamed, so much so that the surgeon several times cauterised it, and probably it was on the verge of phagedæna. These conditions are, however, exceptional, and in a usual way the vaccination-chancre shows but little tendency to excess of inflammation. In some cases it does not even ulcerate. It begins as a little, red, firm, glossy tubercle, which gradually increases in size and becomes harder. At the end of a fortnight, or earlier, it usually ulcerates and presents a sore remarkable for its small amount of secretion and for the hardness of its base and edges. The cases in which no mercury was given show that it may last for some months before it heals. After healing, it leaves a dusky brown scar, very different indeed from that of normal vaccination. The pigmentation around the scar, as in other syphilitic scars, will vary with the complexion of the patient, and is always greatest in those who are dark.

5. *What treatment ought the vaccination-chancre to receive?* I can feel no doubt that should a vaccination scar take on the induration characteristic of a chancre, and should the other facts of the case corroborate the suspicion, it is the surgeon's duty without delay to begin the administration of mercury. The cases which I have recorded show in the strongest possible light the great difference in result between those in which mercury was given and those in which nothing was done. In my *first series* of cases the nature of the accident was recognised during the sixth week after vaccination, and prior to the occurrence

of any well-marked secondary symptoms. In all the patients, excepting one, mercury was at once administered, and in all these the progress of the chancre was immediately arrested and rapid cure resulted. For a considerable period no secondary symptoms showed themselves, and the success of the treatment was such as to induce not a few observers to doubt the correctness of the diagnosis.* Subsequently, however, secondary symptoms showed themselves in one or two of the patients. Although but very slight, they were so well characterised as to put all scepticism about the nature of the disease out of question.

Supposed examples of syphilis after vaccination: not really such.—It is now nearly forty years since the two series of cases occurred which drew so much attention to the subject of vaccinal syphilis. About the same time several other isolated cases of undoubted character were recorded. Before these events almost the entire British profession had been sceptical as to the possibility of transmitting syphilis by vaccination. Some series of cases, however, few in number but quite as conclusive, had been recorded on the Continent. These, supported as they unfortunately were by our English experience, led to the universal acceptance of the belief that such transmission was a thing to be feared, and suggested greatly increased precautions. It is now a fact of the deepest interest and a cause of great congratulation that, despite the vigilance of anti-vaccinators and their zeal in dragging such cases to the light, no considerable series of cases has since then been recorded. A few—a very few—isolated cases have undoubtedly occurred. The protracted inquiry of the Vaccination Commission did not discover more than three such, and in only one of these did more than a single infant suffer. At the same time, it exposed the fallacies which underlay the diagnosis in several cases that had been certified as syphilis but were not so.

In an early volume of my *Archives* I published

* These cases were investigated by a committee of the Royal Medical and Chirurgical Society.

several examples of gangrenous inflammation of the skin around the vaccine pocks in which death had resulted, and in which there had been much difficulty in determining that the disease was not syphilis. In more than one of these some eruption had occurred, and in one there had been periostitis, yet the evidence seemed to make it almost certain that the illness was vaccinia, and not syphilis. I have recently published several other cases in demonstration of the difficulty of diagnosis between the eruptions due to vaccinia and those of syphilis.

We may profitably remember that the protozoon which produces variola and vaccinia is possibly not distantly related to the spirillum of syphilis. Thus we need not be surprised that the resulting fever and local symptoms should in some features bear a mutual resemblance. One of the syphilitic eruptions looks like variola.

Case in which vaccinia simulated syphilis.—The case which I record below adds another to the group to which I have referred. The arm inflamed, the vaccine sores coalesced and became surrounded by brawny induration. An eruption appeared, and the case was diagnosed as syphilis communicated by vaccination. Apparent benefit from mercury appeared to confirm this suspicion, but it is to be remarked that, in spite of this benefit, the infant died. The dates, however, as will be seen in the appended schedule, are conclusively against the idea of vaccinal syphilis. In the latter the induration of the pock begins in the fourth week, and is usually limited, at any rate for a time, to the pocks infected. In this instance the inflammation began on the eleventh day, and the pocks were gangrenous on the fourteenth, and the eruption was out in the third week. Moreover, the lymph which had been used was calf-lymph. It is very important that all such narratives should be carefully sifted, and that they should not be permitted to stand on record to the prejudice of vaccination.

The following are the facts:—An infant, aged six weeks, died in —— Hospital seven weeks after vaccina-

tion, and the cause of death was certified as "Vaccinal syphilis. Marasmus." The following schedule displays the principal details of the case :—

DATE	WEEK	DETAILS
June 25 ...	—	Born in a workhouse. Vaccinated from calf-lymph on the sixth day (July 1). A puny child.
July 2 ...	First week	The vaccination at first appeared to be doing well. Entered as "successful."
July 9 ...	Second week	Left workhouse on 11th, the pocks being then inflamed. On thirteenth day the vesicles had coalesced, and there was gangrenous ulceration commencing.
July 16 ...	Third week	A "rose rash" appeared on face, neck, and arm (mother's statement). On 22nd taken to —— Hospital.
July 23 ...	Fourth week	Mercury given. Increasing emaciation. Tripartite ulcer on arm, with hard edges and sloughing centre. Rash on head, neck, and arms, and to less extent on other parts.
July 31 ...	Fifth week	Induration much less, and sore closing and looking more healthy. Child very feeble.
August 18	Sixth week	Sore healing. Death. No lesions whatever found at autopsy.

It was chiefly the presence of a "rose rash," which persisted some days and became more or less macular and scaly, that led to the diagnosis of syphilis. This rash had, however, made its appearance in the third week after vaccination, and it is therefore impossible that it should have been specific.

The induration of the base of the ulcer was also another feature which seemed to support the diagnosis. This induration was, however, well marked at the end of three weeks from the vaccination, and it involved all the pocks. It was probably only the brawny hardening which often attends inflammation with sloughing.

The infant was one of twins. Both were vaccinated, but the boy, in whom the vaccination had shown nothing abnormal, died ("wasted away") four weeks later.

If it be suggested that probably the infants were the subjects of inherited taint, I can only reply that precisely similar occurrences have been noted in other cases in which that hypothesis was not sustained. In this instance no negative facts were obtainable, but at the same time there were none in corroboration. I cannot doubt, having regard to all the facts, that the case was one of death from vaccinia in a feeble twin infant.

Precautions.—Foremost amongst the means by which we may hope to prevent the conveyance of syphilis by vaccination, I would put the diffusion of the knowledge amongst the profession that such accidents are possible. Until my original papers were published, almost the whole British profession was incredulous on this point;* and, in spite of the publicity which was then given to the facts, there still remain, I believe, some who are either uninformed or unconvinced. The vaccinator who proceeds in his duties with the fear of syphilis before him can, I think, incur but little risk in the matter. He will, in the first place, select his vaccinifer carefully, avoiding all children whose parents are not known to him. He will, for the most part, avoid all first-born children, and wait until, by the development of one healthy child, some guarantee of freedom from taint, on the part of the parents, has been given. There certainly cannot be any difficulty, under ordinary circumstances, in procuring vaccinifers who are absolutely free from risk. Next to the scrupulous selection of the child from whom to vaccinate, comes the obvious precaution of avoiding the admixture of blood and of recent exudation from the walls of the vesicle.

I have left the above cautions as they were written twenty years ago. The almost universal employment of calf-lymph now renders them for the most part unnecessary.

On syphilis conveyed in circumcision.—It had been assumed that when syphilis is conveyed to Jewish

* *See* answers to queries, in the "Government Report," from all the leading members of the profession.

infants in the operation of circumcision, it is usually due to the practice of the operator of putting the penis into his mouth. It fell to my lot, many years ago, to have to investigate a group of cases to which this explanation would not apply. The priest who had done the operations assured us that he never sucked the penis, and he was, besides, a man of advanced age, and himself wholly free from syphilis. The facts were briefly these: During a period of about six weeks this man had been conveying syphilis to his patients; not to all of them, but to one now and then. He was in large practice, and the great majority of those circumcised by him, during this period, had wholly escaped. I saw the cases in conjunction with my friend Mr. Charles Macnamara, and we were shown seven young children, all of whom had the circumcision-wound still unhealed, and the symptoms of syphilis were present in every case. The group illustrated in a very instructive manner many of the laws of syphilis, and to the lessons to be derived therefrom I shall presently advert.

In the first place I will show how the contagion had been effected. We examined, to begin with, the operator himself. He had no sore on his hands, nor had he the slightest indication of having ever suffered from syphilis. His instruments—a knife and thin metal shield—were clean (as might be expected when shown to us), and he asserted that he invariably washed them after each operation. This statement might go for what it was worth, but it will, I think, be admitted to be most improbable that contagion could be conveyed by a knife, which was in daily use, over a period as long as six weeks. This consideration obliged us to put aside suspicion as to the metal instruments. A clue was given us on our being told that it was the custom of the priest to take the foreskin home with him, in order that it might be ceremonially burnt. Before hearing this, I had got a strong impression that the vehicle of contagion must have been the lint used for dressing. On our asking where he put the foreskin, he told us that he always placed it

in his instrument box, under the lint, adding, "See here, this is the place; you can see the stains." There, sure enough, on the silk lining of his box were abundant stains of blood, and apparently of pus. Here prepuce after prepuce had been placed, the fresh blood of one re-moistening the dried-up fluids left by its predecessors, and directly on these were laid the strips of lint which were to be used as dressings. The discovery seemed to fit precisely with the facts. No doubt the beginning had been the circumcision of a syphilitic infant. Our informant told us that in the case of delicate children the rite was often deferred for some months, and thus it was quite possible that a child in whom the disease was fully developed might have been its subject.

Amongst the features of interest, apart from the mode of contagion, which this series of cases illustrated, were the following: the very unequal severity of the disease, even when derived from the same source; the varying conditions of the primary sore; and the association of suppurating buboes with infecting sores. Mr. Macnamara and myself were shown seven infants at the same time. In only one of these could it be said that any part of the circumcision wound was definitely indurated. In most it was large and ragged, and in two it had partly destroyed the glans by a mild form of phagedænic action. Two of the infants were fat, and apparently healthy, although both showing eruption. Two were emaciated and very ill, and two moderately so. One looked so feeble as to suggest the belief that it would not recover, and, as a matter of fact, it died a fortnight later. In this case the infant was quite well up to the time of circumcision. There was a rumour that one or two other infants, whom we did not see, had died of the disease. In some of the infants the eruption was very scanty, in others copious. All had enlarged glands in the groins, and in two suppuration had occurred on both sides, open sinuses being still present. In those in whom abscess had not occurred, the buboes were yet of unusual size.

It was impossible to obtain any accurate dates or statements as to the progress of the circumcision sores. In all the cases the infant had passed from under the observation of the priest, it being supposed that all was doing well. In most, at the end of about a month, it had been noticed that the partially healed wound was re-opening and inflamed. Some one part of the wound was always specially affected in the first instance.

I feel confident that the narrative just given discloses the mode by which infection in the practice of circumcision is usually effected. It seems very probable, although not previously suspected, that this was the method of contagion in most of the like cases recorded by other observers. In particular, I would venture to refer to those given by M. Ricord, and to a series more recently published by Dr. Taylor, of New York. The latter observer, to whose diligence syphilography already owed much, has published his cases with his accustomed accuracy and care, though perhaps with a degree of scepticism which many of his readers will not be able to share. His facts, although on a somewhat smaller scale, bear a most remarkable similarity to my own. Four children suffered who had been circumcised by the same operator (not a surgeon) during a period of four months. Other infants, operated on during the same period by the same man, and with the same instruments, had wholly escaped. There was not the slightest reason to think that the operator had syphilis himself; and, further, he denied that it was his custom to put the penis into his mouth. In most of the cases the whole length of the circumcision wound had inflamed and ulcerated. In two it is stated to have first healed, and afterwards re-opened; in one it became definitely and characteristically indurated; and in another it became phagedænic, and destroyed almost the whole penis. In three of the children the inguinal glands suffered severely, and in two they suppurated.* Three

* The only case in which the glands did not inflame was that in which phagedæna destroyed the penis.

out of the four children died. Only in one case had Dr. Taylor the whole of the facts supporting the diagnosis of syphilis under his own eyes; but the facts which he mentions as regards the others can, I think, notwithstanding Dr. Taylor's hesitation, leave no doubt as to the diagnosis. The severe and extensive inflammation of the wound, its tendency to phagedæna, and the inflammatory implication of the glands, are exactly the conditions which were present in my own cases.

Dr. Taylor's descriptions are admirably complete, and with most of his conclusions I fully concur. In the case of a child who had an indurated cicatrix and a syphilitic rash, both present at the time it was under observation, one fact is noted which is of especial interest to myself. The mother of the child assured Dr. Taylor that the circumcision wound had in the first instance healed well, and that it did not take on induration until two months after the operation. This unusually long period of incubation leads Dr. Taylor to question whether the contamination did really occur at the time of the circumcision. Making, however, a little allowance for inaccuracy on the part of the mother as to dates, and assuming that the sore took a week or ten days to develop into a condition which attracted her attention, there is nothing very unusual in the period of incubation alleged. I have repeatedly and long ago tried to show that the incubation period is ordinarily longer than is supposed, and that it is exceptional for it to be less than five weeks.

Nipple chancres.—I was consulted in the following case when legal proceedings were threatened, but I never saw any of the patients. A married woman was treated for syphilis some time after her marriage and when already pregnant. She was prematurely confined of a dead seven-months child. Having again become pregnant, she was advised, if the child should be viable, to procure a wet-nurse for it. This advice was carried out. The child appeared quite healthy at time of birth, and remained so for five weeks, when

it displayed specific symptoms, and after a short period died suddenly. The wet-nurse developed "a well-marked chancre on the areola of one nipple," which was followed by secondary symptoms. This wet-nurse was a respectable married woman. Her husband placed the case in the hands of a solicitor, and claimed as damages one thousand pounds from the two medical men—a family practitioner and a consultant—who had sanctioned the wet-nursing. It was necessary to compromise by a very liberal payment.

Eyebrow chancre.—A case has been recently recalled to my memory by my colleague, Mr. Waren Tay, in which a young man came under our joint observation at the London Hospital with a chancre on his eyebrow. He alleged that it had followed a fall in which he cut his brow on the kerbstone. On questioning him, it came out that a companion had sucked the wound. One of our dressers zealously undertook to see this companion, and found that he had syphilitic sores at the corners of his mouth.

Case in which the lip and the penis were infected at the same time with very different results.—An interesting case, in illustration of the relation of the "soft sore" to syphilis, and in demonstration that ulcers may form immediately after exposure and remain unhealed and non-indurated during the whole period of incubation, is afforded in the following narrative :—

Mr. H. —— was, about July 20th, 1883, exposed to the risk of infection. His prepuce cracked near its free edge, and some sores formed immediately, which he was told were "soft." For these he remained long under treatment. Between five and six weeks after this exposure a sore was noticed on his lip, and at the end of the tenth week he came to me with a large indurated chancre on his lower prolabium and a blotchy eruption on the abdomen and chest. He considered that the "soft" sores on his prepuce were getting well, but in reality, though just healed, they were taking on induration. There could be no doubt in this case that the contagion to the lip and

to the penis took place at the same time, yet we may instructively note the marked difference in the local results. On the lip nothing was noticed until nearly six weeks had elapsed; whereas on the penis, soft sores, so-called, were present during the whole interval. Characteristic induration took place in both parts almost simultaneously, that is, in the seventh or eighth week. Its amount was far greater on the lip than on the prepuce.

Chancre on the cheek not to be distinguished from a soft sore; large suppurating bubo.—Dr. Ludwig, then of Finsbury Square, once brought me a very interesting case of chancre on the face. The sore was a little external to the left commissure of the lips. It was an ulcer about as big as a fourpenny-bit, with soft inflamed edges, and covered with a pus-scab. There was not the slightest approach to specific induration about it, and nothing in the least suggestive of its true nature as an infecting chancre. Dr. Ludwig, whose skill and experience were both of them great, had not entertained a suspicion as to its specific nature until a rash appeared. A few days before the patient was brought to me, he became covered with a papular and scaly rash, about which there could be no mistake. Not only was the ulcer much more like what is popularly known as a "soft sore," but the bubo corresponded with it. The latter was a large mass as big as a fist, which concealed the angle of the jaw, and had been very painful. It was on the point of suppurating, if, indeed, it had not already done so.

This case may be added to many others on record in proof that the identification of chancres when occurring on other parts than the genitals is often very difficult, and that the phenomena which are supposed to be distinctive between hard and soft sores are often mixed.

A difficult case.—A patient who was sent to me from the South of England in 1906 presented difficulties of which until the very end of my inquiry I could see no possible explanation. Apparently it was

a case of syphilis without any trace of primary sore. He was a married man of middle age, who denied any exposure to risk, and who had never observed on any part of his person anything which could be suspected of being a primary infection. Yet he was covered with a papular eruption of a fortnight's duration, about which there could be no question. He had been carefully examined, without result, by two surgeons before he was sent to me. I had him stripped, and inspected every part of his surface, and found only the abundant secondary eruption. There was, however, a hard gland in his left axilla. Questions being pressed as to whether he had not had a sore on the hand of that limb, he recalled a bicycle accident which caused a sore on the left elbow, and showed me a white, very superficial, and inconspicuous scar which had resulted. In the accident he had been knocked down, and his clothing punctured at various places by one of his own wheels. There had been three punctures in the calf of the right leg, besides the one on the elbow. They were none of them considered serious at the time, but on the following day he showed them to a surgeon, chiefly because he wished for a certificate. The surgeon did not wash them nor disturb the blood-crusts which were on them. The sores gave no trouble, but were slow in healing. The patient now showed me the three scars on his calf, and told me that his wife had remarked to him, a week or two before the eruption appeared, that they were still noticeable. These were all small, none bigger than a threepenny-bit, but two of them were dusky, surmounted by a scab-crust, and distinctly hard at their bases. They were clearly not part of the eruption, although I had in the first instance so regarded them, and the history was definite that they had been present much longer. As his wife had only recently made remark as to their aspect, they had presumably become more conspicuous during the last week or two.

In now searching for some explanation as to how these wounds had been inoculated, it was elicited that the patient had been out in a militia camp, and

that he knew there was a man in the camp who was reputed to be suffering from syphilis. The two men were not known, however, to have ever come into any close association. But the dates fitted with the supposition that the unhealed wounds had been contaminated about the time of the camping-out. My supposition finally was that my patient had succeeded the syphilitic man in the bath-tent, had washed off the crusts from the wounds on his legs, and dried them with a towel which had just been used by his syphilitic comrade.

Family contagion from an infant.—Dr. W. R. Grove, of St. Ives, has given, in the *British Medical Journal* for June 16th, 1906, the particulars of a case in which three members of the same family acquired syphilis from an infant who had inherited it. The infant was upwards of sixteen months old at the time the contagion occurred, and was the subject of condylomata at the anus and sore mouth. An elderly woman and two children who had charge of the infant all contracted chancres of the tonsil, followed by eruption. The spoon used in feeding the infant was the supposed means of effecting contagion. The infant was believed to have been cured of pemphigus which showed itself a few days after birth, and had had a short mercurial treatment. As Dr. Grove well pointed out, the case emphasises the necessity for more prolonged treatment in infants, as insisted on by Prof. Fournier.

Observation has shown abundantly that the spirillum may be present and active in cases in which all obvious symptoms have disappeared, and this has been confirmed by experiments on animals. Ricord taught that a condyloma was one of the most conclusive signs of active symptoms, and in infants it is sometimes the only one.

CHAPTER VI

THE GLANDULAR SYSTEM IN THE SECONDARY AND TERTIARY STAGES

It is seldom in any case of sores resulting from venereal infection that the lymphatic glands wholly escape. As a rule it may be said that the type assumed by the gland inflammation will be similar to that occurring in the sore itself. If the latter is accompanied by pyogenic organisms, there is much risk that the glands may suppurate; but if, on the other hand, the sore is characterised by sclerosis only, the glands will remain indurated and show no tendency to soften. It follows that, since the hard sore is the one most commonly introductory to syphilis, "the bullet bubo" usually stands in the same relation, whilst the suppurating bubo belongs to the non-infective sore. These statements are very far from being equivalent to saying that suppuration and ulceration of the chancre, with abscess in the inguinal glands, are incompatible with constitutional syphilis. As a matter of fact, infecting chancres very often suppurate, and are not infrequently followed by abscess in the glands.* In all cases of gland enlargement the process is, of course, one of inflammation, and in all it extends more or less into the cellular tissue surrounding the glands. If, however, sclerotic growth preponderates in a marked degree, this extension may be but slight, and the glands may remain isolated and movable; whilst in reverse conditions they may early become glued together, or even adherent to the skin. These differences are, however, questions of degree rather than of kind. The presence of pyogenic

* I base these statements on experience of many years ago. I have not, under modern methods of treatment, seen much of troublesome buboes for long past.

organisms in company with the specific virus of syphilis is very frequent.

If our patients' statements as to the date of contagion were always trustworthy, we might probably estimate the risk of suppuration of the bubo by reference to the incubation period of the chancre. If a sore has formed soon after intercourse, it will probably ulcerate and suppurate, and may be assumed to be the product of secretion which contained pus organisms. If, on the other hand, there has been a clear interval of three weeks or more, it may be assumed that nothing but the syphilitic parasite has been communicated, and that there is no probability of a gland abscess.

In former times the fear of a bubo constituted in the public mind one of the chief terrors of syphilis, but under modern treatment this has been changed. The early use of mercury now prevents, for the most part, the implication of the glands in the case of syphilitic chancres; whilst in the suppurating sore the employment of iodoform or its equivalent soon destroys the infective efficiency of the pus. In making these statements we indicate definitely the proper measures of treatment.

It may be remarked that phagedænic chancres are not usually productive of any tendency to phagedæna in the bubo. The necrotic process apparently destroys the infective material, and it is not a wholly improbable suggestion that in the case of suppurating sores the attendant inflammation may damage the vitality of the parasite (the spirochæte), and thus modify or wholly prevent the development of syphilis.

It was formerly taught that in the early stages of syphilis there was usually present a general enlargement of lymphatic glands throughout the body. Although this may undoubtedly sometimes be recognised, it is not common, and is of little or no value as a symptom.

In cases in which the chancre has been not on the genitals but has escaped recognition on some distant part, the situation of the bubo may afford an important

clue to its position. Occasions for such use of the bubo as a guide are not infrequent in the tropics, where syphilitic sores on the naked limbs of children are not uncommon and may be often overlooked. In all cases of unexplained syphilis it is of the utmost importance to examine the glandular system.*

It is now but rarely necessary to open buboes, and still less so to excise the glands implicated. The latter measure may, however, under certain circumstances, become advisable.

In exceptional cases the bubo is the first of the primary symptoms to attract the patient's attention, and in a few it remains throughout the only one which the surgeon can discover. Although a certain amount of hardness in the inguinal glands may persist long after the chancre has disappeared, yet definite recurrence in them is exceedingly infrequent. The glandular system is not prone to develop gummata, and is, indeed, but very rarely in any way affected during the tertiary stage. From my own experience I could quote exceedingly few exceptions to this statement.

Case in which buboes in the arm were followed by syphilis, although no chancre had ever been observed.—In the following case we have an instance of buboes occurring without known chancre, and of one gland-mass suppurating whilst another remained indolent.

A very intelligent surgeon, of middle age, who was married, and the father of healthy children, consulted me on account of swollen glands just above the elbow. One of these suppurated, and, after a small quantity of pus had been evacuated, it healed but remained hard. The glands in the axilla indurated, but remained loose and showed no tendency to inflame. I examined his hand carefully, and could find no sore; nor had he ever observed any. Abandoning the suspicion of syphilis, I sent him to the seaside to improve his health.

* In the case of finger chancres it is of interest to remember that the lymphatics from the ring and little fingers pass through the epitrochlear glands, but those of the thumb and index do not. If the sore is on either of the two latter, the glands above the elbow may escape and those in the armpit will alone be enlarged. This rule must not, however, be supposed to be always trustworthy. Now and then, as a result of finger chancre, a gland mass may be found under the clavicle as well as in the armpit.

There he became ill, was feverish, and had symptoms of thrombosis of the veins in the legs. These symptoms ended in the development of a free syphilitic eruption, with sore throat and patches on the tongue. When he returned to me there could be not the least doubt about the diagnosis. I now examined his penis and groins. There was no trace of sore or of enlargement of glands in these parts. The bubo in the armpit was still present. Dr. —— now remembered that about six weeks before the glands in the arm began to enlarge he attended a woman in her confinement who suffered from syphilis. All his symptoms subsequently yielded quickly to the use of mercury. I had a sketch taken of his tongue as the best example of true syphilitic psoriasis of that organ which I had ever seen. The eruption on the tongue was coincident with eruption on the skin, and, like the latter, disappeared at once when mercury was given.

In this case it is quite certain that the patient had syphilis. It is highly improbable that he had a sore on the penis, whilst it is certain that he had buboes in the arm, which were unexplained unless they were caused by the imbibition of virus from some part of the hand. We may conjecture that the virus had lodged in one of the nails or infected some crack at the side of one; but that it never induced any perceptible degree of soreness is unquestionable. It is the more remarkable that, with such entire absence of local irritation, one of the buboes should have suppurated.

Case of midwifery syphilis with exceptional features; insignificant chancre; high temperatures; large bubo threatening suppuration.—Mr. E. ——'s case is of much interest as an illustration of exceptional conditions both in the primary sore and in the gland-swelling. He was a medical student, and was engaged in assisting his father, when he had the misfortune to contract a sore on the side of one of his fingers. This sore never showed anything definite or materially suspicious. He thought nothing of it until the glands in his armpit began to swell. When he came to me he had a gland mass in the armpit as large as a small fist, which was glued to the inner border of the pectoral muscles, and obviously threatened suppuration. His temperatures every evening were from 102 to 103. As there were no secondary symptoms, I felt compelled to wait a little while before venturing to feel sure that we had to deal with an infecting sore, for the bubo was exactly like that which attends the "soft" sore. I carefully examined his skin and throat

on three occasions with intervals of a week, and then, finding that there were a few lichenoid spots of a suspicious nature, though very insignificant, I advised him to begin mercury. During the next few days a very characteristic rash came out, and he had ulcers in the tonsils.

The effect of the mercury in subsequently procuring the disappearance of the eruption and of the gland-mass was very definite.

I remember well another case, almost the counterpart of this, in which also a house-surgeon, whose fingers were frequently exposed to risk of inoculation, was the patient.

In a third case I was consulted on account of a phagedænic sore on the finger of a boy. In this, too, a free application of nitric acid was successful in procuring healthy action and sound healing. The patient was only ten years of age, and it may be considered extremely improbable that the sore was venereal. I must add, however, that he was the son of a surgeon, and that it was therefore within possibility that he might have inoculated a wound on his finger from a towel or sponge in his father's surgery. It is certainly very unusual, indeed in my experience unexampled, for abrasions or wounds of the finger to take on phagedænic action under circumstances which preclude the risk of venereal infection.

Indurations in lymphatic trunks in possible connection with syphilis.—Most observers are, I have no doubt, familiar with the occurrence of little hard knots which form in the subcutaneous cellular tissue, and are often seen in apparent connection with syphilis. They are seldom round, but often bean-shaped, and there can, I think, be but little doubt that their anatomical site is the lymphatic trunks. They are, however, never attended by cord-like thickenings of long tracts, nor are the glands ever enlarged. They never in my experience run the course of gummata as regards softening or breaking down. Their usual course is to persist for a time and then disappear. Although most frequently seen in those who

have had syphilis, they are met with occasionally without any such history. They are quite different from neuromata in being neither painful nor tender. They differ from "rheumatic nodules" in that they are usually, although multiple, quite isolated, and show no preference for any special localities. They are not very usually met with on the hands or feet, nor near to subcutaneous bones. They may, however, be found on any part of the limbs or trunk. In some instances there may be a suspicion of gout.

An example of these peculiar indurations occurred in the person of a surgeon, Mr. H. ——. He was thirty-three years of age, and had suffered from syphilis four years previously, for which he took mercury for a whole year. He appeared to have been quite cured, and at the time that he consulted me he had no indications of syphilis about him, unless these little indurations were to be counted as such. He was of very dark complexion, and apparently in good health. He was losing his hair. His father was, he told me, very rheumatic, but he did not think that he had ever had a definite attack of gout. He had himself suffered at times from rheumatic stiffening of joints. The indurations about which this gentleman was anxious occurred on his hands, forearms, and feet. The largest was not so big as a pea, and most were about the size of shots. They were very superficial, and, although apparently not beginning in the skin itself, they became at an early stage inseparably united to it. They were most of them of an elongated or oval form, with indefinite boundaries. He stated that they were not persistent, but that some would disappear and others come. They gave him not the least pain, and never showed any tendency to inflame. I advised him to rub in three times a day some mercurial ointment over the little "knots." After two months' treatment without any internal medicine, he called on me again. Some of the knots had melted away, but several still remained. One in particular, near his left elbow, which had formerly been adherent to the skin, was now quite loose beneath it. He was clear in

his opinion that some of them had previously disappeared independently of treatment.

Gland-gummata.—As to the occurrence in lymphatic glands of large gummata I have but very little evidence to offer, and that little is inconclusive. Cases have been recorded by Fournier and others of large tumours so diagnosed which have disappeared rapidly under specific treatment, but they are all open to fallacies. Undoubtedly it is advisable in all such cases to prescribe iodides or mercury in combination with tonics, but the triumphant success of such measures does not prove syphilis. Gland tumours are very apt to change, and are remarkably susceptible to influence from drugs. The iodides were in the first instance used for the treatment of enlarged glands quite independently of any suspicion of specific taint, and they were often successful.

I have given in my *Archives*, vol. i., an abstract of a case published by the late Sir T. M'All Anderson, in which very large gland-masses disappeared under the use of large doses of iodide of potassium which were given with a diagnosis of syphilis. The gland-tumours were, however, in the usual positions of lymphadenoma, and the history of syphilis was doubtful. Although the masses are said to have disappeared so that scarcely a vestige remained, yet I have been informed that subsequently to the publication of the case they reappeared, and that the man died with all the symptoms of lymphadenoma. Several cases which I have myself published as examples of gummata of glands are open to the suspicion which I have suggested. They have been very few in number. The following is one of the best :—

A girl who was at Moorfields some years ago, with undoubted inherited syphilis, presented a large tumour in her neck. It was adherent to the neighbouring parts, but it was smoothly rounded and tense, and there was at first no evidence of its being made up of several glands. It had increased rather rapidly during about a month. Under iodide of potassium it diminished very much in a week, and then it became

clear that it was glandular. As the infiltration around it disappeared, a cluster of enlarged glands was to be recognised. It wholly disappeared under treatment. Such a result, taken together with the known antecedents of the patient, may seem almost conclusive as to the syphilitic nature of the gland-mass. In truth, however, I have seen quite similar cures in cases in which all suspicion of syphilis was absent. Gland-tumours of all kinds are remarkably amenable both to iodides and to arsenic. It is very possible that the disease relapsed after I lost sight of the patient, as in M'All Anderson's case just cited.

Notes to Chapter VI.

1. Experiments on apes have proved that the spirillum may be detected in the lymphatic glands more than a week before any definite chancre is observed.

2. *Bubon d'emblée* is a term given to cases of bubo without chancre.

CHAPTER VII

SORES ON THE GENITALS WHICH ARE NOT SYPHILITIC—NON-INDURATED VENEREAL SORES

In the heading of this chapter I have purposely avoided the use of the term "soft sore," and in what I have now to write I must recapitulate some statements already made.

The characteristic induration often met with in the sores which lead to syphilis may vary very much in degree, and may, in not a few instances, be wholly absent. In a very large number in which a certain amount of sclerosis is observed when the sore has developed, it has been wholly absent during several weeks of the initial stage. It is under these conditions unwise to classify all venereal sores in two groups under the names of "soft" and "hard," and to regard the one as infecting and the other as not so. The same sore may change its character at different stages, and respecting a great many the quality of hardness is so ill marked as to be very deceptive. The attempt to make the distinction referred to leads to perpetual mistakes in practice, and very frequently entails loss of reputation upon the surgeon.

Amongst the sores which occur on the genitals, and which follow sexual intercourse of a suspicious nature, undoubtedly there are many which do not lead to syphilis. In these there is never any characteristic sclerosis, but in other respects they present great differences amongst themselves. There is no one well-characterised type to which the term "soft chancre" can suitably be applied, and certainly there is none concerning which the cautious surgeon will predicate that no infection of the system will follow.

A feature in the history of all these sores is that they have a very short incubation period; most of

them follow almost immediately after the exposure to risk. It may be within a few hours, and the period is very rarely prolonged over many days. This rapid development implies that the sore results from the contagion of some pyogenic organism, and not from the parasite of syphilis. It does not, however, prove that the latter may not have been simultaneously implanted. Other features which emphasise the same lesson are that the sores are often multiple from the beginning, or—still more suspicious—that they become so as time passes on, and that there is early evidence of irritation of the lymphatic channels and glands. A tendency to suppurative inflammation and ulceration much in excess of what is usual in the infective sore is seen from the first. The sores have much pus secretion, and the buboes which attend them not infrequently form abscesses.

It is important to point out that the more serious of the events alluded to occur only in a small minority of the cases in which patients consult us for sores which they suspect, but which are not really syphilis. Some of these are mere abrasions, and never become troublesome as ulcers; others are more persistent, yet never become multiple or cause buboes. Some of these are possibly herpetic in nature, and others are due to inoculation with a mild form of pus. Without entering into detail as to different micro-organisms which may be present in pus, we may safely say that specific differences are to be assumed, and that contagion with any one will tend to produce its like. M. Bassereau engaged in a most painstaking manner in what were called confrontation investigations. By seeking out the woman from whom the infection had been derived, he succeeded in proving that the sore which had caused infection was usually of the same character as the one which had resulted. More recently the experiments of Ducrey have seemed to establish the fact that a special organism is often present in non-indurated sores, and that by its inoculation similar sores may be produced. It would be going, however, much too far if we were to assume

from these observations that the organism in question is the cause of all or of most of the genital sores which are not syphilitic. Nor has it been proved that such sores are none of them in any relation with syphilis. True syphilitic chancres may inflame and ulcerate and secrete pus, and it is very possible that such pus may be contagious and produce sores, whilst yet not conveying the specific organism of the disease. True syphilis may, it is certain, cause phagedænic ulceration, and such ulceration may in turn become the cause of phagedæna in other persons, without conveying syphilis.*

It need excite no wonder that secretions are often encountered on the genitals which result from infection but yet do not convey syphilis. What is known as impetigo contagiosa may occur on these parts, or lesions may occur in those who have at some former period suffered from syphilis but in whom the specific element has been killed by treatment. A valuable aid to diagnosis may often be obtained from the use of local applications. Iodoform is so efficient that but few of the sores which show themselves immediately after exposure ever withstand it, and we now but rarely see either persisting non-indurated chancres or suppurating buboes. Black wash and mercurial ointments are also very useful, but far less so than iodoform, iodol, or chinosol. If a sore which has appeared promptly resists local treatment and lasts for a month or more, it must be regarded with great suspicion, as constitutional symptoms will probably follow. In the future it is more than possible that microscopic examination may prove useful in establishing the diagnosis. For the present, however, and especially in the absence of special skill, it will be better to trust to clinical rules.

Of the very numerous sores resulting from venereal contagion, concerning which practitioners are accustomed, within the first three weeks of the infection, to pronounce with more or less confidence that they will not prove to be productive of syphilis, only a

* *See* Chapter IX.

small proportion present the condition of the punched-out ulcer. They are, indeed, exceedingly divergent in their features. But few are multiple; many are quite superficial, and destitute of any one definite character common to all, except the absence of induration. It may be suggested that it is exceedingly improbable that any single specific parasite, such as that of Duercy, is the cause of them all.

In my "Illustrations of Clinical Surgery" I have given a portrait of the genitals and thighs of a young boy. Around the corona are seen a number of isolated but closely adjacent sores, covered with yellowish fibrinous secretion, and very closely resembling the conditions usually considered characteristic of the so-called "soft sore." It is to be admitted, however, that none of them are "punched-out" ulcers. On the child's thighs are numerous pustules, some of which have produced little ulcers.

There was no history of contagion in this case. The child's age precluded all suspicion of sexual exposure, and the lesions were quickly got rid of by local treatment only. The development of sores on the thighs, and not on other parts of the body, is evidence of local contagion only.

A case very similar to the one just mentioned came under my observation some years ago. A clergyman and his wife were sent to me as cases of syphilis. Specific treatment had been already commenced in both. Both of them had sores on the genitals and also on the adjacent regions, but no general eruption and no sore throat. The sores were very numerous, and all were covered with pus-crusts. None of the sores were punched-out, and none in the least indurated. Both patients were quickly cured by local treatment only.

My contention is that there is no one type of venereal sore which is characteristic of the abortive or non-syphilitic infection. The chancre which comes probably the nearest to acceptance as a type-form is the circular, punched-out sore seldom seen anywhere else than in the coronal sulcus. It is almost always

Plate 2.—Balanitis in a Boy, with Simulation of "Soft Sores"

As mentioned in the text (page 66), there was no suggestion of contagion, cure resulted under local treatment, and nothing of a syphilitic nature supervened. Presumably the conditions were the result of local but not specific contagion. They were in the first instance regarded with much suspicion, but subsequent experience of similar cases has convinced me that such cases may originate spontaneously and that they are sometimes in the first instance of herpetic origin. Not improbably, herpetic sores became contaminated by one or more of the organisms habitually present in the parts, and by the secretion from the sores on the corona the eruption on the thighs was originated. The eruption was confined to the adjacent parts, and there was no gland disease. I have seen several similar cases in which the sores were on the vulva in young women, and on one side only. The diagnosis in such cases is very important and may be helped by observing that the eruption, if there is any, has always followed quickly on the original sores and is always restricted to their locality.

Such sores constitute one type of the sores which are often diagnosed as "soft chancres," especially when occurring in young adults who perhaps acknowledge exposure to risk.

PLATE 2.

multiple, and varies in size from a split-pea to a sixpence. Unless properly treated it may last a considerable time. I believe that it is not uncommon for one of the group of such sores, probably that first produced, to take on induration at the end of the month. In some instances these sores are inflamed and have borders which suggest a mild form of phagedæna.

It is a very noteworthy fact that what are called "soft sores" are very seldom diagnosed, except on the genitals. I may be allowed to suggest that the secretions which produce them are in some sense a product of the true chancre, and that they assume modifications in connection with the part affected. It does not seem probable that a specific organism wholly unconnected with syphilis should be able to propagate itself exclusively on the genitals.

Although scarcely to be hoped for, it is much to be desired that the term "*ulcus molle*," or "soft sore," should be wholly laid aside, and that we should be content to designate all sores not showing specific hardness as simply *non-induratum*. The term "soft" here means nothing more than the absence of hardness, and the very numerous sores which are not hard vary exceedingly in their other features.

Perhaps the most probable hypothesis as to the relationship of the "soft" or non-indurated sore and the indurated one is that the specific virus (the spirochæta) is present in the initiation of both, but that the co-existence of other organisms which promptly cause inflammation often destroy the infected cells and prevent both specific induration and blood contamination. This would fit with the well-established fact that many sores which never show induration are yet productive of syphilis.

CHAPTER VIII

SECOND INFECTIONS OF SYPHILIS

In former times, when it was considered that all venereal sores were alike syphilitic, no doubt was entertained as to whether a patient could have the disease twice. It was a matter of common observation that often the same person came under treatment repeatedly for fresh chancres. Some even held that one attack predisposed to another. As knowledge became more definite, however, and as we began to understand that many local sores were abortive and produced no affection of the general system, the question assumed a different aspect. It was seen that a repetition of venereal sores did not imply a repetition of syphilis, and gradually opinion verged to the opposite extreme, and it was taught that an attack of true syphilis, or rather, I might say, of *complete* syphilis, secured its subject against a second. This, or nearly this, was the creed of Ricord and of many of his pupils. It fitted exceedingly well with the doctrine that syphilis is really a specific fever, having its stages like the other exanthemata, and, like them, exhausting, in the system of its recipient, those elements upon which its particulate virus can feed. When the doctrine of the analogy between the exanthemata and syphilis was first brought forward, this argument was not neglected. I did not fail to avail myself of the current belief that syphilis could occur but once, as affording support to the doctrine that it was essentially a malady of the same class as variola. More prolonged observation, however, has to some extent thrown doubt upon the correctness of this belief, and surgeons on all hands have had to admit that now and then syphilis does occur twice, in a complete form, to the same individual.

The first fallacy to which I must advert is the very

remarkable influence which a venereal sore appears to exert in rendering the part affected liable to herpes. Herpes of this kind is often mistaken for a fresh infection, both by the patient and his advisers. What the relationship may be between the chancre and the subsequent attacks of herpes I do not know; but this is certain, that it is very common for those who have suffered from sores on the penis to be liable for years afterwards to repeated eruptions of this type. The herpes runs its typical course in most instances—that is, it comes out suddenly, produces multiple sores, and disappears spontaneously after a week or ten days. In some cases the recurrences are so frequent that one attack treads on the heels of the other, and the patient is scarcely ever free. We must note that the herpes is almost always near to the part where the chancre occurred.

Although this after-chancre herpes is usually easy of diagnosis and rapidly transitory, it is not always so. Sometimes its sores last long, and sometimes they become hard at the base, and very difficult to distinguish from "recurrent indurated chancres."

This liability to herpes complicates the question in two directions. First, as just stated, it is possible that herpetic sores may, in consequence of the patient's syphilitic condition, become protracted or that they may indurate; and, secondly, their existence may render fresh infection much more easy.

Putting, however, quite aside all sources of error, there cannot be the slightest doubt that the second occurrence of complete syphilis is a possibility. Probably it is quite as common as are second attacks of small-pox, or second successful vaccinations. I have myself seen a great many cases in which there could be not the slightest doubt that a second local affection had taken place in a patient who had previously passed through a complete attack. For the most part these have been cases in which an interval of some years had elapsed, during which much treatment had been employed and the cure had seemed to be complete. But this has not always been the case, and in one remarkable

instance a gentleman showed me a chancre, which was well characterised, and which he made no doubt he had caught by contagion, although it was only nine months since a previous one, and he was not yet well rid of his secondary symptoms. In this instance it might be suspected that the second sore should be regarded as a relapsed or recurrent chancre. But, in reply to this, it was on a quite different part of the penis. I find recorded in the *Lancet* of 1850, by Mr. Allingham, a very extraordinary case, in which the second chancre occurred within six months of the first. Mr. Allingham had treated this patient early in February for an indurated sore, which was followed in May by a copper-coloured scaly eruption and ulcerated tonsils. These symptoms were cured by treatment, and the patient believed himself well. In July he came to Mr. Allingham again, with a perfect specimen of the Hunterian chancre. It was not on the site of the original sore. At first this second sore appeared to yield easily to mercury, but I am informed by Mr. Allingham, who kindly gave me a report of what took place subsequently to his publication of the case, that the sore took six months to heal, in spite of mercury, and that it was followed by rupia and nodes. Fourteen years later the patient died insane.

Both in Mr. Allingham's case and my own, the second sore occurred in ordinary course after exposure to risk, and in each it assumed, not the features of a gumma, but those of a well-characterised Hunterian induration. These cases must stand somewhat apart from those in which a patient contracts the new chancre after a considerable period of health. They probably imply peculiarities in the individual of the nature of idiosyncrasy, and must be placed in the same category as the recorded examples of repeated successful vaccination or successive attacks of variola.

A second attack of syphilis twenty years after the first.—One of the best examples which I can produce in proof of the possible occurrence of complete syphilis twice is the following. I attended,

in 1860, Mr. ——, then a medical student, for syphilis. He had it completely and severely, and it was eighteen months before we left off treatment. As he subsequently expressed his recollection of it, "he went through everything." Six years later he married. Two children were born, neither of whom suffered in the least. He and his wife also both remained quite well. In 1882, more than twenty years later, he was again under my care with a large inflamed chancre on his upper lip, glandular swellings under his jaw, a sore throat, and a copious erythematous eruption. He believed that he had scratched his lip on a vaccination tube, and thought that he might have accidentally inoculated it from a chancre afterwards. He was in the habit of often touching venereal sores. The symptoms again proved severe, and yielded only slowly to mercury. The second attack was in this case in no respect different from an original one. Probably the cure of the first had been complete. Mr. —— in the end regained good health.

Cases illustrating second attacks with peculiarities.—In some cases of second attacks there seems reason to believe that the eruption in the second differs from the usual type. Of this the following are examples :—

1.—A gentleman, aged thirty-one, had a hard sore in 1877, which was followed by a copious eruption. It was symmetrical, in numerous patches, many of them very large. They healed in their centres and spread at their edges, leaving thin scars. Both sides of the trunk, all the limbs, and the whole face were affected. Of this he was quite freed in two months by treatment with iodide and mercury. It seemed certain that he had had complete syphilis before. In 1866 he had a chancre followed by "a sore throat and eruption of pimples." In 1876 he had another sore, followed by a single coppery spot on the chest and sore gums. For this he was treated for six months. He had only left off treatment for another six months when his third sore occurred, followed by the severe eruption which I have just described.

It seems very possible that the peculiar character of the eruption (symmetrical and yet lupoid) was due to the fact that his tissues had previously been under the influence of the virus.

2.—In the case of a Mr. ——, an exactly similar eruption followed a phagedænic chancre, and left him severely scarred. The eruption in him was easily and permanently cured, and he was, ten years later, in good health. He also had had a former attack of syphilis.

We may ask the question, Do second attacks mix themselves with former ones and produce peculiar modifications in the course of syphilis? It may perhaps be possible that second infections of syphilis, becoming constitutional, may so influence the tissues that the tertiary phenomena consequent on the old may be mixed with secondary ones due to the new.

3.—Mr. —— consulted me seven months after his contagion. He had had two hard sores, followed by a transitory eruption with sore throat and tongue, and afterwards by intense headaches. For these he had been treated irregularly by mercury and iodides. Exactly three months after the contagion, and at a time when he was temporarily free from symptoms and had left off treatment, he was seized with giddiness which ended in hemiplegia. The attack had the usual symptoms of arterial thrombosis from syphilis. It soon cleared off, but the arm was still a little stiff when he consulted me three months later. That he was really the subject of secondary syphilis from his recent sore was made certain by several relapses of rash and sore tongue, which were cured by mercury. The problem was whether the arterial disease was due to the recent infection, or to an old one of ten years back, or to the combined forces of the two. Up to the date of the second contagion he had remained perfectly well. There was a history of a former attack of syphilis ten years previously.

I have seen many other cases which suggested the belief that a second attack had re-excited what had been left by the former disease.

Mr. Berkeley Hill relates the case of a surgeon who had complete syphilis, which left him, for several years afterwards, liable to rheumatic pains that were always relieved by iodide. He ultimately got well, married, and had healthy children. Eleven years after the first syphilis he contracted a sore on his finger, which was attended by swollen glands, and continued open for several months. None of the ordinary secondary symptoms followed this, but several months later his health failed, and his spleen and liver enlarged, and he had jaundice with much pain in the loins. Iodides relieved him at first, but subsequently nothing suited but mercury. He relapsed when mercury was left off, and was cured again by its use. The case either proves in the most signal manner the usefulness of mercury in visceral affections which were not syphilitic, or else, and more probably, it illustrates the occurrence of visceral syphilis consequent on old syphilis re-excited by new contagion.*

A second attack of syphilis thirty-five years after the first.—The following case is a good example at once of the complete cure of syphilis (very common) and of a second infection, with the result of an indurated chancre of ordinary type. The interval between the two attacks was no less than thirty-five years :—

Mr. ——, when aged twenty-four, had a chancre and complete syphilis, for which he was treated by several surgeons, and finally by Sir Erasmus Wilson. As far as he can remember, he was not more than six months under care, and after the secondary symptoms had disappeared he never had any reminders. When he was thirty-seven he married, and subsequently, having lost his wife, he married a second time. Both wives bore him healthy children, and he himself continued in excellent health. In 1885 (*æt.* 59) he again incurred risk. The exposure was on February 3rd. He came to me on the 25th with an inflamed, almost phagedænic, sore. There was no induration. I ordered iodoform only. A week later the sore was much less painful and less inflamed, but there was characteristic induration at its base, and I now ordered mercury. He had ascertained that his paramour was also under treatment at the time.

* *See* Hill and Cooper, p. 25.

The induration in this case was characteristic and considerable, but it disappeared satisfactorily under treatment by mercury, and no constitutional symptoms occurred. He took mercury for six months or more.

On the proneness of second chancres to take on phagedæna.—I have often remarked that when those who have passed through syphilis some years previously contract fresh chancres, the sores are apt to take on phagedæna. An instance of this occurred in the case of an Egyptian, who was admitted into the London Hospital under my care in 1880. This man gave a clear history of complete syphilis several years before. He had, whilst in Paris, again exposed himself to risk about six weeks before he came to us. About a month after the exposure, sores were noticed, and when, a fortnight later, he came under observation, a deep phagedænic ulcer was present.

I treated a young lawyer for a bad phagedænic sore, which had destroyed the greater part of his glans. He had passed through syphilis five years previously, and he had a periosteal gumma of his palate as a tertiary result of his former attack, at the same time that he had his fresh chancre on the penis. There was no doubt that this fresh sore was the consequence of contagion.

Phagedæna is, of course, common enough in sores occurring to those who have never had syphilis before, but my experience would lead me to believe that those who have so suffered are much more prone to it. I believe that in not a few of the cases in which sores are reputed to be "soft" and non-infecting, these peculiarities are consequent on the fact that the patient has had syphilis before.

Case in which a surgeon had a chancre on the thumb twice (with an interval of eight years).—Dr. —— consulted me in March, 1884, with an ugly and unhealthy sore on the side of his thumb. It had been present more than two months, and he had a symmetrical scaly eruption, which was tending to ulcerate. The eruption had been out three weeks. There could be not the slightest doubt that the sore

was a chancre and that he had a secondary rash. The evidence as to a former attack was the following: Eight years ago, Dr. —— had had a sore, which involved the nail of the thumb, and was followed by very severe secondary symptoms. Under treatment he got quite well, and had no reminders. A whitlow which occurred on one finger two or three years before I saw him did not take on any suspicious characters. Dr. —— was himself a most competent observer, but if further corroboration be required as to the nature of the first attack, it may be stated that he was prescribed for by Mr. Prescott Hewett and Mr. George Pollock, both of whom regarded the case as syphilis.

Severe symptoms of the tertiary class soon after a second infection.—A gentleman whom I saw with Dr. B—— afforded an interesting example of the development of severe tertiary symptoms, apparently as the result of a second primary infection. At the date of my seeing him he was forty-three years of age. Twenty years previously he had passed through a severe attack of syphilis. The eruption had been plentiful and well marked. He was himself a surgeon, and could speak with confidence on this point. He was treated in Edinburgh, by the syphilisation process, which was then, temporarily, in some repute. During a period of about three months, one hundred and twenty inoculations were practised. At the end of that time he was free from symptoms, and he remained absolutely so for seventeen years. He then contracted another chancre, which became, after a time, phagedænic, and gave much trouble. He had neither sore throat nor eruption in connection with this second sore, but soon began to suffer from nodes on the skull and on the tibiæ, and had necrosis of part of the alveolus of his lower jaw. During this illness he took mercury and iodide of potassium, but not very regularly. His nodes recurred whenever he left off the treatment, and at the time that I saw him they were still quite definite. He had also developed symptoms of ophthalmoplegia externa, some

of his eye-muscles on both sides being paralysed. It is, of course, quite possible that in this second attack the early use of specifics prevented the development of secondary symptoms.

Second sore followed by very severe rupia-lupus, etc.—An important case, bearing upon the question of second attacks, was brought under my notice by Mr. P——. The patient had had severe syphilis, followed by large rupial sores, eight years previously. After several years of interrupted treatment, he had been cured by inunction at Aix. The next year, as a precaution, he went to Aix again, and, although he had no symptoms, was freely salivated. From 1883 to early in 1886 he was quite free from symptoms. He then contracted a fresh sore. This sore never indurated, but it was troublesome, and remained open for six weeks. He took iodides and used local applications. A month or two after it had healed, a severe rupial eruption made its appearance and resisted treatment. For this he was brought to me. He had many large sores on his shoulders, trunk, and face. Some were round and had rupial crusts; others, much larger, were irregular in form, and lupoid in their tendency to advance at their edges. He had also abscesses in his tongue, lumps in both testes, and he had failed in general health, with cough, night sweats, etc., to such an extent that his lungs had been suspected. Having regard to the long period of freedom from symptoms before his second sore, the persistence of this sore, and the date at which a second general eruption followed it, I could feel little doubt that a second infection had taken place. As in many other cases of second attacks, the symptoms were not quite of the usual kind, and the eruption tended to the type of rupia-lupus earlier than is observed in those which occur in patients who have never had the disease before.

Opinions of various authors as to second attacks.—I will here append a few remarks on the opinions of authors in reference to second attacks of syphilis.

It was in 1839 that Ricord first stated as the result of his experience that syphilis could not occur twice to the same person. In 1845 he expressed himself as admitting that there might be exceptions, but said that he had never as yet met with an unquestionable example. Subsequently he met with two which he regarded as conclusive. Diday, in 1863, wrote a valuable paper on the subject, and said that he had met with twenty cases; he arrived at conclusions which have in the main been supported by subsequent observers. Amongst them we may note the following: That second attacks of syphilis, although not very rare, are yet exceptional to rule; that when they occur they prove that the patient presenting them had been cured of his previous attack so far as it was a blood disease, though, perhaps, not necessarily in respect to tertiary symptoms; that the character of the second attack will be influenced by the length of the period which has elapsed since the first, and perhaps also by its severity.

As to the occurrence of a second attack being proof of the absolute cure of the first, a fact insisted on by several authors (Ricord, Diday, Bumstead, etc.), I am obliged to feel some doubt. Probably a complete second attack in which the disease observes its usual stages, and produces all the usual phenomena, does prove that the individual so affected was free of his former taint so far as his blood was concerned. It is, however, going much further to assume that his tissues had become free from the influence of the former attack. A liability to tertiary forms of disease might still exist.

Classification of second infections.—We may perhaps group the cases of second infections under the following heads:—

First group.—Those in which the local infection produces only an abortive chancre. These are numerous, and probably many chancres which are counted as "soft" owe their non-induration to the fact that the patient had had syphilis before. Non-indurated sores in syphilitic subjects are, we know, sometimes

very troublesome, and display unusual features. This class of cases needs more careful study. As a rule, no obvious constitutional phenomena result, but he would be rash who should venture to assert that the blood does not suffer in any way.

Second group.—Cases differing from the preceding only in the fact that the primary lesion takes on all the characters of induration. These still differ from typical syphilis in the shortness of their period of incubation, the hardness being developed comparatively early. They also differ in that the inguinal glands do not enlarge (Diday). The induration is very variable in its duration, and may disappear very quickly. By these features, and by the fact that no constitutional symptoms follow, we separate the cases of this group from the two following. It is obvious, however, that there are possible fallacies. Inasmuch as treatment is almost always resorted to, it may easily be that to its influence rather than to non-infection of blood we ought to attribute the immunity from a general outbreak. It is not improbable that some cases which have been assigned to this group were examples of recurred induration in the site of a former chancre and were of tertiary nature. In the time of Diday this peculiar form of induration had not been recognised.

Third group.—Cases in which the second infection develops a hard sore that is followed by general symptoms of an exceptional kind, and assuming rather the features of those known as tertiary than secondary. These are the cases in which only a short interval has elapsed since the former attack. The constitutional symptoms may be of the nature of rupia-lupus, or they may take the form of nodes.

Fourth group.—Cases in which the disease is complete, and conforms in all respects to the type of an original attack. In all these, so far as I have observed, the period since the first attack has been long, and the cure apparently perfect.

A case which is conclusive as to the possibility of re-infection in the tertiary stage occurred to M.

Bouley, who in 1851 attempted to syphilise a woman for the cure of severe tertiary symptoms. The result was the production of a primary chancre of the infecting kind, and an outbreak of secondary symptoms.

Among the authors who have recorded cases proving re-infection we have Gascoyen, Follin, Bouley, Hardie, Boeck, and Caspary. An excellent summary of their evidence is given by Hill and Cooper. Mr. Gascoyen's paper, published in the *Medico-Chirurgical Transactions*, 1873, is especially valuable, since it deals with eleven cases which occurred under his own observation. In seven he had treated the patient for both attacks himself. In four of the eleven, an indurated sore was the only proof of re-infection, but in six there were also constitutional symptoms. My own experience fits very closely indeed with that of Mr. Gascoyen, and we have each of us recorded a single case in which a patient had syphilis three times.

My recent experience as to second infections of syphilis (1909).—Up to this page the facts and statements relating to second infections have been given almost without alteration from the first edition of this work. Nor have I now much of importance to add to them. In vol. vi. of my *Archives of Surgery*, page 17, a detailed paper was commenced which was devoted to "Second Infections of Syphilis." Fifty-four cases from my own practice were recorded and examined. It is needless here to repeat any of them, but the following conclusions may be recorded.

Renewed examination of the facts supports the impression previously formed that the risk of phagedænic ulceration of the chancre, and of rupial eruptions afterwards, is greater in second attacks than it is in first ones. In eight of the cases which were adduced, the second chancre took on phagedæna. Some of the worst cases of phagedænic chancres which I have ever seen occurred to patients who had suffered from syphilis before, and the same remark applies to rupia and ulcerating eruptions. It seems not improbable that an attack of syphilis, however well

cured, leaves the patient's tissues ever afterwards liable to forms of ulceration which approach closely to phagedæna.

A majority of those who have had syphilis once probably never expose themselves to a second risk; but the number of those to whom this statement will not apply is yet very large. As a rule, when we see a well-indurated chancre accompanied by a characteristic eruption on the skin, we feel almost certain that the patient has never had syphilis before, and in ninety-nine cases out of a hundred this inference is probably correct. We may assume, therefore, with confidence that the general belief that an attack of syphilis does exercise a definite protective influence over the organism is well founded. Possibly the exceptions are not more frequent than they are in the case of small-pox. The protective influence of vaccination is transitory in almost all, although in all complete and effectual for a time. That of an attack of small-pox lasts much longer than that of vaccination, but it, too, is transitory, and the duration of the protection which it affords varies in different individuals. A few instances are on record in which second attacks of small-pox have occurred after very short periods. It is well known that a partial or even complete success with second vaccinations may in some persons be obtained after very brief intervals. Possibly the facts as regards syphilis are not very dissimilar. As has been suggested in a previous page, idiosynerasy may have much to do with the result in both cases. I have repeatedly mentioned the fact that one of my patients, who had two most definite attacks of syphilis, had also had small-pox twice. It may be that in some individuals tissue-metabolism occurs more rapidly than in others, and that thus the liability to a fresh attack of a specific disease is sooner developed.

It is quite impossible to give any opinion of value as to whether the methods resorted to for the cure of the first attack of syphilis have any influence in rendering the patient more or less liable to a second

PLATE 3.—LARGE INDURATED AND ULCERATED CHANCRE OF THE UPPER LIP

attack. It is easily conceivable that syphilis allowed to run its full course unrestrained by specifics may be more efficiently protective than when the suppression-treatment has been adopted. The facts recorded, however, conclusively prove that complete and even protracted syphilis is not absolutely protective, and I am not aware of any which can be quoted as indicating that those in whom the secondary stage has been prevented are more liable to new infections than others.

We cannot, I think, be wrong in believing that those who have had syphilis, if exposed to the risk of fresh inoculation, easily develop new sores, which in the majority of instances prove only abortive. These sometimes run an irregular course. Thus, for instance, they may inflame more than is usual, or they may take on induration earlier than is usual. It is difficult from my personal experience to give any opinion as to how many of these second-infection sores prove to be abortive ones, for it is my rule of practice always to prescribe mercury. It is highly probable, however, that a considerable majority would not be followed by any secondary symptoms, even if no treatment were adopted. It is a plausible suggestion that not a few of the so-called "soft" chancres are really inoculations of the true virus in those who have had the disease before.

Some of the most definite examples of second attacks of syphilis are encountered in cases in which the chancre has been in one or both instances erratic, *i.e.* on some other part than the genitals. I have seen at least three examples in which a surgeon has suffered twice from the midwifery chancre on the finger. In all of these, different fingers were affected on the two occasions, and secondary symptoms followed in both. One of these three has occurred quite recently, and the facts are worth mention. Mr. ——, aged forty-six, a married surgeon engaged in large midwifery practice, came to me on account of a rupia-lupus eruption which chiefly affected his left limbs. There could be no question as to its character. He attributed it to

a poisoned forefinger on his right hand. This had been attended by a bubo and followed by an eruption, which, in spite of some irregular treatment, had lapsed into its present condition. He showed me the finger, with its nail partly destroyed, and also the nail of another finger in a similar condition, remarking, "This is the second time that I have contracted syphilis in midwifery practice." On asking for details, I found that his first syphilis had been diagnosed and treated by the late Mr. Dunn, who gave him mercury during many months. The chancre, which was under a finger-nail, was attended by a bubo in the armpit, and followed by an eruption. During the five or six years which intervened between the two chancres there had been no symptoms whatever, and no remedies had been used. A not unimportant point in this case is that Mr. —— stated that on each occasion his secondary eruption had passed into that which he showed to me. It was characterised by a number of little boils and small subcutaneous gummata which ulcerated. His left leg, when I saw him, was covered with ulcers and little, indurated knots—a syphilitic form of Bazin's malady. Many scars had also been left by the former attack. He considered that his second attack of syphilis had exactly repeated the phenomena of the first.

In another case a clergyman consulted me, in 1896, on account of a sore lip. As the conditions were very suspicious, and there was a gland as hard as a bullet under the angle of his jaw, I asked him to undress, and found his trunk covered with a syphilitic eruption. On informing him what was the matter, he said at once that he had been treated for syphilis at Oxford in 1887. On that occasion he had an eight months' treatment by mercury, and he described all the usual secondary symptoms, giving me the name of a distinguished surgeon who was his adviser. I do not think that there could be the slightest doubt as to the accuracy of this history, nor could there be any as to the fact of his being the subject, in 1896, of a well-characterised lip-chancre, with bullet bubo and

plentiful eruption. The interval was eight years, and during the whole of that time he had been quite free from symptoms. As usual, nothing was known as to the manner in which the lip-chancre had been contracted.

Three indurated chancres (with eight years' intervals) in the same patient.—A barrister, aged forty, was brought to me by his medical attendant in April, 1892, on account of a distinctly indurated chancre in the roll of the reflected prepuce. It was quite possible that it was the result of fresh contagion, but it was also possible that it was an instance of recurred chancre, for it was exactly in the site, as he believed, of a former one. It had been present for several weeks, but as yet no definite secondary symptoms had occurred. It must be remembered, however, that he had already been given some mercury. It was a long crescentic ulcer with very hard edges.

The patient told me that he had consulted me on a former occasion, and on turning up some notes made in October, 1883, I found that he had then told me that he had been treated eight years previously for what was said to be an indurated chancre, by a well-skilled surgeon at Cambridge. He escaped secondary symptoms. When he came to me on October 9th, 1883, he had a sore of five weeks' duration, on which different authorities had given different opinions. I felt no doubt that it was specifically indurated, and advised him to take mercury. This was done, and a month later all induration had vanished, and no secondary symptoms had followed.

Thus we have an instance of three occurrences of indurated chancre in the same patient, with two intervals of eight years each. On all three occasions mercury was given, and no secondary symptoms occurred. In each instance fresh contagion was suspected. It seems most probable that the first attack was true syphilis well cured, and that the two later were really fresh infections, the results of which were modified by the first attack and by the treatment promptly adopted.

Example of the occurrence of syphilitic lupus in the third year after a second attack of syphilis.—Mr. —— came to me in January, 1907, with a very peculiar form of eruption. A patch over the inner canthus of the right eye was of horseshoe shape, as large as a shilling, and consisted of bossy confluent tubercles a quarter of an inch in height and semi-transparent. This incomplete ring of tubercles was not ulcerated. The semi-translucency was such that I took them for vesicles until I touched them. They were quite solid. The simulation of apple-jelly was very close. On inquiry, it appeared that he had other patches more or less similar on his scalp, under his chin, and in the middle of his back. Some of these were ulcerated and crusted, and were characteristically lupus. It turned out that I had myself treated him for syphilis twenty years ago. After that for a long period he had a syphilitic lupus of the glans penis, and when this had disappeared he had fifteen years of entire freedom from symptoms. At the end of that time he contracted a fresh chancre. On March 29th, 1904, he had consulted me for what my notes describe as an inflamed indurated chancre, consequent on exposure six weeks previously. For this he treated himself very irregularly, and left off specifics much too soon.

This case favours the belief that certain lupoid affections usually seen in the latest stages occur much earlier after second infections, and may also then assume peculiar features.

CHAPTER IX

PHAGEDÆNA IN CONNECTION WITH ACQUIRED SYPHILIS

When an ulcer steadily extends in area, and it may be in depth, and when its edge presents little irregularities as if it had been eaten away by a mouse, we say that it is **phagedænic.** Very often the edge presents, on careful examination, minute black points of slough not bigger than pins' heads; whilst in more exceptional cases there will be sloughing of larger and more conspicuous portions, and the spreading will be very rapid. To this latter condition the term "sloughing phagedæna" is given.

Sores which are phagedænic are nearly always painful, and the pain is proportional to the extent and rapidity of the process; they are also liable to bleed, for it would appear that the arteries adjacent to them often fail to get plugged before they are opened by it. If the ulceration extends deeply and involves vessels of any considerable size, the hæmorrhage may be profuse.

A certain degree of power to cause the phagedænic type of inflammation appears to attach itself to several specific animal poisons. Thus the affections called cancrum oris and noma, which are forms of sloughing phagedæna, usually occur in fairly healthy children as the sequelæ of measles or of scarlet fever. The syphilitic virus, however, stands pre-eminent in power in this direction, and probably nineteen out of twenty of all forms of phagedænic action which we encounter in practice are due either directly or indirectly to its influence.

The disease known as "hospital phagedæna"—which may spread through a hospital, attacking many operation and other wounds—is, I believe, almost

always originated by the admission of a case of syphilitic phagedæna into the wards. The secretions of a phagedænic wound are unquestionably contagious, and they are so not only as regards other individuals, but also in reference to the patient himself. It is in large measure by the contagion of its own elements that a phagedænic wound continues to spread. Destroy the edges of the sore and clean its surface, and the disease will be, in most instances, arrested. In a few cases, however, the constitutional tendency under which the disease was initiated is sufficiently strong to begin it again and again, in spite of the most efficient treatment. In these latter cases the use of internal specifics becomes almost equally important with that of local remedies.

Syphilitic inflammations of all kinds and at all stages, whether primary, secondary, or tertiary, are liable to take on phagedænic action. Its most frequent examples, however, occur in connection with primary chancres. Although I have admitted that it may attack the non-infecting as well as the infecting, I could not quote from my own experience any example of a well-characterised primary phagedænic sore which did not prove to be constitutionally infective. I am speaking of chancres occurring in those who have not previously suffered from syphilis, for exceptions undoubtedly occur in those who have done so.

Phagedænic action in primary sores may vary much in different cases, being sometimes slight and easily arrested, at others persistent and extensively destructive. In some cases it may destroy the whole of the penis or spread extensively on the vulva. In a few cases, chiefly in young prostitutes, it may end fatally. It appears to be more apt to occur in sores which are concealed under a long prepuce by which the secretions are retained. But it may attack sores in any position. Whenever a concealed sore becomes painful or liable to bleed, the foreskin should be slit up and free access obtained.

Several different measures are of the utmost value in the treatment of phagedæna; and whilst invariably

aggressive if left to itself, it is almost as invariably cured by one or another, or by several combined. In the first place, we have local measures which have for their object the removal of secretion or its destruction. Amongst these the application of nitric acid and the use of the permanent bath are chief. In most cases one or two free applications of nitric acid will stop phagedæna. It is, however, a painful measure, and equally good results may usually be obtained by keeping the part immersed in warm water. In a bad case the patient should remain day and night in a sitz-bath; but in a less severe one he may get into his bed for five or six hours at night. When he leaves the bath the sore should be dressed with iodoform. Since the occurrence of phagedæna is most frequently a concomitant of the infecting sore, mercury ought always to be given unless it definitely disagrees. With the mercury should be combined full doses of iron and opium. If it be unquestionable that mercury does disagree, iodide of potassium should be substituted.

A working hypothesis.—It is helpful in the case of phagedæna, as in that of many other maladies, to have a working hypothesis in reference to its nature and cause. It is probable that it depends upon the generation, in connection with preceding specific poisoning, of some quasi-specific but quite local irritant. Whether the irritant be some parasitic organism or only a product of necrotic inflammation we cannot say, but it is certainly infective to the adjacent tissues, and its complete destruction is of the first importance as regards cure. Although phagedænic action is in its more typical examples almost exclusively syphilitic as to predisposition, yet we may profitably remember that it is observed also after some other specific fevers. Canerum oris after measles, as we have seen, is an example of it, and it is occasionally witnessed in minor degrees after variola, vaccination, and varicella.

The following facts seem to be well established respecting phagedæna in syphilis :—

That a primary chancre, at any stage, may become phagedænic.
That sores which have never been characteristically indurated may become phagedænic.
That the secondary eruption also may ulcerate, and become phagedænic.
That all forms of tertiary ulcer are likewise liable to be so affected.
That phagedæna may occur not only on the skin, but in the nose, mouth, throat, and vagina.

Further, as general laws respecting phagedæna, we may assert, firstly, that it is sometimes proved to be due in part to peculiarity in the patient's state; thus it may be arrested by internal treatment alone (mercury or iodide). Secondly, that it is much more often proved to be due chiefly to some local cause, inasmuch as in the same patient one sore may be phagedænic and another quite healthy, and, further, that it may be cured at once by a single local application, or by the immersion plan. Thirdly, that in the majority of cases it is clearly constitutional as regards predisposition, and local as regards its evolution and perpetuation, and that the treatment must be directed to both objects. Thus in some cases, when phagedæna has got well established, internal treatment without caustics will not stop it, and caustics without internal treatment are also powerless to effect a cure. The fact that the phagedænic type of inflammation is for the most part local is evidenced by the manner in which, when once cured, the parts remain sound. Lastly, I may say that phagedæna is very contagious, and spreads easily from one sore to another. In some instances conveyance by flies, etc., may be plausibly suspected.

Phagedæna in general, and its treatment.—We might almost say of phagedæna that it is an accident of syphilis. It is impossible to assign its other causes. It may happen to persons in robust health, in whom no peculiarity whatever can be traced. When once it has been stopped by treatment it shows

no tendency to return; thus strongly supporting the belief that it is local rather than constitutional. A patient may have a chancre which never shows any tendency to phagedænic action, and then in a few years one which does so in a most definite manner, and then, still later, another which does not. Nay, yet more conclusive, a man may have a phagedænic ulcer on one leg, and another ulcer on the other, which latter, at the same time, affords a type of a clean granulating sore. I speak of what I have carefully observed myself. Thus, I think we may say for certain that phagedænic inflammation does not always take its peculiarities from the state of the patient's system. Probably it may be bred in any syphilitic ulcer, which, having become inflamed, is then irritated, or neglected as regards cleanliness. Retention of the products of inflammation, as in the case of a sore concealed by a phimosed prepuce, is the influence which seems most powerful. In many cases of inflamed chancres conditions closely approaching phagedæna are witnessed, and by timely attention to cleanliness, or by the use of specifics, the tendency is arrested. Inflammation always precedes phagedæna; indeed, phagedæna is simply an ulcerating inflammation which produces a contagious secretion. This secretion is infectious both to the adjacent tissues and to wounds on other parts, or on other persons. Phagedænic inflammation may be of the most varying degrees of intensity, but is always the same in nature. Although, as I have stated, many facts seem to show that it is of local rather than constitutional origin, and is kept up by local contagion, yet it must be admitted that constitutional influences are sometimes necessary for its cure. Probably in nine out of ten cases local treatment will succeed, whilst in the tenth it will fail. Nothing that I have witnessed would lead me to put much faith in either opium or steel, although both have had their advocates. If local remedies fail, it will be best to send the patient to the seaside.

In most cases of phagedæna, immersion for two or three days will suffice to clean the sore. I have,

however, seen a few cases which resisted both immersion and cauterisation, or, at any rate, were not completely cured by them, and in which, as a final resort, I had to send the patient to the sea. In all cases, however, the measures mentioned sufficed to change completely the character of the sore, and to arrest, for the most part, all active destruction, though not to bring about healing. In a few chronic cases I have seen iodoform cure at once, when other remedies had failed.

In the case of epidemic or "hospital" phagedæna, we may hold that it is from beginning to end a local malady. I know of no constitutional conditions which predispose to it, and of no remedies addressed to the general health which will definitely influence its course. In the syphilitic phagedæna we have the two things to think of: we must give the patient specific remedies, and we must also treat the phagedæna-element by appropriate local measures. We cannot, as a rule, cure syphilitic phagedæna by either alone. The local measures to which I refer are those which tend to prevent the continued contamination of the wound by its own secretions. Get rid of the pus cells, etc., either by the immersion plan, or by charring them up with some caustic, and we shall soon find that the wound begins to look healthy, provided we have, at the same time, introduced a specific into the blood.

In the cases which are not of syphilitic origin, the local measures are alone sufficient. Thus we shall see that the law under which phagedæna persists in a wound in which it has once originated, whether its origin may have been autogenetic (that is, as I should hold, specific) or from contagion, is the same as that by which it spreads from one individual to another. It is the contagious nature of the secretion produced. I do not think that there is the least evidence in support of the belief that it can spread by infection, that is, through the atmosphere; but in all probability the pus cells produced in a phagedænic sore are very virulently contaminating, and will produce, either upon the tissues of the patient himself,

or on those of another person, a precisely similar type of inflammation. If the secretion from a syphilitic sore in a state of phagedæna be transferred to a healthy person, we shall get as the result phagedæna, but in all probability not syphilis. It would appear that the phagedænic action suffices to destroy the vitality of the syphilitic virus, or perhaps to destroy the tissues containing it, and thus to prevent its multiplication.

Case of phagedæna cured by immersion treatment.—A gentleman, aged thirty-eight, of temperate habits, stout and pallid, had a first chancre in March, 1869. It soon destroyed the frænum, but under iodide of potassium and iron it seemed to become healthy. A relapse occurred, however, and the lower half of the glans was involved in gangrene. Two months after the contagion he was brought to town. In spite of the repeated use of nitric acid, almost the whole glans had been destroyed, and he had two rupial sores, one on his cheek and the other on his leg. As the relapse had occurred whilst taking the iodide in ten-grain doses, it had been put aside, and the phagedæna had been treated by opium, which had been pushed until he was taking drachm doses of laudanum every four hours, with free allowance of stimulants. I prescribed the iodide again in ten-grain doses, with ammonia, and directed that he should disuse the opium and stimulants, and sit in a warm bath night and day. He did this—with the exception of a short rest in bed at nights—for a fortnight. The phagedæna never spread from the day that this treatment was begun, and in the end the sore healed well. The two rupial sores also healed under the iodide, and no other secondary symptoms followed.

This case proves the inutility of opium, even in large doses, the value of the iodide in combination with ammonia, and, above all, the efficacy of the continuous immersion.

Phagedæna of the nose and throat.—One of the most destructive forms of phagedæna is that

which attacks the nose. Although it may occasionally affect the tonsillar ulcers of the secondary period, it more usually occurs as a tertiary manifestation three or more years after contagion. It may be either chronic or acute. In the more rapid cases it may destroy the septum and greatly deform the nose in a few weeks. Sometimes it involves the alæ also, or it may extend backwards to the palate. The treatment must be prompt and vigorous. The nasal passages must be cleansed, and liberally cauterised with acid nitrate of mercury. Iodide of potassium with ammonia must be freely given, and iodoform dusted over the surface.

A very similar form of phagedænic ulceration of the nose, but not usually so rapid in its course, occurs in connection with the inherited disease, both in adults and children. It has sometimes been called "erosive lupus," or "lupus vorax." It is very necessary, however, to distinguish it from common lupus, since, unless the proper special measures are adopted, the patient will be miserably disfigured. There are no cases in which prompt action on the part of the surgeon is more urgently required or more certain of its reward.

Hæmorrhage in phagedæna.—It often happens that phagedæna on the penis, in the nose, throat, or other parts, is attended by hæmorrhage. In the case of an infant who suffered from it in the nose, and in whom constitutional treatment failed to arrest it, death followed. The passages were so small and there was so much swelling that it was impossible to employ efficient local measures. I have several times seen arterial hæmorrhage from a phagedænic chancre on the penis so profuse and recurrent as to threaten death, but success was always eventually obtained.

Phagedænic sore promptly treated; induration and secondary symptoms afterwards.—The late Mr. Jenkins, of Leadenhall Street, brought to me a gentleman, aged forty, who, two months previously, had been treated for a phagedænic chancre. The phagedæna had on that occasion been stopped by

a single free application of nitric acid, made by Mr. Curling. When the patient came to me the base of the sear was characteristically indurated, and he had a characteristic scaly rash. The case, therefore, proves that a sore may indurate, and that constitutional symptoms may follow, after the cure of phagedæna. The sore was in the roll of the prepuce. Our patient was in excellent health, and had never had syphilis before. I saw him again a fortnight later. The scar of the former ulcer was now quite sound, but beneath and above it was still a collared induration of the most characteristic kind. I had ventured to prescribe small quantities of mercury, and these were now increased, with excellent results. The case shows that the tendency to phagedæna may be only temporary, and that its cure may be effected by local means alone, and may be permanent, although the progress of the syphilis may be unchecked. It also proves that, to say the least of it, mercury is not injurious in these cases. More recent experience has impressed the conviction that it is usually very helpful even from the first.

Iodoform.—The efficiency of iodoform in cases of superficial phagedæna when the surface is well exposed is very noteworthy. It is probable that since this drug has gained its reputation the prevalence of phagedæna has been very much reduced. Many an unhealthy sore on the verge of phagedæna has been made healthy by its use. It were much to be wished that its value and the facility of its application in cases of phagedæna in the nose and throat were more widely understood. The nasal bones, the soft palate, or the alæ nasi might often in turn be saved if, in addition to the iodides internally, the parts were liberally dusted three or four times daily with iodoform. Patients easily learn to apply it themselves by means of a pair of long forceps and dossils of cotton-wool renewed every time of touching. In these positions we are precluded from the use of immersion, and the application of the actual cautery or of fluid caustics is often difficult. Iodoform under these circumstances is invaluable.

Phagedænic ulceration of the face in connection with inherited syphilis.—One of the most deplorable cases that I have ever seen of this nature occurred in the case of a young man who was brought to me by Dr. Thorne. I was informed that the family history was complete, Dr. Thorne having known the parents and the patient from his infancy. There was, however, no need for any history, for the poor lad was absolutely deaf and had typically notched teeth. The principal feature of interest was the existence of very extensive phagedænic ulceration, involving the parts around the right orbit. The eye itself had been excised about eighteen months before I saw him, and, so far as I could get at the facts, it appeared that the wound had been attacked by a sort of chronic phagedæna, which had persisted up to the present time. It had, however, been much aggravated of late. At the time of his visit to me, the ulcer included the entire orbit and the greater part of the cheek and forehead. It was almost exactly round, and presented everywhere an abrupt elevated edge, not much unlike that of a rodent ulcer. There was, however, more of inflammation and of unhealthy secretion about it than is seen in the latter malady. The phagedænic action had obviously been chronic rather than acute. The whole of the parts involved in the ulceration were considerably swollen. There was a large ulcer of a similar character, though much less severe in type, under the right ear.

There were some other facts of interest about this case, apart from the chronic phagedæna which I have described. The youth was evidently the subject of a general arrest of development, and, although eighteen, he did not look more than twelve. His deafness was absolute. There was a history that he had formerly suffered from paraplegia, but from that he had wholly recovered. He had been treated by the late Mr. George Critchett during his attack of keratitis eight or ten years ago, and had subsequently been under the care of Mr. Field for his deafness.

The results of treatment in this case were most

satisfactory. The enormous size of the ulcer made me reluctant to use the caustic acid nitrate (according to custom at that time), and I contented myself by prescribing the three iodides and an iodoform ointment. Under these in about two months the ulcers had healed.

Phagedæna in the throat.—An example of the occurrence of phagedæna in the throat in the secondary stage of syphilis came under my observation in the case of a young man whom I saw in November, 1906. He had a chancre in August, and I saw him in the end of November. There was a deep ulcer, involving the whole of his right tonsil and extending widely in adjacent parts. It was covered with glairy secretion and smelling abominably. Part of the soft palate was destroyed, and the side of the uvula involved. The ulcer was extending rapidly, and had for more than a week prevented his swallowing anything except fluids. He was pale and cachectic, but said that he had been in good health prior to the syphilis. He had been salivated. Remains of the chancre were still present, and a sparing pustular, almost rupial, eruption.*

It is not necessary to give details of treatment. A good recovery resulted.

* Mr. Carmichael, writing in 1834, bore testimony to the local nature of the phagedænic process and its curability by local measures:—"For phagedænic primary ulcers I have always found mercury most injurious. They are most successfully treated by the application of strong nitric acid, immediately followed by a douche of cold water. The same application is also the most efficient for phagedænic ulceration of the throat, which if not checked will soon extend over the velum, uvula, and back of the pharynx." We may suspect that Mr. Carmichael's reprobation of mercury was based upon his experience of cases in which local treatment had been omitted.

CHAPTER X

THE SECONDARY OR EXANTHEM STAGE

Interval between the primary and the secondary symptoms.—The chancre and the bubo make up together the primary, or local, group of syphilitic symptoms. We shall be very near the mark if we say that definite induration in the chancre is rarely present till five weeks have elapsed from the date of contagion, and that secondary phenomena seldom follow till from two to four weeks later still. There is thus a period of from two to four weeks, after it has been possible to recognise the infecting sore for a certainty, before the time at which more general symptoms will show themselves. If this period has been well employed—if, in other words, mercury has been freely and adequately given—it is quite the exception for any secondary symptoms to occur at all. At any rate, if they do, they are but slightly and very feebly marked. The earlier the mercury is resorted to, the greater the probability that they will be wholly prevented. Even when not permanently prevented they will usually be much delayed.

If, however, the course has been only a short one, the sequel will prove in a certain number of cases, often apparently the most successful, that delay only has been accomplished. After even a six months' treatment with mercury, and absolute absence of symptoms during the whole of that time, an outbreak may occur if it is suspended. It is this remarkable power of mercury as an antidote to syphilis which has led to such different opinions as to the laws of the evolution of the disease. If mercury were never given we should soon see that syphilis is much more regular in its course and stages than is generally supposed. The order of events in cases not interfered with would be probably somewhat as follows: At the end of about six weeks from the date of

contagion the patient would begin to experience slight malaise and feverishness, and his temperature would rise a little every evening. During the next fortnight, if the skin of his chest and abdomen were carefully inspected, it would be found to be mottled by a patchy congestion, not unlike measles, but more dusky and not nearly so conspicuous. To this the term "syphilitic roseola" is appropriate. It is often very evanescent, present at one part of the day and gone at another, or it may last only a few days and then disappear. Simultaneously with it, a little later or a little sooner, symmetrical superficial ulcerations on the tonsils occur, and these, too, may be very transitory, and cause so little annoyance that the patient may be scarcely aware that his throat is sore. As the roseola fades, or it may be before it fades, other types of eruption will follow; and a rash composed of little, smooth-topped or slightly scaly papules is the most common. The eruption may, however, vary within very wide limits. It may be a lichen, or it may be pustular; or it may take the impetigo or acne type; or it may be vesicular or bullous, and thus assume the rupia type; or it may be corymbiform; and, however extraordinary the assertion may seem, it may sometimes be indistinguishable from the pustules of variola.

The contagion-period. — We know respecting syphilis that during its early stages the blood and all products of inflammation may become the vehicles of the contagion. How long this condition exists we do not know. That the blood may still be contagious after the external phenomena have vanished we know from the facts of vaccination-syphilis, and from many instances of accidental inoculation. A vast amount of negative evidence favours the belief that the normal secretions, the saliva, the milk, the sweat, the semen, are not usually vehicles of contagion. If they were so, syphilis would be far more common than it is. The rarity of the lip-chancre is an almost conclusive fact against contagion by the saliva, when we reflect how frequently the subjects of syphilis fail to take any precautions as to kissing. So also, as regards the semen,

is the fact that syphilitic husbands, if themselves free from symptoms, do not usually communicate the disease unless pregnancy ensues. Yet it is unquestionable that the virus exists in the semen in a manner which permits of spermatic infection of the embryo. It is possible, however, that this may be a very different thing from the infection of a wound.

A very large amount of negative evidence supports the belief that the virus ceases to exist, in a form efficient for contagion, long before the subject of the disease is free from the risk of relapse. Almost all the examples of accidental contagion occur within short periods from the beginning. It is seldom that more than two years can be proved under such circumstances. The primary and all secondary lesions are certainly contagious, and during their persistence the blood is virulent; but after they have ceased, whether from treatment or without it, there is reason to believe that the virus does not long remain potent for contagion. No instances of contagion from a tertiary lesion, or from one produced more than five years after the primary disease, have occurred within my personal knowledge. Perhaps I might shorten the period to three years. Yet long after such periods the patient continues to be himself liable to various peculiar forms of local inflammation consequent on his taint.

Syphilis as a cause of overgrowth.—I shall allude farther on to the fact that one of the manifestations of secondary syphilis is the production of papillary warts. The fact that we encounter not only the most various modifications of inflammatory processes, but also conditions which are in the main produced by structural overgrowth, is so remarkable that I must refer to it in some detail. The warts which we see on the middle of the dorsum of the tongue are the most simple and definite example of this simple enlargement. They are often unattended by inflammatory infiltration of adjacent parts, and consist simply of hypertrophied papillæ. They wither when mercury is given. Now and then similar warts, directly due to syphilis, are seen on the genitals, and sometimes (but

very rarely, excepting in connection with syphilis in the tropics) the whole skin eruption assumes a papillary or framboesial type. The "condyloma" is, however, much more common than the ordinary wart. It is, indeed, a variety of wart, and between it and the typical *verruca mollis* we observe all gradations. The great thickening of the intima, which often occurs as the first stage of syphilitic arteritis, is also in many instances a condition of hypertrophy rather than of inflammation. The same remark applies to some of the cases of hypertrophic sclerosis which we meet with in syphilis, in which there is much diffuse fibrous overgrowth. This fibrous overgrowth may vary much in the amount of its cell infiltration.

Thus it may be said that the syphilitic virus often causes organic hypertrophy in the first instance, and inflammation more or less marked in the second. Sometimes no obvious inflammation occurs, and the chancre and eruption may run their course without pain or irritation, without ulceration and without discharge.

General phenomena of the constitutional stage.—At the same time that the skin is affected, the eye, the periosteum of the bones, the bones themselves, the joints, the nervous system—indeed, all the tissues of the body—are liable to suffer. Whatever part is attacked, however, the inflammation, although persistent for a certain time, will usually prove transitory in character. Very often the duration of the phenomena at this stage is exceedingly brief. Just as the patient may have a roseola which lasts only a few weeks, or even only a few days, so it is with periostcal pains, with affections of the eye, and with those of the nervous system. What happens may be a merely temporary congestion, and by no means a definite inflammation. In this we note a strongly marked difference between all the occurrences in the secondary stage of syphilis and those which are tertiary. The latter, unless cured by treatment, almost invariably persist, and tend to spread locally. The former, although often for a time very severe, as invariably show a tendency to subside spontaneously. Other important distinctions

between secondary and tertiary syphilis must be insisted upon. The phenomena of the secondary stage are caused by poisoning of the blood, and of the tissues generally through the blood; they are, therefore, almost always symmetrical, and are developed, with accurate sameness of appearance, on the two halves of the body. In the tertiary stage it is highly probable that the virus has ceased to exist in the blood, and in a living form even in the tissues themselves. Thus in this stage the phenomena are due to peculiarities which have been stamped upon the tissues by what occurred during the more or less remote period of blood poisoning. Local influences have much to do with the bringing out of these inflammations, but when once produced they are always self-infective, and tend not only to persist, but to advance in adjacent tissues by what Hunter called "contagion of continuity." As an example of this, let me adduce the well-known horseshoe sore, a form of syphilitic lupoid affection of the skin, always tertiary, and always tending, unless stopped by treatment, to spread at its edge. To this quality of edge-spreading the term "serpiginous" is applicable; and the serpiginous tendency is one of the most important features, let me repeat, of difference between the tertiary phenomena of syphilis and those which are secondary.

A point of difference which is, perhaps, still more important is, that the tertiary symptoms are as a rule not developed with symmetry. They depend far more upon local causes than do the secondary. Thus there is no reason why they should be symmetrical; and, in fact, they are only exceptionally so. Even when an accidental symmetry is observed, we never witness with it the general distribution which is another marked feature of the secondary symptoms. As a rule, we may note also that the inflammations which occur in the secondary stage do not spread at their edges, are not serpiginous—a feature in which they resemble those of the other exanthemata. The only exception to this occurs in the case of phagedænic ulcerations, and in these, as I have already endeavoured to explain, the phagedæna is not in a strict sense part of the syphilis,

but is due rather to certain peculiar forms of inflammatory secretion which have been produced by it. Thus, if phagedænic action should occur in the secondary stage, it never shows any tendency to symmetry of arrangement.

I must return now to the task of a more detailed description of the symptoms which we meet with in the secondary period. We will take first the skin.

Eruptions on the skin (in the secondary stage).—These eruptions present so many features of difference that it would be tedious to attempt their separate description. I will make a few general remarks respecting them, and then content myself by describing some of their more peculiar types. It is a most interesting and remarkable feature respecting the skin eruptions of syphilis, that they do not, as do the other exanthemata, keep to one form. There is, in fact, hardly a single skin disease of constitutional origin which may not be imitated very closely by an eruption that is due to syphilis. Certain general features of distinction may, however, be noted.

First, the imitation is rarely absolutely accurate. However close at first sight it may seem, the observer will almost always note some distinctions, and thus will usually know what prefix to apply. Next, there is very frequently a mixing of the types of two or more in one. Thus, as is well known, syphilitic eruptions are very frequently *polymorphous*. We see mixed in the same case, and often in close juxtaposition, papules of psoriasis and of lichen, or the rash may be in part lichenoid and in part pustular.

There is a popular belief that the eruptions of secondary syphilis are always of a *peculiar colour;* a coppery tint, or the colour of the lean of ham, is supposed constantly to characterise them. No doubt this peculiar feature is very often observed, but it is far from invariable, and it is often exceedingly well marked in eruptions which have no relation to syphilis. Those who trust to it, therefore, will be in perpetual danger of making mistakes. In judging of the colour of syphilitic eruptions allowance must be made for the temperament

of the individual, and for the part of the body on which the eruption shows itself. So far as the tint is produced by pigmentation, we may say that the darker the complexion of the patient the more likely will his eruption be to show a deep copper tint. On the lower extremities, where the venous circulation is at a disadvantage, patches of syphilitic eruption will always be much more dusky, owing to venous congestion, than on other parts. This venous congestion will in its turn conduce to pigmentation, and thus sometimes we see syphilitic stains on the legs of dark-complexioned individuals which are almost black.

Next to colour, symmetry, and polymorphism, we have to mention the position on which the spots appear, as aiding us in the diagnosis of secondary syphilitic rashes. The earliest forms of eruption, roseola, etc., unquestionably occur on the *front of the abdomen*, and throughout the whole course of this stage the front of the trunk is but rarely exempt. Very probably the wearing of clothes, especially of woollen materials, with the warmth of the surface thus preserved, has much to do with this peculiarity of location. We seldom see the early secondary rashes on the face or hands, and if they do occur here it is only in cases of exceptional severity. Next in importance to the abdomen and front of the chest are the *front surfaces of the arms;* indeed, I doubt if any region of the body is more constantly affected by secondary syphilis than these parts. The *back and sides of the neck* are very frequently attacked. Although we may without hesitation draw a strong line between common psoriasis and syphilitic psoriasis, by saying that the latter usually affects the fronts of the upper extremities and the backs of the lower ones, while it is the reverse in the non-syphilitic form, yet the rule is liable to many exceptions. Whenever we find psoriasis patches definitely located on the tips of the elbows and fronts of the knees we may be confident that it is non-specific; but we shall meet with constant exceptions to all other rules as to diagnosis by location.

Next in frequency to the roseolous or blotchy eruption, so common in the very earliest stage of secondary

Plate 4.—Syphilitic Eruption affecting chiefly the Trunk

This plate, derived from a French source, is given merely to illustrate the fact that in certain cases of secondary syphilis the eruption is almost wholly restricted to the trunk. It will be observed that the eruption passes to the tip of the coccyx, but does not spread over the haunches. It is clearly not located by the influence of dress. Examples of this restriction are rare, and it is seldom complete, although there are many cases in which the hands and forearms escape. The converse to this condition occurs when the eruption chiefly affects the peripheral region, as in pemphigus neonatorum, in which it begins on the hands and feet and only very seldom affects the trunk.

PLATE 4.

symptoms, we must place a *papular rash*, to which the name "psoriasis" is usually given. It differs from non-syphilitic psoriasis not only, as just observed, in the localities affected, but also in its general character. It rarely, like common psoriasis, affects large areas, but is usually seen in small spots (from a pea to a sixpence), and it is seldom conspicuously scaly. The white silvery scale-crust usually present in the non-syphilitic form is seldom seen in the specific one. Not infrequently the papules, upon which the scales are scantily placed, show so much thickening that the term tubercle might almost become appropriate. From these features, and from the fact that the separate spots often differ a good deal from one another in the same individual, it is not often difficult to make the diagnosis, even without help from the history of the case.

Amongst the less common of the syphilitic rashes we have the following :—

In the eruption known as *lichen* we meet with small red or dusky pimples scattered over the whole surface. They are often very thickly placed, but show little or no tendency to arrangement in groups, and seldom become confluent or form patches. This type of syphilitic lichen is very common. There is, however, another form, in which the spots are arranged in long, corymbose groups, or in streaks, exactly resembling those seen in lichen ruber, and sometimes these become flat-topped and polished, as in lichen planus. The exact imitation of these peculiar forms of skin eruption by syphilitic rashes is very remarkable, and the diagnosis is often exceedingly difficult. The mistake most usual is that of taking the non-syphilitic eruption for a specific one, rejecting the patient's denial that he has ever run the risk of acquiring the latter. Lichen ruber and lichen planus are often dusky or copper-tinted, and present all the features which, to those of limited experience, suggest a confident diagnosis of syphilis.

Although a syphilitic eruption looking closely like *small-pox* is very rare, yet the knowledge of its possible occurrence is of extreme importance. The imitation,

when it does occur, is very perfect. The papules are elevated, shotty to the finger, have depressed centres, affect the same regions as variola, and resemble it so absolutely that nothing but the history of the case can help the surgeon to a correct opinion. In proof of this statement I may say that it is not at all unknown for patients presenting this type of syphilitic eruption to be sent to the small-pox hospitals, and there to obtain admission and prolonged treatment. In private practice, also, I have known more than one case of a young man being carefully isolated for weeks in an upper chamber for a supposed variola, which persisted for months, and was finally acknowledged to be syphilis. This simulation of the variolous eruption by syphilis is the most marked example of "syphilitic imitation" which I can adduce, but it is only one of many. By far the easiest clue to the recognition of the syphilitic skin diseases is, I may repeat, the acceptance of this general law: *Syphilis, whilst it can produce no originals, may imitate all known forms of skin disease.* All the accepted names for skin diseases (excluding those of merely local origin) may in turn receive the adjective *syphilitic* before them. When they do so, that adjective becomes, of course, all-important, and wholly swamps the designation to which it is appended. Of the exanthemata, not only variola, but varicella, rubeola, and scarlatina may be thus imitated. The rash caused by copaiba is often exactly like a syphilide, or, what amounts to the same thing, syphilitic rashes are like it. Forms of inflammation, simulating those called lupus, are very common as the results of syphilis, and it is the same with alopecia, leucoderma, true leprosy, and many others. We see here the importance of a correct appreciation of the patient's history. When any one of the evanescent eruptions is simulated by syphilis, the mere lapse of time clears up the diagnosis, though, unfortunately, often not early enough to save the surgeon's reputation. The supposed "variola" or "copaiba rash" does not fade at the proper time, but persists for weeks together. In one remarkable case of imitated variola which I well remember, the absence of odour

was a main point which helped the diagnosis, the history being wholly misleading.

The eruption known as *rupia* is an important and peculiar one. The term *rupia prominens* was formerly in use as applicable to the conical, limpet-shell-like crusts which characterise this eruption. We all remember the portraits of this eruption, so constantly are they met with in Atlases of Skin Diseases. Rupia prominens is of all others the easiest skin disease to represent in a portrait. In practice, however, we now scarcely ever see it. It can occur only when the treatment has been neglected. Rupia is rarely the original form of eruption, but usually results from the ulceration of papules. This ulceration, gradually extending at its base, and producing a secretion which is not very abundant but which quickly dries, causes the crust to enlarge in circumference and increase in height. Sometimes, and in the most typical cases, a bulla precedes the formation of crust. Rupia almost invariably leaves superficial scars, and they are almost always round.

There has been much misapprehension as to whether rupia should rank as a secondary or a tertiary form of eruption. In conformity with the old error that all forms of ulceration should rank as tertiary, it was commonly classed as such. We now know, however, that this feature will not help us. Many secondary lesions, both of skin and mucous membranes, ulcerate, and the chief distinction between secondary and tertiary lesions is as to time of occurrence. Bearing this in mind, we may admit that rupia never occurs very early amongst the secondary phenomena, and that it is almost always preceded by some other form of skin eruption (roseola, psoriasis, etc.); but, on the other hand, it is never seen amongst the late and well-characterised tertiary phenomena. Its usual date is, I think, from six to twelve months after the chancre. Sometimes it will persist for a long period, but even when it does so it usually continues to be general and symmetrical. Whenever an eruption displays these two features, and occurs within two years of the chancre, it must rank as secondary; and such, I feel confident, is the usual position

of rupia. The shilling-scars left by rupia often help us in the recognition of syphilis, in patients who have reached the tertiary stage. Such patients do not, however, with the very rarest exceptions, show any rupia ulcers still extant. If we are careful to diagnose between rupia and certain forms of lupus which somewhat resemble it, we shall, I feel sure, be obliged to admit that it belongs almost exclusively to the position which I have just assigned to it, and that it is simply a suppurating type of the secondary rash. The explanation of the tendency to suppurate is to be sought in some peculiarity in the patient's proclivities, and his susceptibilities to the influence of mercury and iodides. Each of these drugs may in turn appear to aggravate it; and not infrequently it has been developed during their use. The indication, I believe, always is for the combination with specifics of tonics, arsenic, quinine, or opium, and, above all, for resort to sea air. It is a great mistake to assume, as was formerly done, that mercury is to be avoided when syphilitic sores ulcerate. On the contrary, when used in the associations suggested, it will almost always prove the means of cure.

In the papules of the secondary eruptions, processes similar to those described in the primary chancre, but with differences, occur. The dilatations of the capillaries is much more extensive, and although the effusion of plasma-cells with the same tendency to fibrillate is present, this latter tendency does not proceed so fast or so far, nor does it attain the same results. By proliferation of the nuclei of the plasma-cells, structures not easily distinguishable from true gland-cells may be produced.

Effects of idiosyncrasy.—I do not know that any other conjecture can be given in explanation of the differences in the eruption which attends syphilis than that they depend upon the idiosyncrasy of the patient. They certainly have nothing to do with differences in the poison, for, so far as we know, none such exist. The different types of syphilitic eruption never prevail epidemically, but, as it were, quite by accident. If we make some allowance for difference in race, the rare

ones are equally rare, and the common ones equally common, at all times and in all places. Nor do differences in health suffice to explain them, for the most severely ulcerating forms sometimes happen to patients who both before and after their occurrence appear to enjoy robust health. On the other hand, delicate persons often suffer very lightly from syphilis.

Affections of the eye.—Of these, *iritis* is by far the most common. It usually occurs from three to six months after the chancre, and is thus distinctly secondary. It seldom attacks the two eyes simultaneously, but the second usually suffers after a short interval, and often in spite of successful treatment of the first. The symptoms are ciliary congestion, a muddy iris, an irregular pupil, and variable degrees of pain and photophobia. Of these in slight cases the demonstration of iritic adhesions by the use of atropine is by far the most important. Sometimes the case never passes the stage of a slight ciliary congestion, which may be gone in a few days. In others the attack may be attended by severe pain, great congestion, a thickened iris, nodules of rust-coloured effusion in its structure, and a blocked pupil. The result, even in severe cases, is usually restoration of almost perfect sight, but in many instances the eye is damaged, and in some it is destroyed. There is generally but little tendency to relapse when once the cure is well in progress, and it is very seldom that the disease lapses into a chronic form. In severe cases the vitreous may be affected, and in a few the choroid and the retina are inflamed at the same time. More usually, however, these structures suffer at a somewhat later period, and when the iris is not itself inflamed. The diagnosis of syphilitic iritis from other forms of the disease must depend to a large extent upon the patient's history and concomitant symptoms. There is nothing in the symptoms distinctive from those which occur in the arthritic form. The little nodules in the iris are, when they occur, pathognomonic symptoms, but they are rarely seen. Arthritic iritis is, as a rule, attended by much more pain and intolerance of light than is the syphilitic

form, whilst the iris is usually less swollen and less muddy. Effusion into the aqueous humour and dotted deposits on the back of the cornea may occur in both. The history of repeated recurrence (once or twice, perhaps, every year) is very common in the arthritic form, and is never met with in the other.

The first aim of treatment in syphilitic iritis is to secure dilatation of the pupil, and for this object atropine drops, four grains to the ounce, must be used every two hours the first day, and less frequently afterwards. The constitutional treatment must be, as for other secondary symptoms, the use of mercury. Iodide of potassium in full and increasing doses will often effect a rapid cure, but it is less certain than mercury. For a patient who has not previously been under the influence of either, one grain of the grey powder in pill every three hours until the gums are touched will be an efficient treatment. In the meantime the patient should keep his room, live abstemiously, and, if the pain be severe, have leeches to the temple. If it is desirable to combine opium with the mercury, care must be taken that constipation is not induced. On the other hand, diarrhœa is to be avoided. The safety of the eye depends, however, mainly upon the promptitude and efficiency with which atropine is employed.

At a later period (rarely, I think, till a year from the date of contagion) the eye may be attacked by *diffuse retinitis*, or by *patchy choroiditis* (*choroiditis disseminata*). These affections may occur after iritis has passed off and all treatment been put aside, or in cases in which iritis has never happened. They are both of them rare, and in each case the objective diagnosis must be made by the ophthalmoscope. In both the subjective symptoms are simply more or less failure of sight with muscæ, but without much evidence of congestion, and with little or no tolerance of light. In both the prompt use of mercury to ptyalism is urgently demanded. This will in most cases effect a cure, often with but very little damage to sight and with little or no risk of relapse. This form of retinitis is frequently attended by some opacity of the vitreous.

The mouth and mucous membranes generally.—We have to observe here, as in the case of the skin, that various stages of the different symptoms are observed in secondary syphilis. The earliest, and sometimes, I think, the very first, of all secondary phenomena are *ulcers on the tonsils.* These occur symmetrically, and are frequently very superficial and almost painless. They are often present without the patient knowing that he has sore throat, and often pass away very quickly. The condition is usually a kidney-shaped sore, with grey-white borders like "snail tracks." Their presence not seldom helps the diagnosis of constitutional syphilis in its earliest stage. They are usually coincident with the erythematous or roseolous rashes, and like them soon pass away. It is not, however, in all cases that they pass off so easily, and when they do so they are often followed by other and more troublesome forms of inflammation of the mouth and throat. It is a very remarkable fact that the syphilitic poison, when freely developed in the blood, can cause not only local inflammations and ulceration, but local growth. These differing processes may often be seen side by side in the mouth of the same patient. Patches may form on various parts of the lining of the cheeks and lips, on the gums, and on the tongue, which are simply attended by congestion, slight swelling, and abrasion. These are known under the name of the *mucous patch.* Upon them we sometimes witness the destruction of the proper papillæ of the tongue, causing the "bald patch," whilst in other cases the papillæ are hypertrophied. This hypertrophy may, as already remarked, produce either *warts* or *condylomata.* Between these the chief difference is that in the latter the overgrown papillæ are fused together by swelling of the intervening tissues, and a flat-topped, elevated area is thus produced, whilst in warts the papillæ are free. There is one particular part of the tongue in which warts are specially prone to grow during syphilis. This is the central region, a little in front of the circumvallate papillæ, which, when the tongue is at rest in the closed mouth, is exempt from contact with the roof. I know

of no means by which to distinguish warts due to syphilis from those in connection with other causes. In the case of the condyloma the diagnosis is usually easy, for nothing very closely resembling it is ever produced excepting in syphilis.

At the same time that the mouth suffers, the other mucous orifices are very likely to be affected. On the vulva in women, around the anus in both sexes, and under the prepuce in men, *mucous patches*, *condylomata*, and *warts* are very frequently seen. The same remedy which causes the abrasion to heal, and covers the bald patch with freshly-grown papillæ, will also cause the hypertrophies present in warts and condylomata to undergo shrivelling. Thus we may feel sure that both the atrophy and the hypertrophy were the real results of the syphilitic poison. The development and persistence of syphilitic lesions in the mouth will be much influenced by local conditions. They are far more frequent in smokers than in others, and are also more severe and more lasting. Broken teeth will also often locate syphilitic sores on the tongue or cheeks, and cause them to persist when they would otherwise have healed.

The tongue in smokers, and occasionally in those who do not smoke, is apt to pass into conditions of chronic disease. These may assume various forms, being sometimes attended by much general swelling, causing bossy projections with deep sulci between them, whilst in others there are only superficial changes, which may, however, lead to permanent baldness and sclerosis.

Affections of bones and joints.—The periostitis which occurs in the secondary stage of syphilis differs from that of later periods in that it is usually slight in degree and transitory. Nodes are very rare. It is common enough, however, for patients in this stage to experience pains in various bones, attended by tenderness on pressure, and occasionally by slight swelling—"osteocopic pains," as they are sometimes called. Rheumatoid pains are also common, and in some cases very severe. Under specific treatment, however, or even without it, these affections of the bones and joints pass

PLATE 5.—SYPHILITIC ALOPECIA

The illustration, copied from a photograph published by the St. Louis Hospital, Paris, exhibits almost complete baldness in a patient the subject of syphilis.

Syphilitic alopecia is by no means common, and no case showing conditions approaching those here exhibited has ever fallen under the author's own observation. A diffuse thinning of the scalp hair is not uncommon, but it rarely approaches baldness, and is usually arrested by specific treatment.

completely away and leave no permanent results. The bones usually affected are precisely those most prone to suffer later on—the tibiæ, the clavicles, and those of the skull. When rheumatism is severe in the secondary stage of syphilis it occurs probably to those in whom there is an inherited tendency to arthritic diseases.

Alopecia, etc. — Loss of hair, a general thinning over the whole scalp, sometimes with a tendency to fall in patches, is reputed to be a frequent symptom of the secondary stage; it is sometimes attended by affections of the nails. It is usually arrested by the use of mercury, and the hair grows again as well as before.

The ear. — Not a few patients during the secondary stage of syphilis become a little deaf, sometimes in one ear, sometimes in both. In most cases the condition is merely temporary, often lasting only a few days. In exceptional instances, however, absolute deafness is rapidly produced, and may be permanent. Nothing but the prompt and vigorous use of mercury can save the function in these cases. When severe, I believe both ears are always affected. I do not recollect a single case in which one ear only was absolutely lost in syphilis, the other remaining sound. I am not aware that any opportunities have occurred for dissecting the ears of those who have become deaf in the manner described, and we have consequently no conclusive evidence as to the precise nature of the malady. It may be assumed that it is the same as that in the form of deafness which we meet with much more commonly in inherited syphilis. It usually occurs within a year of the primary disease. We do not know of any form of deafness due to syphilis which occurs in the tertiary stage of the acquired form. In the inherited disease, symmetrical keratitis and symmetrical deafness are both of them common at or about the period of puberty. Although occurring so many years after birth, yet their constant symmetry seems to prove that they belong really to the secondary group. Keratitis and complete deafness in the acquired disease are almost equally rare, and when they do occur it is in the secondary period, and they are symmetrical.

Febrile disturbance.— A large number of those who suffer from constitutional syphilis pass through the secondary stage with very little disturbance of general health. They scarcely know that they are ill. With a minority, however, it is otherwise. Severe pains in the bones and joints occur; there is loss of appetite and failure of strength, and, above all, very marked rise of temperature every evening. These indications of constitutional disturbance are sometimes quite out of proportion to the skin eruption and the other local conditions. I have seen more than one case in which a patient was confined to bed, and supposed to be the subject of some obscure "blood poisoning," with high temperatures for weeks together, before the development of a characteristic rash revealed the real nature of the disease. Dr. Duffin, of King's College Hospital, was, I believe, one of the first to study systematically the occurrence of febrile temperatures in association with syphilis. A very remarkable example of temperature ranging from 100° to 104° for several weeks was brought before the Clinical Society by Dr. Burney Yeo, of the same hospital. Probably in almost all cases in the early part of the secondary stage, if the thermometer were regularly used, we should find some tendency to evening exacerbations. Although I have said that the fever is sometimes disproportionate to the eruption, it is to be admitted that they are more usually in ratio with each other. The variola-like eruption in particular is almost always attended by much fever, and indeed whenever the eruption is unusually free, whatever may be its type, there is commonly more than usual fever. This occurrence of high temperature simultaneously with the exanthem is another of the numerous facts which support the belief that syphilis ought to be classed with the specific fevers.

Disease of arteries.—Cerebral seizures, consequent on disease of the walls of the vessels, are distinct from certain other brain and nerve lesions which occur as the result of syphilis. The arterial condition is usually one of thrombosis, not of rupture. From this it follows that the paralysis (usually hemiplegic) comes on, not

suddenly as in hæmorrhage, but somewhat gradually. As the vessels become more and more nearly occluded the patient experiences tingling or twitching or numbness in the limbs about to be affected, and this may last some hours before power is definitely lost. Now and then, however, the attack is very sudden. A certain amount of recovery may be confidently expected from this form of paralysis; but it will seldom be quite complete. It not unfrequently happens that the patient experiences no relapse, but remains through after-life with a weakened and possibly contracted limb.

Inflammation of the arteries may begin either as an affection of the intima or of the adventitia. The middle coat, as a rule, is only secondarily involved. When the inner coat suffers it becomes thickened, either in plates or over long tracts, much as in the early stages of non-specific sclerosis. There are no special characters by which the syphilitic form may be distinguished, if we except the general fact that the cell-proliferation is usually excessive in syphilis. The changes may advance so as almost to close the artery, or they may lead to ulceration, the detachment of emboli, or the formation of thrombus at the site of disease. These processes have been chiefly studied in connection with the arteries of the brain, but they may occur in any part. There appears good reason to believe that syphilitic arteritis is not an uncommon cause of aneurysm, and also that it may occasionally cause such occlusion of the arteries of the limbs as may threaten gangrene. As a primary and independent affection, disease of the intima is probably more common than that of the external coat. If, however, the arteries be affected secondarily (that is, are involved in association with disease of the tissues in which they pass), then usually the adventitious coat suffers first and most severely. The affection often takes the form of a periarteritis, with the formation of multiple nodules in the perivascular space.

The viscera.—It is probable that all the viscera are liable to suffer during the latter part of the secondary stage, or even sometimes in its earlier part. They suffer, however, in a manner very different from that

which occurs in the tertiary stage. No large nodose gummata are formed, nor, as a rule, are any of the conditions produced at this stage permanent. The process is one of diffuse infiltration, with general congestion, rather than of local growth. The congestion, swelling, and ulceration of the tonsils form the first and commonest evidence of tendency to visceral affection. A little later there may be engorgement and tenderness over the liver and spleen, and a remarkable failure in the blood-making process. Slight and transitory albuminuria may occur, or there may be symptoms of impending lung mischief. All these conditions are rapidly and easily remedied by the administration of mercury.

The nervous system.—It was formerly thought that all affections of the nervous system came late in the disease, and were of the tertiary class. We now know that this is to a large extent an error, and that it is not at all infrequent for patients to suffer from implication of the cerebro-spinal system in comparatively early stages. It is much less necessary now than it was at the time of my first edition to put forward the claim that many lesions, of different tissues, which had usually been counted as tertiary, occur most frequently in the earlier periods. Thus, for instance, the nervous system is very often attacked within the first year, or even within the first six or eight months. Neuro-retinitis, a condition which is easily demonstrable by the ophthalmoscope, almost always occurs early. It is to be distinguished, I need hardly say, from the neuritis which is restricted to the papilla and attended by what is known as the "choked disc," and which is usually symptomatic of an intracranial gumma. Fournier has described lesions of sensation attended with defective perception of pain, which are, he says, very common in the secondary stage. Attacks of paraplegia and the cerebral paralyses which result from disease of arteries also occur, I am sure, much earlier in the course of the disease than they are usually supposed to, and often well within the secondary stage.

When that terrible form of inflammation of the internal ear which leads to absolute deafness occurs, it is almost always in the same stage of the malady as the inflammations of the eye; that is, in the second half of the first year. Less severe and more transitory attacks, affecting the ear, and attended by deafness and giddiness, resembling the well-known symptoms of Menière's disease, are also not very uncommon at this stage. Although the results of choroiditis disseminata are often not recognised until a later period, yet the primary attack almost always occurs within the first eighteen months, and it sometimes happens to the ophthalmic surgeon to be able to demonstrate at this stage with beautiful distinctness the existence of multiple small gummata in this structure. From such demonstrations we may infer the sort of changes which may happen at the same stage in other tissues of the same kind; such, for instance, as the pia mater.

To this chapter may be suitably appended cases illustrating some of the less usual events of the secondary stage :—

Rheumatoid pains in the course of secondary syphilis: are they due to mercury?—What are called osteocopic pains, and "the rheumatoid pains of syphilis," are, as is well known, of common occurrence in the secondary period. In some cases they are of great severity, and dominate all the other symptoms. When this happens it is probable that the patient is of the arthritic diathesis, and that he has been exposed to the ordinary causes of rheumatism. The pains are confined neither to bones nor joints, but affect them both, also the muscles and fascia. I may adduce the following case as a good example of them :—

In June, 1880, I treated a young and healthy Scotchman for primary syphilis. He took mercury, and, excepting a few patches on the tongue, etc., had no secondary symptoms. In September he became the subject of most violent attacks of bone-ache. He had also at the same time ulcers in the tonsils. These symptoms had followed a night's exposure to great cold in crossing the Irish Sea. He did not "catch cold" at the

time, but the pains followed. He described his pains as affecting all his bones, muscles, and fasciæ. For many nights he could not sleep at all; yet there was little or no swelling of any joint. I much feared that the attack might result in crippling rheumatism, as there was a history of family proclivity. As the attack had developed whilst he was taking mercury, and apparently from exposure, I was at a loss whether to attempt to relieve it by that drug, or to desist. Although he was quite able to go about, and much wished to come to his City office, I insisted on his keeping his room. Treatment by opium, gum guaiacum, and iodide failed during a fortnight to give him any relief. At the end of that period I resumed the mercury, in combination with iodide and opium, and under that plan he slowly recovered. After he had got rid of the pains in his limbs he still suffered from aching in his back and testes. His final recovery was perfect, his aches having entirely disappeared.

When pains of this kind occur during mercurial treatment, it is always very difficult to say whether or not they may be due to the mercury. It will be always safe to desist for a time, and to give iodide instead. Confinement to a warm room is essential, and guaiacum and opium should always be given. The lesson of the above case was, however, definitely in favour of perseverance with mercury. We now have in aspirin a remedy very frequently useful in such cases.

Vulnerability of tissues remaining after an attack of syphilis.—The way in which syphilis leaves all the tissues susceptible as regards common causes of irritation was well exemplified in the case of a Swedish gentleman, who, in consequence of wearing a woollen vest in hot weather, had a copious lichen eruption. It was two years since he had ceased treatment for syphilis. I endeavoured to console him by pointing out that in all important matters he had for long been well. "Yes," he replied, "you may say so; but see the difference from what I was. If I smoke I get sores in my mouth, and I used to be able to smoke all day; if I work my brain I get headache, which I never did before; and now I have got this rash from, as you say, my vest and the hot weather. I had none of these things before I had syphilis."

Although I have no doubt that this gentleman was

quite justified in attributing his various disagreeable susceptibilities to the fact that his tissues had passed through the syphilitic fever, yet I am glad to feel confident that his experience was very exceptional. A large majority of the cures of syphilis by mercury are very satisfactory, and the patient will report himself in as good, or perhaps better health than ever he enjoyed before. It is quite impossible, however, in any case to foresee how the tissues after syphilis will bear unusual influences. A peculiar form of headache, on mental exertion or excitement, is common; so are mild "sun-strokes" if the subjects of past syphilis are exposed to unwonted heat. Psoriasis palmaris is induced by the irritation of tools, or of the umbrella or walking-stick. Ulcers on the tongue are very apt to follow smoking; and lastly, the irritation of a new woollen vest, or of profuse perspiration, may bring out eruptions on the trunk. In most of these cases the further and prolonged use of mercury is indicated, but as a rule arsenic or quinine should be combined with it.

Tendency to papillary outgrowths in the secondary stage of syphilis.—The tendency to papillary outgrowth, which exists in some persons in a remarkable degree when under the influence of syphilis, was illustrated in the case of Mr. ——. This gentleman was in splendid health when he contracted syphilis in November, 1884. Under several surgeons mercury and iodides were intermittently used. I saw him on March 18, 1885, when he had condylomata around the anus, on the scrotum, and on the penis. On his thighs, near the scrotum, were large crops of low papillary warts of a brown colour. He had symmetrical ulcers in the tonsils, with elevated edges, and his palms and soles were peeling. I ordered mercury in the form of the oleate to be rubbed in. Under this he soon became salivated. When this happened his papillary eruption everywhere disappeared, but his tongue and mucous membrane of mouth generally became covered with pellicular ulcerations. [Thus we had proof that inunction may affect the mouth

just as inconveniently as may administration by the stomach.]

In June he again had condylomata at the anus, and patches in cheeks and lips.

In November the sores at the anus had been cured by calomel ointment, and his mouth was well, excepting some long streaks of papillary growths on the sides of the tongue, and similar patches on the gums and the cheeks near the last molars.

These patches were very peculiar. They were something between a true condyloma and a wart. They were quite white, and looked much like a portion of a cauliflower flattened down. Mr. —— had continued to smoke, and that, no doubt, was the explanation of his mouth being the only part in which his symptoms persisted. Nothing remained on his skin excepting the stains of the former growths, and he was perfectly well in all other parts. He had been taking bichloride in combination with iodide for several months.

Case showing the occurrence of periostitis in the secondary stage; also the very late discovery of the chancre.—An excellent example of the early occurrence of nodes, and of the apparent jumbling-up of stages, was seen in the case of a Mr. ——. This gentleman, who was married, and had never before had syphilis, consulted Dr. G—— on account of severe pain and swelling on the front of one shin, which he thought must be gout. Dr. G—— told him that it was syphilitic, and could not be gout. This accusation having been made, Mr. —— showed a little sore on his glans close to the frænum, and an eruption on his body. Dr. G—— applied caustic to the chancre, and prescribed iodide of potassium. In one week all pain in the swelling on the tibia had disappeared. The rash, however, persisted, and the patient, being now convinced that his disease was syphilis and not gout, was soon afterwards transferred to my care. Mr. —— was not very exact in his dates, but after much cross-examination it seemed probable that he had exposed himself to risk on a single occasion about three months before I

saw him. He thought that his eruption had attracted his attention six weeks afterwards, and that the periostitis had occurred two weeks later. The most singular part of his story was that he had noticed no chancre until about a week before he consulted Dr. G——, and during the interval he had continued to cohabit with his wife. The sore had been, according to his account, a suppurating one and free from induration. When I saw him it was, as a result of the cauterisation (a fortnight before), soundly healed, and there was no hardness. The glands in the groin were slightly enlarged, and he was covered with a blotchy eruption partly papular and partly erythematous. He had also symmetrical ulcers on the tonsils. Mr. —— was most positive that he had not observed any trace of a sore until about two and a half months after exposure, and that the secondary rash and the periostitis preceded the discovery of the sore. This does not by any means prove that no sore was present at an earlier period. Probably a small induration did exist, and was only recognised when it ulcerated. I carefully examined his body, with a view to ascertain if he had a chancre anywhere else; but it seemed that he had not. With reference to the very early period of periostitis, it may be interesting to note that both his father and grandfather had been under Dr. G——'s treatment for gout and rheumatism. Under mercurial treatment his eruption, sore throat, and node were all soon well.

I well remember in another case seeing a large raised node on the right forehead in a man who had his secondary eruption still on him.

Symmetrical nodes on the tibiæ in the secondary stage of syphilis.—A chemist's assistant —a tall, spare man—came to me on account of "inflamed ankles." Just above each ankle, on the lower part of the tibia, was a puffy and tender swelling. Although connected with the bone, the swellings were different from ordinary periosteal nodes, being chiefly effusions into the soft tissues. They were symmetrical. He had had them only three weeks, and was never liable to them before. I was puzzled at first what to

make of them, but on noticing a few dusky spots about his legs, I examined further, and found him covered with a syphilitic rash. He was astonished on my telling him the nature of his ailment, and assured me that he had never had any sore. He admitted having been exposed to risk. He willingly allowed me to examine his penis, and I found nothing whatever except a little redness from balanitis. There was no scar and no trace of induration. His rash began about a week before the pain in his ankles, and had been out a month.

There was not the slightest doubt as to the nature of his eruption, and all his symptoms subsequently disappeared under treatment.

Case of variola-like eruption in connection with secondary syphilis in a patient who had been recently exposed to the contagion of variola.—My late colleague Mr. James Adams was kind enough to supply me with the particulars of a case in which a syphilitic eruption so much resembled variola that a diagnosis was in the first instance impossible. Mr. Adams writes: "The facts were noted with more than usual care, and their accuracy I can guarantee, as I saw the patient constantly. He was a young medical man. The primary disease had consisted of two sores on the right side of the glans penis, one appearing three weeks after contagion, and healing in a week *without* induration, followed by another close by it almost immediately. This quickly 'skinned over,' leaving a typical induration. They were both small. The glands in the right groin suppurated; those on the left side were unaffected. He took grey-powder for three months, but was only slightly affected as to the gums.

"No sign of eruption occurred until just six months had elapsed. He had then left off mercury for two months. On Wednesday, November 16, 1881, a few maculæ appeared on face and upper part of trunk. The next day he was very ill, and the temperature rose in the evening to 103°; and the next morning the face, chest, and arms down to wrists were covered with a

papular eruption of absolutely 'shotty' hardness. *By an odd coincidence he had been at the small-pox hospital for some hours about ten days before*, which added to the difficulty of diagnosis. Dr. Stephen Mackenzie saw the case with me, and we agreed that no positive opinion could be given for some days. There were also several pustules, or rather vesicles, on the soft palate, and a ragged ulcer in the right tonsil, but the throat appearance was not specially characteristic.

"In a few days the temperature fell to normal, and the spots, instead of maturing to pustules, gradually receded into a slightly raised papular syphilide.

"The subsequent history is all well known to me, but is not important."

The outbreak of the eruption in this case was so acute, and the febrile temperature so marked, that a suspicion may occur that possibly the two specific poisons were at work together, and modified each other.

Psoriasis of the palms in the secondary stage.—A very definite example of the psoriasis of the palms of the secondary period occurred in the person of a gentleman whom I treated after a lip-chancre. In both of the palms were numerous little patches, some as hard as corns, others beginning to peel, but none larger than a split-pea. There was little or no congestion around them. This condition was in association with small scaly patches over the fronts of forearms as big as sixpences, and an erythematous blotchy eruption on face and trunk. The chancre on the lip had not yet disappeared, and there was a single hard movable gland as big as a filbert under his chin. The chancre had been present about three months.

The course of secondary syphilis unusual and precisely parallel in two brothers.—A very demonstrative illustration of the influence of family idiosyncrasy upon the development of syphilis once came under my notice. Two brothers contracted sores from the same woman, and nearly at the same date. They consulted me ten months later for a peculiar form of eruption which was exactly alike in both. It had

been modified in both by treatment already adopted, and in each it had assumed the type of an urticaria in wheals and rings. In both it was wholly free from irritation, and both stated that it became much more conspicuous after a warm bath. In both patients the original chancre had, after lasting about three weeks, healed and disappeared spontaneously, and in both the sore throat had been very slight. In both the original eruption had been, I was told, quite different from that which now persisted, and was described as a roseola. It will be seen that the eruption presented by these two men when they came to me in the tenth month of treatment was precisely one of those which I have described as occasionally occurring at that stage, and which is, I think, never seen unless mercury has been used. It is by no means common, and its development in the two brothers is therefore the more remarkable. It must be admitted that possibly the idiosynerasy may have been rather in reference to the drug than to the disease.

CHAPTER XI

ON SOME OF THE DIFFICULTIES IN THE DIAGNOSIS OF SECONDARY ERUPTIONS

Amongst the more common conditions which may cause mistakes in the recognition of secondary eruptions the following may be mentioned.

Tinea versicolor, from its yellow-brown colour, is very frequently mistaken for a secondary eruption when it is discovered in a patient who has had a chancre. The same remark applies to common acne and to the dusky erythematous eruption which follows the use of copaiba.

Variola-like eruptions.—When the syphilitic eruption is of the form which resembles small-pox, it often leads to mistakes, as I have already said. I have several times known patients who were the subjects of this eruption to be either placed under strict isolation at home, or transferred to a small-pox hospital, under the belief that the disease really was variola. Attention to dates and temperatures will generally save from such a blunder, but it is one that may be very easily committed if we regard only the character of the eruption.

The eruptions which occur as relapses, after treatment has been carried out for a considerable period and then relinquished, not unfrequently resemble scarlet fever, and I have known them treated as such. On the other hand, it is very common to mistake eruptions which result only from the irritation of woollen clothing on the chest and arms for syphilis. In any case in which the eruption is strictly limited to the regions which the patient's vest touches, and does not occur on the head, face, or limbs, whatever the patient's antecedents may have been, the suspicion should be entertained that it probably is not wholly syphilitic, but is due chiefly to the vest.

Molluscum contagiosum often causes mistakes. It may occur on the genitals, or near the nipple of a nursing woman, and, if single, may be taken for a chancre, or when abundant, and on other parts, may be supposed to be a secondary eruption.

I once saw an infant, in consultation, for symptoms suspicious of inherited syphilis. Its father strongly denied that he had ever had any venereal disease, and, as I did not think the infant syphilitic, I believed him. Three years later he came to me in much distress, saying that he had broken out in spots, and that he feared that after all, although he could not explain it, the suspicion which had been expressed must have been correct. I found, on stripping him, that he was covered with the little buttons of molluscum contagiosum. He was, as is usual when adults become the subjects of this malady, a frequenter of the Turkish bath. He said that his wife had also got a few spots.

Eruptions on the trunk which are often mistaken for syphilides; vest rashes and nummular eruptions.*—I attended some years ago a provincial solicitor, who had well recovered from syphilis, and to whom I gave permission to resume cohabitation with his wife. He did so, and unfortunately resumed also other associations. Six months later he came to me in a most unhappy and complaining state of mind, thinking that I had given him an unauthorised opinion. He was sure that he was not well, and that he was still a source of contagion. I asked if he had had any return of symptoms in himself. "No." "Had his wife suffered?" To this he replied in the negative also, but added that a lady, not his wife, had contracted the disease from him, and was now "covered with a copper-coloured eruption." Finding on further inquiry that this lady had never complained of any

* I use the epithet "nummular" to denote eruptions in which all the patches are alike and all well circumscribed, quite round, and placed, like coins, on otherwise healthy skins. They are usually very slightly scaly and do not at all closely resemble psoriasis. I do not know of any good portrait of this form of eruption, and its true nature is still a puzzle to me, though it certainly appears to be sometimes due to syphilis.

primary sore, that he himself was still absolutely free, and that his wife had not suffered the slightest inconvenience, I felt justified in assuring him that his paramour had, in all probability, not contracted syphilis from him. Either, as was very probable, she had not got it at all, or she had obtained it from some other source. After some weeks' delay the lady came up to London that I might see her. She had been under the care of a local surgeon, and had been taking specifics for a month, and the eruption was no better. I found her chest, shoulders, arms, and trunk covered with dusky nummular patches, almost as big as half-pennies, and very slightly scaly. They were limited to the regions which her vest covered. She had recently purchased some new vests, warmer than those which she had worn before, and containing more wool. She had not a spot on the lower extremities, hands, or face; not the slightest sore throat; nor did she feel out of health. I do not think that I ever saw a syphilitic eruption so copiously out on the trunk and arms, yet absolutely absent from the lower extremities. I therefore told my patient that I did not think that her eruption was due to "blood poisoning," and advised her to give up medicine, wear silk next her skin, and use a mild ointment. In a fortnight her eruption had almost wholly disappeared.

The rapid recovery in this case, taken with the fact that the patient had never, from first to last, any other indications of syphilis, may, I think, enable us to feel certain that this eruption was not specific. Probably it was caused by the irritation of the vest.

Another case in which I encountered this peculiar eruption was in a young married lady, to whom it was a source of extreme annoyance. She had a very fair skin, was very beautiful, and went much into society. An eruption of brown, slightly furfuraceous, nummular patches over the chest, shoulders, and trunk seemed to her an almost intolerable vexation. She was not in the least ill, and, as in the other cases, the patches did not itch. Here again the eruption was restricted to the parts named, and did not extend to the neck, face, or

limbs. I used the microscope, but could find no fungus. There were no other symptoms suggestive of syphilis. At every visit I was pressed with questions as to what the eruption was, what was its cause, and when would it go away, and was obliged to admit that I could not answer any of them. After three or four visits I lost sight of my patient, and presumed that she had been disappointed, and had sought other advice. Two years later, however, she came to me for another ailment, and then told me that after her last visit the eruption had begun to fade, and had rapidly disappeared. Her skin ever since had been perfectly clear of it, and she had been in good health. I had tried for her various non-specific remedies, the sulphur bath, tar lotions, and arsenic. It was under the two latter that the cure took place. She had also been advised to wear silk vests. It is possible that this case, and also the two following, ought to have been diagnosed as pityriasis rosea, an affection of which at that time I knew less than I now do. I do not think, however, that the patches of that eruption ever deserve to be termed "nummular."

A young medical man, Mr. ——, aged twenty-four, came to me on March 26, 1885, with a rash which he thought syphilitic. It appeared almost impossible that he should have had syphilis, for he had not had any sore, nor had he exposed himself to risk for a year or more. There was measles in the house where he lived. The eruption was confined to the parts in contact with his vest, and he had for two or three days been wearing next his skin a knitted vest of fleecy wool, very soft, but a novelty to him. It being cold weather, he had slept in it. There had been no perceptible irritation, and the eruption itself had not itched in the least. The eruption was copious, and chiefly on the chest and abdomen. It consisted of large, ill-defined, erythematous blotches. Some of them in their centres were very dusky, and not unlike bites. The symmetrical arrangement, however, put bites pretty much out of the question. His temperature was normal, and there was no eruption on the face. It may be suggested that possibly

the vest localised an eruption of measles, which, but for it, might never have appeared at all.

Ten days later all trace of the eruption had disappeared. He had been wearing silk, but had taken no medicine.

The following notes were made on February 11, 1886 :—

Papular eruption resembling a syphilide, probably due to a new vest.—Mr. ——, whom I saw some weeks ago for dyspepsia, etc., comes to me to-day covered by a papular erythematous eruption. It has been out for a week. He has already been prescribed for on the hypothesis of syphilis. Two surgeons whom he has consulted have told him that "it could be nothing else." He has, however, had no chancre, and says that he has not had intercourse for six months.

The rash consists of papulæ, from the size of a shot to that of a fourpenny-piece. They are of coppery-red tint, and look exactly like a syphilide. They cover his abdomen, chest, back, upper parts of thighs, and upper arms. There are none on the face, forearms, or legs. Thus it is the vest regions which alone are affected. I have examined the penis, groins, and throat, and found no trace of syphilis.

Mr. —— tells me that he is wearing a new vest; it is of white wool, and has never been washed. He began its use a week or so before the rash appeared, and it tickled his skin a little. He did not sleep in it. He is not out of health; his tongue is quite clear, and he sleeps fairly. The eruption itches a little, but not extremely. He has had gonorrhœa, and still has gleet, but he has never had syphilis. He has not been taking copaiba. I advised him to give up the iodide which had been prescribed, and to get a silk vest. He soon got quite well, and no doubt remained either on his mind or my own that the eruption had been caused by the vest.

A desquamating erythema which became ringworm-like; syphilis four years ago possible; history of a similar but slighter eruption two years before.—A gentleman, Mr. ——, aged thirty-three, was sent to me by Dr. P—— in November, 1885. There was the history of "a soft sore" four years ago, but it had not at the time been followed by anything, and he had enjoyed good health ever since, with the exception that two years afterwards he had an eruption which resembled his present one. On that occasion he consulted a surgeon, who ordered a lotion, which in the course of about three weeks caused

the eruption wholly to disappear. Nothing whatever remained of it, and he had no relapse until about three weeks before coming to me, when his present attack commenced. The patches were arranged on his arms, shoulders, and upper part of chest, and in the groins and upper parts of the thighs. Some of the spots looked exceedingly like ringworm, having desquamated in their centres, and presenting slightly raised edges. Others, however, were much less definite, and consisted of an erythematous area, varying in size from a fourpenny-piece to a halfpenny, from which the epidermis was peeling in the middle. The arrangement of the eruption was symmetrical, and the parts attacked were those which his vest touched, but it must be noticed that the greater part of his trunk was free. The vest which he was wearing was white, and of a soft texture, and he did not think that it had irritated him, but it was nevertheless a fact that the rash had come on just after he had changed from his summer vest to his present one. Mr. —— was intending to be married, and was therefore very anxious about the eruption, which he had been told was suspicious. I ventured to assure him that in all probability it was due to the irritation of his clothing. As in many other cases, however, its dusky colour, symmetrical arrangement, and tendency to become ringed were all features of great suspicion.

Under treatment by an alkali, and the wearing of a silk vest, the eruption very quickly and completely disappeared.

Symmetrical erythematous eruptions after long mercurial treatment. —Dr. ——, of dark complexion, had a midwifery chancre in December, 1883. It was followed by a papular eruption and sore throat. No treatment was used until these symptoms appeared. He then took grey-powder, twelve grains a day, and subsequently rubbed in the mercurial ointment, a drachm a day. Six months after the chancre his nails were affected, and we increased the quantity of mercury. He was never salivated, nor, indeed, in the least inconvenienced by the mercury. Being of dark complexion and in strong health, he resisted its influence to an unusual degree. All his symptoms, however, quite disappeared, and ten months after it was begun he

left it off, being at the time in excellent health and wholly free from symptoms. Three weeks after its omission a symmetrical, dusky mottling appeared on his arms. It was an erythema only, and varied much in vividness at different times. If the skin was rubbed, instead of the redness being increased it almost disappeared. In some places obscure rings were formed. He said that it always showed most when he first got out of bed.

I have seen many cases exactly like Dr. ——'s, and the eruption is a very peculiar one. It is rarely attended by any other constitutional symptoms. It usually comes out a few weeks after the mercury has been stopped, and generally in those who have borne it well. The circumstance that the eruption is most visible when the skin is suddenly chilled by getting out of bed, and especially by taking a cold bath, almost always attracts the attention of the patient himself. The eruption often occurs in rings, and it is always most abundant on the arms, but frequently affects the trunk also. It is often exceedingly slight. In many cases it recurs repeatedly, over long periods, and when it does so is seldom or never the precursor of anything worse. If mercury be given it usually disappears quickly.

Urticaria pigmentosa mistaken for a syphilitic eruption.—A married lady, aged twenty-seven, consulted me in February, 1892, she being then covered with a syphilitic eruption. The disease had not been diagnosed, and no treatment had been adopted. I found that she was nursing an infant seven months old, and I of course told her that she must at once wean him. A year later she brought the infant to me because he had an eruption which had been assumed to be syphilitic. I found not the slightest indication of syphilis, and the spots appeared to be fleabite-urticaria. They were said to come out at intervals, now on one part and now on another, and were attended by excessive irritation. A year later I heard that the child was in good health, but liable to the eruption, which was reported to leave brown stains. His mother still held that the child must have suffered from her "blood poisoning." Three years later the boy was again brought to me, the belief being that I should now

be forced to admit that he was syphilitic, as his hair had begun to fall off in patches. He was the subject of well-characterised alopecia areata. The patches were large and perfectly smooth. He still showed no indications of syphilis. The pigmented urticarial patches persisted.

Pityriasis rosea.—The eruption now well known to specialists under the name of Gibert's pityriasis or pityriasis rosea is the one which, far more frequently than any other, occasions serious difficulty in the diagnosis of syphilis. It is frequently seen in young men; it is bilateral, comes out rapidly, and in its general features is most deceptively like a syphilitic exanthem. It may present several different types, the principal ones being the macular and the ringworm forms. It is seldom attended by much irritation, and almost always occurs in an isolated individual wholly without history of contagion. If a chancre were present no one would, in nine cases out of ten, feel any hesitation in regarding it as syphilitic. Usually there is the history of a "parent patch" having preceded by a few days the general eruption, but such patch has never been in the least like a primary sore, and there are never any enlarged glands nor is there sore throat. Although there may be strong suspicion that the eruption spreads from the parent patch by external contagion, no one has succeeded in demonstrating any parasitic element. Thus we are left, in the differential diagnosis from syphilis, to the estimation of probabilities. The eruption is always most abundant on the trunk, and may almost wholly exempt the limbs. It scarcely ever affects the face. It causes no gland enlargements, and is not preceded by chancre or attended by sore throat. Such are the chief points which justify doubt and abstention from specific treatment. If nothing be done, the eruption usually comes to an end spontaneously within a few weeks, leaves no trace, and almost never recurs to the same individual.

It is probable that my own experience has been peculiar in this respect, but a large proportion of the cases in which I have diagnosed pityriasis rosea have

been in those who had at some former period suffered from syphilis. It was, however, the suspicion that the eruption was syphilitic which brought them to me. Some history of this kind will be observed in most of the illustrative cases which I am about to give, and I might very largely add to their number.

Colonel ——'s case is a very remarkable illustration of what has just been said. He had undoubtedly had syphilis, and he was now covered over the whole body and greater part of the limbs by a dusky eruption of most suspicious aspect. Eight years had, however, elapsed since his syphilis, and on this account, as well as some minor points in the development of the eruption, I ventured to believe with confidence that the rash was not specific. It continued out for several weeks, but in the end entirely disappeared under a treatment in which neither mercury nor iodides were included. The particulars of his case are as follows : In 1881 he was under my care for syphilis, and had a prolonged treatment, after which he remained apparently quite well until September of 1890. He then consulted me on account of itching of the palms and between the fingers, which troubled him whenever he got warm from exercise. He was a man of about forty years of age, and had suffered from gout, and I prescribed accordingly. On October 18 he came to me again for a new symptom. During the preceding ten days an eruption had appeared on the sides of his chest and abdomen. The spots were of various sizes, and none of them either in rings or circles. They were all irregular at their margins. They were of a dusky red tint, and looked exceedingly like an early eruption in secondary syphilis. He, as is usual in such cases, firmly believed that they were a return of his old disease, and he was accordingly much disappointed. The eruption was not attended by any itching, and his expression was, "I should not know that it was there unless I saw it." It should have been stated that in September, when he came with itching of his hands, he showed me a patch of eczema marginatum in one groin, which I cured with a tar wash. The diagnosis given for the rash described above was

"pityriasis rosea." As he had gout threatening in one great toe I prescribed for him colchicum and aconite internally; and on the supposition that the pityriasis might be parasitic, I advised him to get a Harrogate water bath twice a week.

Five days later, October 23, many of the patches which had first appeared were fading, and in doing so were desquamating in their centres. Fresh patches were, however, coming out, especially on the lower part of his body and on his thighs.

On October 28, five days later still, the patches were still extending on some parts and fading on others. They were most plentiful about the hips and on the sides of the abdomen, but were absent in the middle of the chest and around the umbilicus. It will be seen that the sulphur baths, which had been taken regularly, had not immediately arrested the development of the disease. On the extremities the eruption came down as low as the elbows and knees, but not farther. On the fronts of the elbows especially it looked exactly like a syphilide. His toe had got almost well, but there was some stiffness with pain on walking. On November 18, Colonel —— took his last sulphur bath. He left off on his own responsibility because he thought that his skin was well. On December 1 he came to me to show his cure. With the exception of one or two little spots below his knees, which had been the last to appear, he had not a stain left, and he was in excellent health.

Mr. ——, aged thirty-three in 1905, had a chancre in 1892, was treated a long time, married in 1897, and had a healthy child born. In 1899 he had a recurred chancre, which ulcerated deeply, and concerning which there was much doubt as to whether it were not a new sore. He denied any fresh exposure, and there was no gland disease.

In May, 1905, he was brought to me, by my son, with a very abundant eruption, which had been out nine days and now covered his trunk and limbs. It was exactly like a papular syphilide, and, if he had had a new chancre, no one would have felt the least

doubt as to its nature. But he denied having had any fresh sore, and on the most careful search no trace of one could be discovered. He at the same time admitted that about seven weeks ago he had on a single occasion been exposed to risk. Nothing whatever had followed the exposure until the present eruption.

This eruption began on the left forearm, but rapidly spread to other parts. It was an erythematous papular eruption desquamating on some spots and not on others, of a dusky red tint, slightly itching, distinctly multiform. It affected chiefly the front of chest and abdomen and fronts of arms and inner sides of thighs, but occurred also on the back, neck, and legs; none on face or hands; no enlarged glands, and no conclusive conditions in throat.

The eruption was too copious for a syphilide of only ten days' duration. Ordered to use a tar wash. On May 17, a week later, I saw the patient again. The eruption was fading, and no sore throat had developed.

On the same day that I saw Mr. —— I saw, at the Polyclinic, a young man of twenty-one with an exactly similar eruption. It was very abundant, covering the trunk, back and front, and the upper halves of all four limbs. Dr. Purdie, who brought him, said that it had only been out five days, and that he had examined the genitals and throat and found no trace of syphilis.

On the lad's shoulder (right) there was one patch as large as a half-crown, which had become pale in its centre and was both larger and more advanced than any of the others. This might have been the parent patch, but the patient thought that the first had appeared on the other shoulder. The development had been exceedingly rapid. None of the patches were quite round, and none were ringed; many were desquamating. The itching was only moderate. He was in good health. The eruption subsequently disappeared under simple measures.

CHAPTER XII

SYPHILIS MALIGNA

The expression " malignant syphilis " is applied chiefly to those cases in which the early stages are developed with extreme severity. The eruption follows quickly on the chancre, passes from papules to bullæ or ecthyma, and from the latter to ulcerating sores, and rapidly takes on a rupial character. Almost invariably specific treatment has been wholly omitted, but now and then it may have been hastily abandoned on account of salivation. In a great majority of cases idiosyncrasy on the part of the patient is all that can be alleged in explanation, but in some there is added great susceptibility to the influence of the specific drugs.

This form of syphilis is attended by emaciation and rapidly advancing debility, and may end in death from asthenia. As a rule, however great the exhaustion and extensive the ulceration, mercury is not contra-indicated, but is, on the contrary, urgently demanded. It must be used, however, with great circumspection, and in combination with quinine and opium. Iodide of potassium is usually very valuable, but in some cases it aggravates the ecthymatous eruption. Salivation is to be most carefully avoided, and every precaution is to be taken against the occurrence of diarrhœa, for a very little may turn the scale.

It frequently happens that the primary sore almost from the first has indicated the patient's peculiar proclivity by becoming inflamed and deeply ulcerated. It is rare, however, that there is any actual phagedæna, and in some cases the chancre shows nothing abnormal. Now and then the eruption may be of the frambœsial type, but that form of dermatitis is by no means always indicative of extreme severity. It is not usually possible to recognise anything in the patient's family history

PLATE 6.—SYPHILIS MALIGNA

(To illustrate the case given at page 135)

The patient had contracted syphilis (from a coloured woman in India) some months previously, and had had no treatment. The eruption was an ulcerating rupia. Under mercurial treatment recovery rapidly ensued, and the man regained good health.

or state of health which gives a clue to the peculiarity of the syphilis. If, as is not infrequent, the rupial eruption shows a tendency to assume lupoid characters, there will usually be found a tubercular history.

We may now suitably discard the old nomenclature, which spoke of malignant syphilis as the merging together of the secondary and tertiary stages. It is now recognised that in the secondary stage precisely the same structures are implicated as in the tertiary, and that the difference consists in the ends towards which the processes advance. We know that rupia and ecthyma belong to the secondary stage, as does also iritis. The characteristic distinction between the two is the occurrence of multiplicity, symmetry, and ulceration in the one, as contrasted with non-symmetry, restriction in number, and serpiginous spreading in the other. The cases styled malignant are almost always in the secondary period, and exhibit its special features.

It is a question of great clinical interest what becomes of patients who have recovered under treatment from malignant syphilis. If not treated, they die; but under specifics judiciously given they often get well, and probably remain well, but not without some special risk of relapse. In a few cases, in which the "malignancy" is due rather to intolerance of both of the two specific drugs than to idiosyncrasy in reference to the virus, the treatment may be attended by almost insuperable difficulties.

Case of syphilis maligna.—The following case was communicated to me by Mr. H. Martin Doyle, of Newcastle, New South Wales, under date March 26, 1899 :—

"Dear Mr. Hutchinson,—I have mailed you this week a photograph of a case I had under treatment which may interest you. The subject was a Chilian marine engineer, a man who by the testimony of his shipmates was a sober and chaste man until a certain day in December when he went ashore at Bombay and fell under the influence of alcohol. He copulated with a black prostitute *once* at the dockside. Between eight and ten weeks afterwards a single hard sore had developed. He could not exactly fix the date of its first appearance, but in two months 'sores' began to appear on his body.

"I saw him early in May when the ship arrived at this port, after a passage of forty-two days from Bombay. He was then in a very emaciated condition, lying in his bunk helpless. The hard chancre was still present—a ragged, ulcerated sore with a base as hard as sole-leather. Over the anterior part of the body was a rupial eruption, as you may see in the photograph. Some of the scabs had fallen off, but on the chest and face the scabs still remained. Except on the back of the neck and shoulders there were no sores on the posterior aspect of the trunk. The ship had no medicine chest, and the only treatment the man had used was sulphur ointment, which was energetically applied. He had had no fresh food for at least a month. It is so seldom that one sees an untreated case of syphilis that I thought the photograph might interest even you.

"The patient was treated by mercurial inunction, the sores dressed with black wash, and a plentiful supply of nourishing food given. After a month's treatment he rejoined his ship—all the sores were healed and he had increased nearly two stone in weight—and sailed for Valparaiso. I have not heard of him since.

"This is the only case of secondary rupia I have seen in Australia during eight years' practice in a seaport town where ships arrive daily from all the ports of South America, Africa, and India and the East. The treatment of syphilis must have reached a very high pitch, or we are being, like the Portuguese, inoculated, for one rarely sees any tertiary syphilis, and the editor of the Australian *Medical Gazette* not long since was able to write that the secondary symptoms of syphilis were becoming every day very rare even in Australian hospital practice."

Malignant syphilis; no specific treatment in the early stages.—A case of very severe syphilis—of the form sometimes spoken of as malignant syphilis—was presented by a young unmarried woman from a country town. She was of very fair complexion, florid, and of transparent skin. As she occupied a respectable position in the town where she lived, the family medical man whom she first consulted was naturally not suspicious, and it was not until the eruption covered her from head to foot, and she was induced to seek other advice, that the nature of her malady was suspected. She was not under my care at this stage, but under that of a very able surgeon. I was told that she had very nearly died, and her condition when she came to me, eighteen months later, quite bore out this suggestion. At that time she was covered with dusky scars, and there still remained a large, irregular, unhealthy ulcer in front of one thigh and two patches of syphilitic lupus on her face. In addition to the skin eruption she had had a severely ulcerated throat, but, under my friend's judicious treatment with varying doses of mercury and iodides during the past year, this was now well.

Very severe ulcerating eruption with iritis occurring within three months of infection.—An example of the exceedingly rapid development of syphilis with great severity occurred in the case of a young clerk who consulted me in March, 1906. His dates as regards exposure and first appearance of the sore were untrustworthy, but he held that only two months had elapsed since his infection. There was present a deep ulceration in the glans with a hardened base, and he was covered with eruption. He had also general adenitis with ulceration of the tonsils and iritis of one eye. He had as yet had no treatment. The eruption, which was universal and very abundant, was papular, squamous, and ecthymatous. His back, shoulders, and arms were covered with large shallow ulcers, some of them nearly two inches across. The severity of the disease was such that home treatment was obviously unsuitable, and I sent him to seek immediate admission into the Lock Hospital. He was at once admitted into this institution, under the care of Mr. Astley Bloxam. By the kind permission of that gentleman the particulars of the treatment were subsequently supplied to me. The first measure was the injection of the grey oil. Of this seven injections were given, each containing one grain of metallic mercury. Improvement at once resulted, and some of the ulcers healed. On May 19, as the patient had not made the progress expected under the injections, the treatment was changed, and blue pill and iodide of potassium and bark were given. Under these the cure was rapidly completed. He left the hospital on May 30.

It will be seen that in this instance we had a most severely ulcerating eruption with iritis developed within three months of the infection. The case had not been complicated by any administration of drugs, and it occurred in a man who had previously enjoyed good health. The effect of mercurial treatment was immediate, but in the end a combination of iodide of potassium with the internal use of mercury appeared to suit better than injections.

Case of malignant syphilis in which, after

apparent cure, a relapse occurred with phagedæna of pharynx.—Although in malignant syphilis there is frequently, indeed usually, a prompt and very satisfactory response to treatment, there is undoubtedly a definite tendency to relapses. The disease usually takes the same type in its recurrences. These statements were well illustrated in the case of Mr. ——. This patient, a man of thirty, was brought to me by a relative and a nurse, covered with a most severely ulcerating eruption. He was bandaged from head to foot, and clothed only in a dressing-gown. The syphilis was probably in the eighth month, but the dates were uncertain. He had had no continuous treatment, and latterly had taken only arsenic. Many of the ulcers were deep, and on the scalp sufficiently so to expose the bone. No bare bone could, however, be touched. A remarkable feature was that amongst the ulcers were many sound scars. He denied exposure to contagion, but there was still present a hard lump in the prepuce and there were hard glands in the groin. Iodides with grey-powder pill were ordered, and the immediate improvement was most remarkable. In one week all the sores were clean and rapidly healing. In the course of six weeks he was quite well, and two months later he reported himself in such health that "nothing would turn him." I saw nothing more of him till more than a year later, when he returned with his throat in a horrible condition. The soft palate, uvula, etc., were extensively destroyed, and a large phagedænic ulcer extended across to the fauces on both sides. He had lived abroad and had neglected all treatment. Under the application of iodoform and the internal use of iodides he again recovered quickly. There had been no relapse as regards his skin.

Malignant syphilis; recovery under mercury continuance of the drug for five years; no relapses.—This case illustrates cure by mercury and freedom from relapse. A patient who consulted me in 1892, covered with a most severe eruption of rupia, came under my observation again five years later. He had continued his mercurial pill during the whole of

this period, at first four times a day, and latterly only once. He had taken no iodide. His eruption had disappeared within two months of commencing the course, and he had never had the slightest relapse. He was in excellent health, although he had resided near the equator most of the time. A small dose of quinine had been given in combination with the mercury.

Prognosis in malignant syphilis.—Although the occurrence of a pemphigoid and rupial eruption which ulcerates and is attended by deep cachexia undoubtedly reveals an idiosyncrasy of very grave character, yet the subjects of malignant syphilis usually, when once cured, retain, I think, good health. They are probably benefited by the efficiency of the treatment which it necessitates. The examples which I have quoted all belong to the secondary stage, but the term "malignant" is sometimes applied to cases at later stages which have remained uncured. These, which were common enough in former years, are under our modern methods now become very infrequent. They are all examples of ill-adapted treatment.

The subject of the following narrative came under my observation only after considerable treatment and when the cure was already assured. It is an example of malignant syphilis in which phagedæna of the primary sore occurred and was followed by rupia. The sore was contracted in Ceylon, and from a native woman.

Case illustrating the results of phagedænic chancre; no swelling of inguinal glands; no sore throat; a most severe eruption, rupial and ulcerating.

DATE	DETAILS
March . .	Some excoriation noticed one month after exposure to risk. 15th, discovered a chancre. 20th, saw a native doctor. Phimosis; black wash injected. Iodide given, and iodide boils on neck caused.
April . .	Saw an English doctor. The chancre was now phagedænic. Sores cauterised and continuous bath used for three weeks. Severe hæmorrhage. Taking mercury.

DATE	DETAILS
May . . .	Still under treatment for the phagedænic sore. He now had a change of doctors, and mercury was disused and tonics only given. Much fever. Temperature once 105°.
June . .	No mercury. The eruption now appeared. It began on forehead, then over the neck, arms, and body. The prepuce and glans had now been destroyed. 29th, removed to Rangoon, being covered with eruption.
July . .	Mercury resumed, with iodides. He was weak and rheumatic, with fever. Knees swollen.
August . .	Took a sea voyage for health, being very weak and covered with eruption.
September .	Returned to Ceylon. Still covered by eruption.
October .	Came from Ceylon home. Sores on face, arms, and trunk healed, but still persisting on legs. Sores on penis healed excepting at one spot.
November .	In a London home. Mercury and iodide given. Great improvement.
December .	At seaside. Mercury and iodide continued.
January .	At seaside. Mercury and iodide continued. An ulcer formed on right arm.
February .	Came to me. The whole prepuce and glans destroyed by ulceration. The whole trunk covered by the scars of a most severe eruption.

In this case the one error in treatment was the suspension of mercury. This was done because the primary sore had become phagedænic. It ought to have been pushed in combination with full doses of opium and in association with the appropriate local measures. Had it been continued, very probably no eruption would have occurred. As it was, although there had been a month's mercurial treatment, a most severe outbreak of eruption followed on its suspension. The skin of the whole trunk, when I saw the patient, was covered with almost confluent scars and ulcers. The latter were already healing when I saw him, for specifics had been resumed, both mercury and iodide. The whole of the glans had been destroyed by ulceration.

The case illustrates the fact that phagedæna occurs in virtue of peculiarity in the virus, and not from debility in the patient, for the man had been throughout

in excellent health. When the phagedænic action once stopped, the parts healed well and remained sound. The eruption, judging from the character of the scars, had clearly been rupial.

There had never been any sore throat or other affection of the mucous membranes. The mercury had never disagreed, and it had never caused salivation. When it was resumed it suited well, and under its use the sores on the skin healed.

Although mercury will not stop phagedæna, and local treatment for that special object is absolutely essential, yet it does nothing that is prejudicial, whilst, in order to prevent the secondary eruption, it is necessary. In the treatment of phagedæna, mercury should be vigorously used, but with it plenty of opium and quinine. In the present instance the local treatment of the sore had been careful and judicious; the immersion bath, nitric acid, iodoform, naphthalin, and other remedies had at different stages been used. Iodide of potassium had also been given.

The patient was a man of thirty, florid and red-haired, but in robust health.

The crateriform variety of phagedænic sore.—I should like to be allowed to employ the term "crateriform phagedæna" as applicable to certain sores which are different from the more ordinary types of phagedænic action. In these latter there is usually but little infiltration or swelling of the adjacent parts, and the ulceration or sloughing, as the case may be, spreads widely and irregularly. In these cases the sore is more or less circular, its borders uplifted by swelling, and a central crateriform ulceration with pultaceous contents is the result. The appearances produced are much like those of a gigantic boil. If satellites occur, they reproduce very exactly those of the original. I need not say that this crateriform phagedæna is perfectly distinct from the form of cancerous ulceration of the face to which I have ventured to give the name of "crateriform ulcer." But it may be noted as a remarkable fact, to be explained perhaps by some peculiarity in anatomical structure, that the face is

the region which shows the most characteristic features of both.

This crateriform phagedæna, of which I have seen but very few examples, has nearly always occurred under conditions which caused great difficulty in diagnosis. In more than one case it has been almost impossible to say whether the condition was primary, secondary, or tertiary. Of this statement the following case is a good example: A gentleman who had had syphilis severely twelve years before, and had been cured by specifics, became the subject of a sore on his penis as the result of fresh contagion. This sore was punched-out in the first instance, but became indurated after it had healed. About two months after the first appearance of this sore a little scaly patch formed on one cheek, which slowly passed into a most characteristic condition of crateriform phagedæna. This occurred whilst the patient was under treatment by specifics, when the sore on the penis was disappearing quite satisfactorily, and when no other secondary phenomena had shown themselves. A large, deep, and most ugly ulceration developed in the cheek. It resisted treatment for some time, but finally yielded to the vigorous use of iodoform and internal specifics. The man, once his sore was healed, remained quite well. I have seen him recently, five years after the attack; he has had no further symptoms, and has, with medical sanction, recently married. In this instance I was at first inclined to suspect that the sore on the cheek was the result of direct inoculation from that on his penis, but in reviewing the facts now in the light of subsequent experience, I am more inclined to think that it was a secondary phenomenon, and that the phagedænic action which it took on was probably due to the fact that the man had, at least on one occasion, previously suffered severely from syphilis. The lesson which it afforded as regards treatment was definite. It was quite clear that internal treatment alone could neither prevent nor cure, and that there was needed a vigorous combination of external and internal measures. It has also been made quite clear by the subsequent progress

that the patient's general health was in no way specially at fault, and that the occurrence of the phagedæna denoted idiosyncrasy rather than cachexia. When once the phagedænic action was conquered, the sore healed well, and although a large scar has been left, it is now perfectly sound.

CHAPTER XIII

HERPES AFTER SYPHILIS

We may conveniently recognise as belonging to **herpes** all forms of inflammation which are habitually and almost constantly unilateral in their development, and at the same time usually restricted in their duration. Of all such we may assume that they are located by the distribution of nerves, and that they may manifest a tendency to recur repeatedly. These statements apply, of course, to what is known as symptomatic herpes, of which the type form is herpes labialis, and not to that of which the type is herpes zoster. This last stands apart, and in reference to syphilis we have little or nothing to do with it. It is an interesting fact that, whilst all varieties of symptomatic herpes are common after syphilis, and appear to be directly predisposed to by it, but few observers have ever attributed common shingles to it.

We encounter herpes after syphilis chiefly as occurring either on the genitals or in the mouth. In both of these localities it is not infrequently the source of errors in diagnosis, and may occasion much needless anxiety to both patient and surgeon. Although, as just said, herpes after syphilis obeys the law of all herpes in tendency to spontaneous disappearance, we frequently meet with partial deviations. Syphilitic herpes may last much longer than is usual in other forms, may ulcerate more deeply, and may possibly, in connection with the taint existing in the patient's system, perpetuate itself indefinitely. It is not, as a rule, in the least amenable to the specifics for syphilis, and may show itself during treatment which is effectually removing other symptoms, and may even appear to be induced or aggravated by the use of mercury. It is on account of this last peculiarity that some of its forms, when misunderstood,

PLATE 7.—HERPETIC ERUPTION ON SOFT PALATE

This figure shows the vesicles of herpes developed on the (observer's) right side of the soft palate, and restricted to it. It will be well to disregard the conditions which the artist has represented on both sides in the tonsils, since they are probably normal, and resemble the rest of the eruption only because of difficulty in representation. Leaving them aside, we see that the groups of vesicles occur in both of the pillars of the fauces and the adjacent part of the soft palate, whilst the right half and the tip of the uvula are deeply congested. Such distinct limitation to one side only is characteristic of herpes. The eruption is usually of brief duration, but prone to recur, and not infrequently affects the other side at intervals. The figure is copied from the plate referred to on page 146 as being in Chotzen's Atlas.

give much trouble. The remedy for herpetic affections after syphilis is not mercury, but arsenic or quinine.

Herpes as it occurs on the penis is so well known that it hardly needs description. It may occur either on the skin or on the mucous surfaces, and is usually easy of recognition. It comes out suddenly after a short period of heat and irritation, and consists of a little group of vesicles, which soon rupture and leave small ulcers. In the course of a week there is definite evidence of decline, and in another week all trace of the outbreak is lost. There is seldom any irritation of the lymphatic glands. Difficulties may occur when the ulcers are deep or when they persist longer than usual. Herpes on the genitals is common in both sexes, quite independently of any venereal cause, and may be recurrent. There can, however, be no doubt that venereal sores of all kinds predispose to it, and that the most characteristically recurrent cases follow true chancres. It is with these that I now have to deal. The liability to such attacks may begin within a few months of the chancre, and the recurrences may be so frequent that the patient is never more than a week or two free. Very frequently the subsequent attacks are upon the site of the first, or close to it, but to this there are many exceptions. The liability may persist for years, and it frequently does not commence until after the secondary stage.

When herpes occurs in the mouth it is a much more serious affair than when on the penis or vulva. A larger surface may be involved, and deeper ulcers may be produced. The sores are often very painful, and when the fauces are affected swallowing may be difficult. The limitation to one side is the distinguishing feature, and by attention to this point not a few sore throats after syphilis, for which quite uselessly mercury or iodides are prescribed, might be recognised as herpetic and cured by quinine or arsenic. I have seen many examples of herpetic pharyngitis, but, not having preserved any portrait of the affection, I may refer my readers to the excellent "Atlas of Syphilis" published by Dr. Chotzen. This atlas, which is a mine

of pictorial wealth for the student of syphilis, gives in Plate 59 an excellent illustration of unilateral herpetic eruption on the pillars (both) of the fauces. On the right side both anterior and posterior pillars are covered with small sores, which approach the middle line at the base of the uvula, but do not pass it. There is not a single sore on the other side. The right half of the uvula itself is deeply congested, whilst the other is normal. The conditions are described as "*plaques papulosæ inflammatæ ad arcus palati.*"

In certain cases herpetic manifestations may occur simultaneously on several parts. When this happens the parts affected are usually on the same half of the patient's body. Of this I may relate as an example a case in which the penis, the throat, and probably the urethra were affected together, the throat condition being exactly like that displayed in Dr. Chotzen's plate.

Herpes on the site of a chancre on skin of penis and simultaneously on one tonsil and in the urethra, one year after syphilis.—In the case of Mr. —— I had prescribed for primary syphilis in April of 1898, and with such success that he had no secondary symptoms whatever. The sore was in the skin of the penis, and was definitely indurated. He had also hard glands in the groin. He was slightly salivated more than once, and at times left off his pills. With intermissions, however, he continued them until he came to me a second time, rather more than a year after his first visit. He had in the interval been under the observation of his family surgeon.

His second visit was on May 5, 1899, and the reason for it was that another sore had appeared on the site of the original one. He described a group of little vesicles on the skin of the penis which in the course of a few days broke and formed an irregular crescentic ulceration, about the base of which there was some œdema and slight induration. There was at the same time some soreness in the urethra, and micturition was attended by smarting. Exactly at the same date that the sores appeared on the skin of the penis and the irritation in the urethra, his throat also became sore.

It was about nine days before I saw him that these three affections appeared simultaneously. I found his right tonsil and adjacent pillars of fauces swollen and covered with discrete small ulcers. These ulcers were made conspicuous by white secretion on their surface, and they were arranged in lines exactly like those of herpes. There was no trace of inflammation on the other side of the throat. The sore on the penis was on its right side, and so also the tonsillitis.

I could make no doubt that both were herpetic in their nature, and it seemed a fair inference that there were herpetic vesicles in the urethra also. No definite rigor had preceded the outbreak, but the patient stated that he had not of late been feeling quite well. He had no other symptoms of syphilis.

In connection with this case a few words may be said as to urethral herpes. Herpetic vesicles at the meatus are not uncommon, and under the irritating influence of the urine they not infrequently become troublesome sores. There are other less common cases in which soreness is experienced in lower tracts of the urethra, micturition is attended by smarting pain, and there may be a certain small amount of discharge. The discharge never simulates that of a gonorrhœa, and the patient usually locates the smarting at one definite spot. When such symptoms occur in a patient liable to herpes on other parts—and especially if the symptoms begin suddenly, are quickly cured, and show tendency to recurrence—the diagnosis of urethral herpes seems justified.

Herpes, as I have said, may occur on the genitals of either sex quite independently of any venereal cause, and if it has occurred once it is very prone to occur again. It is, I think, very seldom seen before puberty, and, in those liable to it, it often appears to follow directly on nocturnal emissions or sexual intercourse.

Although, however, it is to be admitted that those who have never suffered from syphilis are liable to recurrent herpes, yet it is certain that those who have so suffered are infinitely more prone to it.

In syphilitic subjects, further, herpes is often much more severe than in others. Its sores may last longer and become much larger than they would in others, or some of the vesicles may heal and others may persist, and thus it may become by no means easy to distinguish herpetic sores from non-indurated chancres. Since they very frequently follow intercourse, the patient will often give a misleading history. There is yet another fallacy which occasionally occurs, for, in the careless, the existence of partly healed herpes may facilitate the implantation of the syphilitic virus, and thus a true chancre, or a whole group of chancres, may follow what was in the first instance herpes.

In both sexes herpes on the genitals often leads to a suspicion of syphilis where none is present. In men it is not usually difficult to make the diagnosis, but in women—who, as a rule, never seek advice unless the eruption is exceptionally severe, and in whom there is not often any history of previous attacks—there is not infrequently need for great care. I have seen many such cases, in which much family distress had been caused by the premature expression of a diagnosis which proved erroneous. The surgeon must be on his guard against allowing the region affected to influence his judgment as to the nature of the disease; and he must keep in mind that herpes is occasionally attended by spots of gangrene, which assume a very formidable aspect and produce deep ulcers that will heal only slowly. Good delineations of herpes preputialis and herpes pudendalis are given in Kaposi's "Hand-Atlas," Plates 94 and 95. The ulceration which occurs in severe herpes may sometimes, in predisposed syphilitic subjects, take on phagedænic action. It is not improbable that many of the cases of phagedænic destruction of the soft palate and adjacent structures originate in herpes rather than in gummata. These cases usually set in quite suddenly without any recognised stage of tumefaction, and are at the beginning attended by much pain.

It is to be understood that herpetic attacks may occur in any stage of syphilis, and that while most

common during the first few years, they may be met with after very long periods. Recurring attacks on the buttocks, perineum, or upper parts of thighs are not uncommon in cases of tabes. In a case of which the full particulars are given in my *Archives* (vol. ix., p. 367, Case xci.), a man who had been cured of syphilis by the late Mr. Henry Lee contracted a fresh infection ten years later. Two years after the second attack he became liable to recurring herpes on the penis and to very troublesome herpetic sore throats. He was at this time in good general health, and his wife had borne him a healthy child.

Amongst the conditions occurring in the mouth during the secondary stage of syphilis are the well-known punched-out ulcers, sometimes designated "mucous patches." These often occur in groups, and often with very definitely unilateral arrangement. Their most frequent site is the inner surface of the lower lip, but they may be seen in the buccal pouches, on the gums, or on the tongue. Mercury not infrequently comes under suspicion as their cause, and they are certainly not curable by its continued use. I much suspect that these sores are often of nerve causation, and belong to the herpes group. Good delineations of them may be found in Chotzen's "Atlas," and indeed in every collection of plates illustrating syphilis, for they are very conspicuous and well-characterised phenomena. The use of quinine or arsenic is always indicated when they occur.

Herpes on the tongue during the primary stage of syphilis.—In the case of Major —— an herpetic eruption limited to one side of the tongue occurred in the third month of syphilis and whilst an indurated chancre at the base of the frænum was still present. The sores, which were very painful, healed in the course of a week, but ten days later a similar patch appeared, in exact symmetry, on the other side of the tongue.

Recurring attacks of herpes in the throat.—On July 13 I wrote in my notes of the case of a young man who was in his second year of syphilis: "He is

quite well of all symptoms, excepting liability to herpetic sores on tonsils, which come and go."

On December 6 of the same year this diagnosis as to the throat was confirmed by his coming again. He had in the meantime been free and had gained several pounds in weight. He said that he had caught cold a fortnight previously, and that his sore throat had come again. He had no other symptoms. It was the left side of his throat which alone was affected. It had been very painful. There was a deep ulcer in the left tonsil with much congestion of the parts around it, but I was told that the condition was already improving. He was taking a pill containing mercury with two grains of quinine three times a day, and I advised him to continue it with the addition of arsenic. In the early stage his throat had been severely affected on both sides.

CHAPTER XIV

SYPHILIS ACQUIRED BY THE SUBJECTS OF INHERITED TAINT

Is syphilitic inheritance in any degree protective?—The opinion has been expressed that syphilis becomes milder in communities in which it has long been present. It is reputed to have become in Portugal a much-enfeebled malady from this cause. An English physician practising there has expressed his belief that owing to habitual neglect of efficient treatment the whole community has become influenced. We know that this law of transmitted, partial immunity prevails in the other specific fevers. If small-pox be introduced to a new soil, it is far more severe and more fatal than when it occurs in a community which, through many generations, has been accustomed to its prevalence; so also with measles and scarlet fever. There is an excellent chapter on this division of our subject in Mr. Lee's "Lectures on Syphilis."

I believe that I was the first to record instances in which the subjects of inherited syphilis in a severe form subsequently became affected by acquired venereal sores. Indeed, prior to the period 1850 to 1860 it had not been possible to recognise those adults who had suffered from inheritance. I published in the *British Medical Journal* for September 21, 1861, several cases in which the subjects of inherited syphilis contracted primary sores. In some of these no secondary symptoms followed. This negative fact, however, proves nothing, since we frequently, in those who have not inherited any taint, witness the occurrence of non-infecting chancres. It would require the collection of an extensive series of cases, much larger than that which I was able to get together, to justify the creed that the inherited taint is in any degree a protection against the acquisition of

the disease. That it is not wholly protective is made certain by cases about to be given. More recently similar facts have been published by others.

Some of the cases referred to I may here quote.

Heredito-syphilis with clear history; gonorrhœa and superficial sores; no secondary symptoms.—Richard ——, a lad of nineteen, had, prior to 1858, been under my observation for several years on account of nodes, keratitis, etc., the results of inherited taint. His mother had also been under treatment for tertiary symptoms, and she gave me a clear history. The boy had suffered severely in infancy. At length (1858) he one day applied at the hospital on account of gonorrhœa and superficial sores, with much swelling of the prepuce. None of the sores became indurated. He was treated solely by local remedies, and no secondary symptoms occurred. He was under my care at the Metropolitan Free Hospital. I saw him frequently during the next few years, and am certain that he never had any constitutional symptoms.

It is to be remembered, respecting communities which appear to have acquired tolerance as regards syphilis, that carelessness about it and very excessive prevalence may tend rather to diminish than to increase the risks of inheritance. In such communities a great many children contract the disease, and, as long intervals must elapse before marriage, they are almost wholly secure against the risk of fresh acquisition and transmission. This risk becomes greatest where the disease is seldom contracted excepting by those of marriageable age. In Fiji it is said that a large proportion of the community have passed through syphilis in childhood, their parents regarding it as better that they should get it over young. Hence but little risk of parental transmission.

History of syphilis in both parents six years before birth of the patient; slight infantile symptoms; acquired syphilis at the age of twenty; constitutional sequelæ; interstitial keratitis; teeth and physiognomy presenting no peculiarities.—In the following case an attack of interstitial keratitis occurred to a young man who certainly inherited syphilis, and who had also passed through an attack of acquired disease. It is impossible

to say with certainty to which of the infections the keratitis was due. It is, however, most probable that it was in connection with the inherited taint.

E. ——, aged twenty-one, was admitted under my care on July 6, 1863. His right cornea was inflamed, but he stated that this condition had followed an injury from dust a fortnight before. The cornea was diffusedly opaque, and the eye very irritable. I prescribed, at first, tonics and opium fomentations, being misled by his erroneous statement that he had had lime in it. On the 20th I recognised iritis in slight degree, and the dotted condition of the cornea, taken with the slight inflammation of the iris, presented an appearance similar to what used to be called "aquo-capsulitis." Iodide of potassium was now prescribed. In the middle of August the left cornea began to inflame. At this time the right cornea was so opaque that it was impossible to inspect the iris, and it presented exactly the conditions of syphilitic keratitis. His physiognomy did not suggest hereditary syphilis. It is true his skin was pale and of bad colour, but his nose was narrow and had a very high bridge, and his teeth were perfect in form, size, and colour. In making inquiries as to his history, he mentioned that his mother had suffered in her eyes, and, thinking that some light might perhaps be obtained in respect to his own diathesis, I requested that she should attend.

The mother's history.—On August 27 the mother attended with her son, and brought with her one of Sir W. Bowman's out-patient letters. From notes on the latter I found that iridectomy for synechiæ and relapsing iritis had been performed six years ago. She had obtained great benefit from the operation. There were still bands of synechiæ in the lower part of the pupil. The original attack of iritis had occurred twenty-five years ago. She told me without reserve the whole history of her troubles. Her husband had been a most dissolute man, had frequently suffered from venereal diseases himself, and had several times communicated sores to her. Her worst attack was when the iritis occurred, at which time she had a very free rash. Several of her children had died of "the disease." Our patient was one of her younger children, and was born six or seven years subsequently to his mother's contamination. The three infants preceding him had all died. In infancy he suffered from a rash, and was treated by Dr. Rees, who referred it to venereal taint. After infancy he had fair health until about the age of fifteen, when his left eye inflamed.

History of the acquired disease.—The patient had been under my care for gonorrhœa four years before, and since then had been much exposed to risk. A year previously he appeared to have had true syphilis. He did not recollect a chancre, but said that he had a copious scaly rash and a bad sore throat. These lasted for three months or more. The surgeon who treated him

told him it was syphilis, and gave him mercury to salivation. He still had the remains of a papular rash on his chest when I saw him.

We may note, as a very interesting point, that this attack of interstitial keratitis occurred about ten months after the outbreak of acquired disease, but we must also bear in mind that there was a history of inflammation in one eye several years before.

Heredito-syphilis; acquired disease; several non-indurated sores with suppurated bubo; no constitutional symptoms.—E. ——, aged twenty, came under my care at the London Hospital in 1859, on account of primary sores. There was a large ulcer which had destroyed the frænum, and several small circular ones on the surface of the glans, and on the roll of the prepuce close to the corona. None of the sores were indurated. In the right groin was an ulcerated bubo with livid, undermined edges. He had had the sores for nearly two months, and had taken mercury. There were no constitutional symptoms. The interest of his case belonged to the circumstance that he was evidently the subject of inherited taint in a severe form. He had suffered from interstitial keratitis in both eyes, and both corneæ were still hazy. The right iris was adherent at its pupillary edge, and this eye had, he said, been defective from infancy. The keratitis occurred when he was ten years old. His teeth presented the typical malformation; his nose was flattened, and large radiating cicatrices extended from the angles of his mouth. He stated that he was the oldest in the family now living. A sister, who was older, died of consumption at the age of twenty-one; she had always been ailing, and had suffered for long from "bad eyes." A brother, a year younger than himself, is now the subject of "bad eyes," and under care at Moorfields.

I had this patient under observation for several weeks, during which he got nearly well of the local disease. No constitutional symptoms occurred.

Heredito-syphilitic stigmata well marked; primary sores acquired at adult age; mercurial treatment; no constitutional symptoms.—In this case the patient, besides being obviously the subject of inherited syphilis, had also suffered from acquired sores. It did not appear, however, that he had had any constitutional symptoms from the latter; and the history made it clear that the attacks of inflammation of the eyes were dependent upon the inherited taint, rather than the acquired one. As he was not under my care during the primary disease, I am unable to state the exact nature of the sore.

Two cases in which the subjects of inherited taint suffered severely from acquired disease; phagedæna of the chancre, and rupial sores on the skin.—Case 1.—A young man of severely

deformed visage, and with typical teeth, came to me at the Metropolitan Free Hospital on account of acquired syphilis. He had suffered from keratitis some years before. The chancre had existed for two months, and it was probable that he had taken mercury. The sore had now become inflamed and deeply ulcerated, almost phagedænic. On the skin, in various parts, were scattered sores of ecthymatous character, almost rupial. These were not numerous. I prescribed iodide of potassium, but soon afterwards lost sight of the patient, and cannot report the result. The sore when I saw it was so much inflamed that it was difficult to say whether or not it had been indurated in the first instance.

Case 2.—J. ——, aged twenty-two, was of a physiognomy so marked that but a glance was required to identify his diathesis. His teeth were notched, and he had had keratitis. He was admitted with deep ulcers on various parts, two of them extending down to bone, one in the clavicle, and one over the spine of the right scapula. Some of the ulcers were like those of ecthyma. At first sight we attributed these to his inherited taint; but he put us right by saying that they had followed "the disease," which, it appeared, he had contracted about three months before.

Under treatment, by iodides chiefly, he soon recovered, but a portion of bone was exfoliated from the scapula.

These cases and others clearly prove that not only is it possible for the subjects of inherited taint to contract the disease anew, but also that they may suffer with unusual severity. In three which I have mentioned the eruption was a form of rupia. It is even probable that inheritance modified and intensified the action of the acquired disease.

Acquired syphilis in a man who had suffered from the inherited form.—The patient, a surgeon, aged thirty-two, told me that his father, who was also a surgeon, had informed him that he had suffered from inherited taint in infancy. There was a history of interstitial keratitis, and it was added that a younger brother had also suffered from the latter, and that this brother showed characteristic teeth.

This patient suffered severely from his acquired disease. He had contracted the chancre in September, and I saw him in February, when it was still indurated in a very marked degree, and threatening phagedæna. He was covered by a syphilitic eruption.

CHAPTER XV

THE RESULTS OF SYPHILIS CONTRACTED DURING PREGNANCY

THE escape, or apparent escape, of the fœtus in circumstances of great ostensible danger is sometimes very extraordinary. To those who hold that a mother who contracts syphilis during pregnancy cannot infect her fœtus, the following narrative will appear only according to rule, and will afford a confirmation of their scepticism. To those who think otherwise, it is a somewhat remarkable and exceptional fact.

Severe syphilis in a pregnant mother; mercurial treatment; child free from symptoms in infancy and remaining so in adult life.—I saw, many years ago (1878), with Mr. S——, a young widow who was pregnant with her first child. The disease was from her husband, who was just dead. She had a copious eruption and a very bad throat. We gave her mercury in one-grain doses of grey powder. This was in the beginning of June, and she was confined in the end of August. Her child, a strong and remarkably fine girl, never showed a symptom. The mother suckled the child for four months, during which time she was taking mercury. Since then she (the mother) has never needed treatment. I operated on her for piles in October, 1885, eight years after her misfortune, and she then had not the slightest indication of remaining syphilis. I then saw her child, and found her quite healthy.

In this case the child was carefully watched by Mr. S—— from the time of its birth, and no single symptom of syphilis was ever seen.

It will be observed that neither parent had syphilis at the date of the child's conception. The husband contracted it after marriage, whilst abroad, and gave

it to his wife when she was six months advanced in pregnancy. She had a very severe attack, and was only just losing her rash when the child was born. In explanation of the child's immunity it may be suggested that the fœtus was influenced by the mercury given to the mother both during pregnancy and lactation.

Both mother and daughter have been recently under my observation. The latter is married and has children of her own, and as she has never during thirty years shown any traces of syphilis it may be presumed that she either obtained no taint during her mother's illness, or, what is more probable, that the mercurial course was efficient in its cure.

Syphilis contracted in the second month of pregnancy; periostitis and neuro-retinitis, with convulsions, etc., in the infant.—As a good illustration of several important points as to the clinical history of syphilis, I may offer the following narrative :

A married medical man contracted a chancre on his finger in November, 1882. His wife was at the time two months pregnant. He did not recognise the nature of his disease until his rash appeared. Part of the latter was on his genitals. In January, finding what was the matter, he desisted from intercourse, but it was too late, and his wife subsequently had sore throat and eruption. She suffered rather severely. Her mercurial treatment began in March, and was continued until her confinement in July. The child was born at full time, apparently healthy, and it presented neither snuffles nor rash at any time. When six weeks old its ankles and wrists swelled, and were very painful on movement. Under mercurial inunction this passed away, and there was never any return of bone tenderness. When it was three months old a very severe and nearly fatal attack of convulsions occurred, attended by furred tongue and fever. A divergent squint resulted. Iodide of iron was now used, and recovery ensued. At six months, however, a similar fit occurred, again attended by fever, and after it the divergence was substituted by convergence. For some time "it seemed as if the child were almost blind." Under mercurial inunction and iodide of iron, recovery again ensued, and the sight was regained; the squint, however, remained permanent. At the age of two (when I first saw the child) she was fairly well developed, could walk and talk, and showed nothing peculiar in physiognomy, but had a strongly convergent squint of right eye. She appeared to see fairly with

both eyes, but there were evidences of past neuro-retinitis in both. Both as regards physical and mental development she was probably below her age.

To go back to the history of the parents: The mother, who took mercury during the latter half of her pregnancy, and for two months afterwards, but not very regularly, recovered so well that when I saw her two years later she appeared to be in excellent health, and had never had any reminders. The father, who had had a much longer course, extending over more than a year, remained ever afterwards liable to a dry scrpiginous eczema on the scrotum, which was easily cured by mercury, whether given internally or applied, as white precipitate, externally. He was in good health, and in all other respects free from reminders.

Thus we have a case in which an infant, whose mother had taken mercury during the last half of pregnancy (and in sufficient doses to procure in herself a good cure), presented early indications of periosteal syphilis, and subsequently of implication of the nervous system.

Primary syphilis contracted during the late months of pregnancy; a mild attack in the infant; no constitutional symptoms in the mother; the five following conceptions diseased; mother apparently in good health. — Mrs. —— brought me an infant, aged three months, covered with a syphilitic papular rash, but well-grown and thriving. This was in December, 1866. My chief reason for relating the case is to illustrate the absence of relation between the severity of the symptoms in parents and in offspring. Mrs. —— herself appeared to be in robust health, and was a remarkably fine-looking woman. She had borne a large and healthy family. None of her infants before the present one had presented a single symptom. Her account made it probable that both she and her husband had suffered from primary syphilis just before her last confinement. Her own symptoms had, however, been ill-marked. She had had a profuse discharge and much vaginal irritation, and after delivery a large bubo in one groin. The bubo did not break. She did not recollect any rash or sore throat, nor had she, when I saw her, a single symptom. Dr. A——, who had seen the infant, had told her the cause of its symptoms. I treated the child with mercury, and it got quite well quickly.

In 1867, Mrs. —— had a premature dead-birth. She herself still remained in excellent health, and her husband, though delicate, was free from symptoms.

In December, 1868, Mrs. —— brought another infant to me. It was two months old, and had a syphilitic rash on neck, face, and buttocks. It improved rapidly under iodide of potassium and mercury. Mrs. —— herself was florid and in vigorous health. She reported the child first treated to have remained quite well ever since and to be now "the picture of health."

I last saw Mrs. ——, with her fourth child, on February 21, 1870. The child, a girl, had been born healthy-looking; at the age of a month she began to snuffle, but did not show the rash till three months old. Her thighs, etc., were covered with eruption; there was some also on her face. She was much wasted. One child which I had not seen had died with severe symptoms.

It will be seen that in this instance both parents had suffered from primary disease. I do not know what treatment they had had. The mother continued to bear syphilitic children for at least four years. The case, therefore, gives support to the opinion that the poison may maintain itself in women much longer than it usually does in males.

Syphilis acquired by a pregnant woman in the seventh month; fœtus infected.—In the following narrative we appear to have an instance of syphilis communicated to a wife in the seventh month of her pregnancy and passing to her fœtus.

Mr. ——, aged forty-nine, a married man who had two children, contracted a chancre in South Africa. He returned home in October, and in December his wife, who was then pregnant, had sores, and swelling of inguinal glands. She was examined, and the diagnosis of syphilis, made at that time, was subsequently confirmed by an eruption on the scalp and neck. Mercury was given. A child, apparently quite healthy, was born in January. At the age of six weeks this child had an eruption and other symptoms which were recognised as specific. Mercury was given, and the infant regained its health. When the case came under my observation the child was more than two years old, and was apparently in excellent health and as well-grown as either of the others who were born before the parental disease.

Influence of a syphilitic fœtus upon a healthy mother.—It is unfortunately a not very uncommon event for a man who has suffered from syphilis to marry before he has got wholly rid of his disease. Under such circumstances it is possible that he may get an abrasion, and, if this happens, he will probably infect his wife, and she will have a primary sore and its usual sequences. This, however, but rarely occurs, and, when it does not, no ill whatever will accrue to the wife unless she becomes pregnant. It is well recognised that neither the semen nor any other natural secretion will infect, even under long-continued conditions of exposure. It is, nevertheless, equally well established that this same semen, wholly harmless unless fecundation be effected, may convey the virus to the ovum which it fecundates, and may produce in it specific disease. The blood of this tainted ovum will, throughout its uterine life, come into contact, in the placenta, with that of the mother. It may be granted as probable that it will in some way influence it, and the question as to the kind and degree of this poisoning must be determined by observation. The first suggestion which observation supplies to us undoubtedly is that in many, perhaps a large majority, it exercises no appreciable influence. Wives under such circumstances remain in usual health during pregnancy, and bring forth infants which, at the time of birth, are well-grown and apparently free from taint. Such infants may, however, give proof that they have not really escaped, by exhibiting, at the age of about a month, the first of a series of symptoms characteristic of syphilis in its secondary (or blood) stage. It would appear that aerial exposure and aerial respiration were needed by the parasite in order that it should assume activity. In these cases the infant requires the specific for syphilis, and under its influence gets rid of symptoms and regains good health. The course of symptoms is usually closely similar to that witnessed in connection with the disease when acquired through a chancre. There are first cutaneous eruptions and affections of the mucous surfaces,

and subsequently implications of the bones and viscera. The chief difference from acquired or chancre-syphilis is that there has been no chancre, and that the virus has been quietly developed in the blood from something which was present in the spermatozoa.

We must return to the wife, now a mother, and ask whether, after her lying-in, she remains as wholly free to all appearance as she was during her pregnancy. Very frequently she does so, but an exceedingly important item of evidence is now obtained in the fact that she cannot contract the disease from her offspring. Some other woman who may suckle her child may get a chancre on the nipple, but she cannot. She has acquired immunity, although, so far as appearances go, she has never suffered. It is clear, therefore, that some influence has been exerted on the maternal blood by that of her infant, tainted, though as yet revealing nothing. Corroboration of this inference is frequently obtained later on, for the mother may, after months or years, display symptoms which, though vague and ill characterised, still denote syphilis.* It has been thought that these are the more likely to occur if two or more of such pregnancies have been encountered.

Another and a different class of facts remains to be investigated. It is by no means always that a paternally infected ovum passes through its intra-uterine life without manifesting disease. Whether the difference is in any connection with the stage of the disease in the father is as yet uncertain, but unquestionably in many cases the ovum gives proof of disease long before its birth.† It may perish at any period, early or late,

* It is true that of late years much industry and some ingenuity have been zealously devoted to the attempt to invalidate Colles' well-known law. It has been alleged that nipple chancres are rarely seen in wet-nurses and that they are not absolutely unknown in mothers. The fact, however, that thousands of mothers are exposed to the risk and exceedingly few wet-nurses, whilst all the accidents, with rare and very doubtful exception, occur to the latter, seems to be conclusive.

† I may confess that I do not feel sure of my ground in this statement. It may be the fact that all infants which show disease before birth are born of infected mothers, and that it is only in those cases in which the father is the sole source of the disease that the infants are born with the appearances of good health.

in pregnancy, or it may survive to full term or near it, and then be born covered with the evidences of a specific dermatitis which has occurred whilst living in the womb and in communication with the maternal blood. It is admitted to be very rare for a fœtus to survive to full term and then to be born with symptoms present, but such cases do occur, and there can be no doubt that many die at earlier periods. It may be reasonably suspected, in cases in which the disease assumes activity before birth, that the risks to the mother will be somewhat different from those encountered in the cases which we have been considering. As a matter of fact, it has been observed on all hands that many mothers who are bearing syphilitic children, without having themselves suffered from chancre-syphilis, do not escape symptoms.* It may be doubtful whether they ever show the ordinary phenomena of the secondary stage, but it is certainly not uncommon for them to lose health, to become pale, and to shed their hair.

* Diday thought that he had frequently seen this stage in full development in cases in which there had been no chancre. The negative proof of the latter point is, however, difficult.

CHAPTER XVI

CASES OF PERSISTING SYPHILIS

Tendency of syphilis to develop in successive outbreaks —It is a question of some interest whether syphilis has any tendency to develop itself by, so to speak, a series of successive waves. It is certain that we do observe periods of very sudden and acute outbreak, and that these sometimes follow after intervals of complete quiescence. Such facts are especially noted during the development of the secondary phenomena; but it happens every now and then, at much later periods, that, in a patient who has been well for years, suddenly new symptoms occur, not only in one, but in several different parts of the body at once. This is, however, infinitely more rare than are the sudden and acute recurrences of symptoms which we often witness during the first year of the disease. The fallacy which besets our observations on this point is the one which meets us at all turns in our attempts to study the natural history of syphilis; it is this, that the phenomena may be connected with the intermittent employment of antidotal treatment. The worst cases of rupia which we see occur usually under these conditions, the patient having been cured of a first and much milder outbreak of eruption, and then, after an interval of some months, becoming the subject of a more severe one.

Antidotal efficacy of mercury.—Respecting the results of treatment in general, I believe I may with truth assert that I have never, in any single case of late years, seen a severe eruption on the skin develop itself after a mercurial course of the kind recommended had been commenced. It is a fact, then, that the remedy manifests antidotal power in that it can not only remove, but anticipate and prevent, by far the most

conspicuous manifestations of the disease. I cannot make so strong an assertion respecting some other of the symptoms of the later part of the secondary stage. I have seen iritis, and neuro-retinitis, occur occasionally, and even with some severity, in cases which had been well treated; and, in very exceptional instances, I have witnessed disease of the arteries of the brain. In a large majority of cases, however, a six months' course of small doses of mercury appears to be adequate to the complete and permanent cure of the disease.* No relapses occur, and the patient remains afterwards in excellent health.†

We may admit that it is a question which must be left open for future accumulation of evidence, whether the antidotal repression of the secondary stage is influential in preventing the development, after long intervals, of tertiary symptoms. That it does not do so always, is abundantly proved. I cannot but believe, however, that it does exercise a very powerful influence in that direction, and that the diminishing frequency and severity of tertiary disease in modern times is largely due to more efficient treatment. It is often matter of remark that those who suffer seriously after long intervals are those in whom the early symptoms were exceptionally slight, and treatment in consequence was not persevered with, or almost wholly omitted.

In urging the antidotal efficacy of mercury as a fact in the natural history of syphilis, I have not in the least wished to claim undue superiority for the special mode of administration which I myself employ. I do not doubt in the least that the advocates of other methods, such as those by inunction or by the vapour bath, can produce just as good results. The essential point seems to be that the treatment should be very

* It is not to be understood that I consider a six months' course sufficient. Far from it. I am here simply recording the results of experience, much of which was obtained at a time when such a course was considered a long one and quite adequate.

† I may perhaps be permitted a little modest self-congratulation in the fact that I have always upheld the claim of mercury as being a true antidote to the poison of syphilis. We now know—what was formerly only an assumption—that it does kill the parasite.

long continued, or, if not, that short courses should be repeated without waiting for symptoms. The method which I have advocated is, however, one of the most convenient, and on the whole, I believe, the best. In all it is a matter probably of foremost importance that the course should be commenced early.

Case in which mercury always cured for a time, but did not prevent speedy relapses.—The following case may be quoted as an illustration of the difficulty which we sometimes encounter in permanently overcoming the symptoms of syphilis by mercury. It was not one of those in which the patient showed a resistance to the influence of the drug, nor, indeed, one in which the symptoms resisted it. Over and over again a complete disappearance of symptoms was secured, but with the same disappointing result that when the remedy was suspended the malady came back. As usual, however, the relapses became more and more mild each time, and it seems probable that a victory was in the end obtained. The subject of the case was an Italian gentleman, of dark complexion. He came to me in March, 1885, suffering from a lupoid psoriasis, which was scattered with partial symmetry over the trunk and limbs. He had also large peeling patches in the palms. On the backs of his hands, fronts of knees, and tips of elbows there were patches which were of the psoriasis type, whilst those in his palms showed no accumulation of epidermis, but simply peeling. There was no room for doubt that the whole of the eruption was of a syphilitic nature, for it had been present with modifications ever since the primary disease two years before. During the whole of that time, with some short intermissions, he had been taking mercury or rubbing it in, and on several occasions his mouth had been made sore. He had been throughout under the treatment of a surgical friend. As so much disappointment had resulted hitherto, I thought it a fair case to recommend for the Aix treatment, and accordingly gave him an introduction to a surgeon there. I did not see him again for a year. In April, 1886, he came back to me, saying that he had been

twice to Aix, and that his hands were as bad as ever. During the year he had made nearly two hundred rubbings, and had been at least three times profusely salivated. He said that his mouth was very readily made sore; and that whenever he was under the full influence of mercury his symptoms disappeared, but that they returned again directly he left it off. He had rubbed in not only at Aix, but also while at home. I found that his complaint as to being no better was not by any means to be taken literally. The patches in the palms of his hands were still troublesome, but he was quite rid of those which had been present on his body. On the hands, too, the disease was less severe than it had been. There were three or four patches in the palm of the right hand, but none in that of the left.

As regards the Aix treatment in general, I may here say that I have seen a great many cases in which the symptoms of syphilis have relapsed after a temporary cure by inunction as practised there. I do not think that as regards permanency of cure the inunction method presents any special advantages over others, nor that inunction at Aix is any better than the same plan carried out at the patient's home. It must be admitted, however, that for a certain class of patients who cannot submit to systematic treatment at home, there are great advantages in a visit to Aix. The only objection which is to be made against the plan there adopted is that the use of mercury is interrupted instead of continuous, and it is often laid aside far too soon, the patient being unwilling or unable to follow the injunction to return to his advisers.

The power of mercury in preventing secondary eruptions; on relapses after its disuse.—It is very seldom indeed that there is any difficulty in keeping the skin perfectly clear during the secondary stage of syphilis. On the tonsils, and sometimes on other parts of the lining membrane of the mouth, persisting sores, not herpetic, will occasionally form; and, although these are in a general way amenable to an increase of the dose, and to the local medications, it is to be admitted that there do occur occasional

cases in which it is difficult to be sure that the supposed remedy does not aggravate the disease. In a large majority of cases, however, in which, beginning at an early period, the patient is put through a six months' course, during the last four of this period he is absolutely without symptoms and apparently in excellent health. If, however, at the end of the six months the remedy be stopped, in many cases a very remarkable proof of its antidotal efficacy will occur. We shall find that the remedy, and the remedy alone, had held the poison in inactivity. For, in spite of the long period of absolute quiescence, an outbreak of symptoms will occur within a few weeks of its suspension. This outbreak is usually a very mild one, but is, nevertheless, very definite, and it is general. As a rule it takes the form of an erythematous or lichenoid eruption, occurring chiefly on the trunk, and is not often attended by sore throat or other symptoms Although it may now and then be papular, I have never seen it approach in severity the eruptions which we often meet with in cases that have not been treated. It is always, I believe, very easily amenable to mercury, disappearing in the course of a few days, or at most a week or two, and seldom recurring. There is, however, another and very peculiar eruption which sometimes persists for a long time, and recurs over and over again. Reference has already been made to this, and I have been in the habit of speaking of it as the "after-bath eruption." It is a very trivial affair, and consists chiefly in the appearance of a number of faintly marked erythematous rings, which are seen only on sudden exposure of the body to cold, as on first getting out of bed, and especially after the use of the morning bath. Nine out of ten patients notice them only under the latter condition, and they generally fade away almost completely after a few hours. These rings are seen most frequently on the arms, but sometimes on the trunk and thighs. They are unquestionably syphilitic, and the liability to them usually ceases on recurrence to mercurial treatment. They are seldom or never attended by other manifestations of the disease.

Remarkable persistence of syphilis in spite of very efficient treatment; an attack of symmetrical deafness in the third year, and one of paraplegia in the tenth.—A gentleman of distinguished position gave me the following history of his syphilitic illness.

He consulted me first in July, 1876, some time after his paraplegia. His chancre and eruption had occurred in 1865, when he was twenty-nine. He was treated in London by an able specialist, and used calomel vapour baths, with intervals, for three years. In 1868 he had an attack of almost complete deafness, with noises in the ears, but no pain. It lasted nearly three months, but under specific treatment got finally quite well. In the next year, with the permission of his advisers, he married. A still-born but fine child was produced a year later, and four years afterwards a child was born which lived, but which had to take mercury for specific symptoms. In 1873 he had, during hot weather, an attack of diplopia, which again was cured by specifics. In 1874 there was an ulcer on one leg of a suspicious character, and in 1875 a second attack of diplopia, which lasted longer than the first. It was whilst actually under treatment for this that his paraplegia occurred. Before proceeding to describe the symptoms and results of his myelitis, let us note that the taint had clung to him in a very remarkable manner. He had had the most efficient and prolonged treatment by the calomel bath, yet, although his symptoms had always yielded well at the time, they had repeatedly recurred. Most remarkable of all was the seeming fact that his wife bore him a tainted child seven years after his syphilis, and in spite of this very prolonged medication. His attack of paraplegia developed rather suddenly. He had been feeling out of sorts some days, when one night, after having had intercourse with his wife, he became alarmingly restless, and had severe pain between his shoulders. His surgeon was at once sent for, but nothing definite could then be made out. In the morning all his limbs were weak, and he could not pass water. Subsequently the lower extremities became quite paralysed so that he could not lift them from the bed, and he had incontinence of both urine and fæces. His upper extremities, although at first weak, were never paralysed, and in the course of a month he could use his hand for writing. He was in bed five or six weeks, and then gradually regained the power of walking.

When I saw Mr. ——, about ten months after his illness, he could walk fairly, but was unsteady on his feet and "could not run a step to save my life." He thought that he could manage four or five miles if he walked slowly. From the date of the illness all sexual power had left him. His knee jump was rather excessive and the pupils acted well. There can, probably, be little doubt that he had had an attack of transverse myelitis of the dorsal cord. I have thought it worth quoting as an instance of the influence of syphilis in leaving the nerve

centres prone to disease later on. The exciting cause of the attack was probably the act of sexual intercourse, and the entire extinction of this function, probably, marks the part of the cord on which the stress of the disease fell and from which it started. Yet, remembering the previous attacks of diplopia, and noting the close similarity of the attack, and the mode of recovery, to those which we have observed in other syphilitic patients, we may still hold that the specific taint was of much importance in causing liability. The influence of syphilis upon the tissues in general is to make them more vulnerable.

Remarkable tendency in certain cases for one region or one set of tissues only to suffer. —The manner in which tertiary syphilis sometimes fastens itself on one particular tissue or part, and shows not the slightest tendency to attack others, is very remarkable. Sometimes it is the throat and mouth, sometimes the larynx, at others the nervous system, and at others the skin. In some cases the lesions are multiple, but all in the same structures; whilst often the lesion is single, but with persistent tendency to relapse. When multiple it is seldom that exact symmetry is observed, and the more recent developments are probably produced by infection from the first (as is the case in common, *i.e.* non-specific, lupus). These cases very strongly favour the opinion that tertiary manifestations are often local only. I could not mention a better example of what has just been said than the following case, but instances are abundant.

A man, aged thirty-nine, was sent to me by Dr. Gervis for a troublesome skin disease. He had enormous patches of serpiginous lupus on his thighs and abdomen, with crusts at their edges and thin scars in the middle. There could be no mistake as to their nature. He had had them for thirteen years. At times, under treatment, he had got nearly well, but never quite so, and it seemed probable that he had never been systematically treated for syphilis. He had been married fourteen years, and the lupus made its first appearance on one thigh two years after his marriage. Seven children had been born, and of these six, including the eldest, were living, and all had been wholly free from symptoms. Thus we have interesting proof that a man who

himself suffers from tertiary symptoms may yet transmit nothing. There was a history of a chancre (but no secondaries that he remembered) twenty years ago, that is, six years before his marriage.

In many cases the patient's health does not suffer, and, the local inconvenience being slight, he may abstain from all treatment, and in such cases lupoid patches may slowly spread during a period of many years. When the mouth is the part affected, very persistent disease of the tongue and lips is by no means uncommon, whilst the rest of the body is wholly free.

CHAPTER XVII

ON THE RECURRING CHANCRE AND ON RECURRING SYMPTOMS

It is desirable to keep in mind that the structures of the prepuce appear to be peculiarly prone to take on sclerotic induration. The application of caustics to non-infecting chancres will often cause them, in this part, to become indurated in a manner most deceptively like that of the true syphilitic chancre. No other part of the body produces in chancres such characteristic induration, and in none is there the same tendency for the sclerosis to persist or to recur. The difference as regards other regions is, of course, only a question of degree, but it is very considerable, and a recognition of it may help us to understand the somewhat remarkable conditions which are encountered in what is now generally recognised as **the recurring chancre.** Under this name we place certain indurations which occur on the male genitals almost exclusively, which are not due to recent infection, but which resemble the most characteristic Hunterian chancres. Almost invariably the induration is located exactly in the site of a former chancre, and there is usually as a distinguishing feature the fact that no abrasion or ulcer precedes the hardness as is common in primary sores. It happens occasionally that these recurrent indurations are met with when fresh contagion has been possible, but in many others the negative evidence on this point is conclusive. They are not attended by gland enlargement, nor are they followed by eruptions or sore throat. They usually stand as quite isolated phenomena. Although in many instances they may disappear readily and with little or no treatment, in others they persist, and yield only very slowly to the active use of specifics. They are

never contagious, and as they often occur to married men, this negative fact is not infrequently well exemplified. In not a few instances they have been observed repeatedly in the same patient. The period which may have elapsed since the original chancre may vary from a few to many years, and there is always the history that during this interval the scar has been perfectly sound and probably not easy to be recognised.

The cases which will be cited immediately will supply any detail omitted in these statements. As to whether the cartilaginous indurations should be classed as gummata is a question chiefly of definitions. That they are local and not constitutional seems indicated by their solitary occurrence, and very probably they illustrate the general law of gummata in being dependent upon elements left behind by the original disease.

One of the most remarkable cases in illustration of this which I can adduce is that of a Mr. ——, a gentleman who had suffered severely from syphilis and lost his vomer four years before I knew him. He was in robust health. In January, 1872, he came to me with a three-weeks-old collar of induration in the reflexion of his prepuce. It was quite clean and almost without secretion, not much larger than a large pea, but in all respects exactly like an infecting chancre. He assured me that it was impossible that it could be from fresh contagion, and said that he had experienced the same occurrence several times before. His wife never caught the disease, although he had, he said, often exposed her to risk if these indurations were chancres. The first recurrence was in 1869; the second in 1871. There had never been bubo nor any secondary symptoms. The indurations usually lasted three weeks or a month. The original infecting sore was in 1867, and it was in precisely the part where the recurred ones had come. I saw Mr. —— again a year later for another induration. It is to be specially noted that during the three or four years that he was thus liable to recurrences of chancre-like induration in the site of the original sore, he had no other symptoms of syphilis, but appeared to be in excellent health. This gentleman was

under my observation at times for fourteen years after the occurrences described, and had of late remained quite well so far as any suspicious symptoms were concerned.

In 1860, writing on this subject, I said that I thought I had seen at least a dozen well-marked examples of the "relapsing chancre." In one instance then mentioned a man had been three times under hospital care for relapsed induration, and in another a man had presented himself four times in as many years with recurred indurations, always in exactly the same place.

In the case of a lady whom I once saw with Mr. W. Allingham for tertiary syphilis, I was told that relapse of induration of the original sore had occurred repeatedly, always in the same place.

In 1865 a gentleman was brought to me who had been about a month married, and in whom the scar of a "soft sore" had reopened and become hard. He had a disc of most characteristic induration. It was fifteen months since his "soft sore," but he had also had a chancre of some kind six years ago. On each occasion his sore was attended by enlarged glands, which did not suppurate. It did not appear that he had ever taken mercury, or ever had definite secondary symptoms. I am not able to state the sequel.

In the following case very remarkable difficulty had been experienced in getting rid of the induration and keeping it away. Mr. —— consulted me in September, 1860, having then the remains of a collared chancre in the reflexion of the prepuce. He had also a sore throat. He said that he had been under mercurial treatment since February, and that the sore would not yield. I ordered inunction, and in a month all trace of the sore was gone. He now omitted treatment, and the hardness speedily returned. In November the sore was both hard and ulcerated, but in December, during slight ptyalism, it again disappeared. In April, the treatment having been suspended, it was again hard. After another mercurial cure he remained well some months. In May, 1862, he came to me with another sore, which was definitely indurated. It had been

present six months, and had hitherto resisted mercury. This sore looked exactly like a newly-acquired one, but it was in the site of the old ones. It is to be admitted that fresh infection was possible, and that the four indurations which occurred during three years may, should the reader prefer that hypothesis, be all considered as new and independent chancres. For myself, I confess that this seems improbable, having regard to the facts of the other cases, and also remembering that none of them were followed by fresh secondary symptoms. During the whole of this period there had been occasional sores on the tongue, but no general eruption.

I once witnessed, in the case of a vaccination chancre, a very decided tendency to become hard and inflamed for a second time. It was two years after the first one. This fact is especially valuable, because it was impossible that there should have been any fresh contagion. Mercury was given, and the scar was soon again sound. It has remained so ever since, and the patient has now been eight years married and has a healthy family.

A knowledge of the facts as to the recurring chancre is of very great importance, since without it very serious mistakes may occur, not only as regards treatment, but in reference to social and even medico-legal questions.

I believe that I was the first to describe this Relapsing Chancre. My notice of it was given in the *London Hospital Reports*, 1866. Two years afterwards a quite independent and much more detailed account of the same phenomenon was given by Prof. Alfred Fournier.*

* Fournier's paper on the Pseudo-Chancre Induré was published in the *Archives Générales de Médecine*, 1868. The following is an extract from my paper: "I am sure that it is not a very infrequent occurrence for indurated chancres to relapse without any fresh contagion. Thus year after year the soft scar of a former induration may suddenly again inflame, become hard, and even ulcerated. I have seen, I think, at least a dozen remarkable examples of this. Often the relapsed induration is so like that of a primary chancre, that it is impossible to distinguish it excepting by the patient's history. Several of my patients have been young medical men, who were able, therefore, to give a very reliable and

Remarkable case of recurrent indurated chancre (eight years after the first).—Mr. —— had a chancre in October, 1869, which indurated, and afterwards he had ulcerated sore throat and severe neuralgia in the right side of his head. He was treated with specifics by one of our leading physicians. He had no secondary symptoms, that he remembers, except the sore throat, and he was soon well. He married in the following July, that is, within eight months of contracting the sore. His eldest child was born ten months later, and has never presented any suspicious symptoms. He remained quite well and free from reminders until November, 1877 (that is, eight years), when exactly in the site of the original sore another induration formed. It became very hard and of considerable size. He consulted the physician who had treated him before, who said it was as hard as cartilage, but declined to give any opinion as to its nature. Soon after this his right eye inflamed, and on the upper part a thick dusky patch of episcleritis formed. At the same time there was iritis with vitreous opacities. I should say that, according to the testimony of his medical attendant, his pupil dilated before there were any signs of inflammation. The date of the beginning of irritation in the site of the chancre was September, 1877; the pupil was dilated in November. During February, 1878, he was under the care of an ophthalmic specialist, and in March he was sent to me. At this latter date the remains of a collar of induration in the roll of the prepuce were still very evident. I pressed him as to whether he had not exposed himself to fresh contagion. This he positively denied, and in support of his denial were the facts that his wife had caught nothing from him, that he had not had either rash or sore throat, and that the iritis was

accurate account of the course of their symptoms. In one case I had the same man three times under care, at the hospital, with a relapsed induration; and in another, a man came four times in as many years with the same. In each instance the fresh sore was in the scar of the former one. In many instances sexual intercourse (without inoculation) appears to be the exciting cause of the relapse. Relapses are more common within a year or two of the original sore, but I am convinced that they occur even many years after it." These second indurations are sometimes quite spontaneous, sometimes they result from sexual intercourse absolutely without risk of contagion, and sometimes they occur when contagion was quite possible. It is obvious, however, that if we admit that they may come spontaneously, we are not entitled when they appear after intercourse to assume that they were caused by it. Their characters are in all cases alike, and that they are absolutely indistinguishable from primary indurated sores even by the most skilled observers we have Fournier's authority for asserting. Fournier, in the paper referred to, asks attention to the fact that these recurring chancres have frequently been mistaken for new infections, and remarks that he has felt certain in reading the published narratives of so-called second attacks, that in many, or even most, this was the error which had been committed. The diagnosis is indeed often most difficult.

unlike that of secondary syphilis. In the sequel the iritis or irido-cyclitis proved very chronic, and he was six months under my treatment. Vitreous opacities, adhesions, and pigment spots on the lens were left. Its course was wholly unlike that of common syphilitic iritis. During these six months not a single symptom of secondary syphilis developed itself either in him or his wife, although cohabitation had not been suspended in the early stage. The whole period of the induration was at least three months, during the greater part of which the chancre was healed over, but very hard. It melted away very slowly under vigorous mercurial treatment.

Case of a chancre persisting with variations for seven years.—An interesting example of persisting and relapsing induration in a chancre came under notice in January, 1878, at the Hospital for Skin Diseases. The patient, a man of thirty-three, had a large depressed scar on the glans, the edges of which were raised and as hard as cartilage. It was in no respect to be distinguished from a well-marked hard chancre, excepting by the depressed scar in the middle. In the roll of the prepuce, near to the frænum, was another small collar of induration, again exactly like a fresh indurated chancre. Neither of these indurations was ulcerated. Now the man's statement was that the scar on his glans had been present seven years, with varying degrees of induration. The other he thought had come within a few months. He had no secondary symptoms.

He was a married man, and his original sore had been contracted during married life. Three children born since had died, one of them covered with eruption. He asserted strongly that he had never been exposed to contagion since this occurrence, and alleged that the sore on the glans, after having for a time healed, had since repeatedly hardened again. He thought it had scarcely ever been free from some hardness. He said that he did not think that his wife had ever suffered, but in this he was probably in error.

I may here not unsuitably mention two very remarkable cases in which induration in primary chancres persisted for several years.

A chancre which remained indurated for ten years.—A surgeon, aged thirty-one, consulted me about a sore with a most extraordinary history. It was situated in the roll of the reflected prepuce, and was so hard that I took it for a recent Hunterian chancre. He assured me, however, that it had been present for ten years; it was as hard as cartilage. He admitted that it had definitely increased during the last six months. In support of his assertion that the sore was not of recent origin were the facts that he had no enlarged glands in the groins, nor any eruption or sore throat. According to his account he had never submitted himself to any systematic

treatment. In the first instance the sore had been diagnosed as non-infecting; three years after its commencement he suffered from orchitis, which was painless and was diagnosed as syphilitic. It disappeared after very little treatment. Dr. —— appeared to have absolutely neglected his symptoms throughout; but he did not admit that he had ever suffered from anything definite except the persistent chancre. He consulted me chiefly on account of a sore tongue. His tongue was ulcerated and showed filmy patches with much papillary overgrowth; I could not, however, feel sure that it was syphilitic. The chancre in this case was a long, low roll of cartilaginous induration: it was congested but not ulcerated.

Induration of a chancre lasting, in spite of treatment, for two years.—I have seen not a few cases in which indurations left by chancres have persisted for very long periods. The above is, however, an extreme instance of this curious phenomenon. Since writing out the case, another example, the facts respecting which are of considerable interest in more than one direction, has come under notice.

A gentleman, aged twenty-seven, was sent to me by Mr. J. T——. The history was that he had contracted syphilis two years ago, and that in spite of much treatment the chancre had still persisted. I found a collared induration in the roll of the reflected prepuce. It was of considerable size, and as hard as cartilage. At its base was a superficial non-secreting ulcer. The patient assured me that this was his original chancre, and that, although it had varied in size and degree of hardness, it had never wholly disappeared since he first acquired it. He said that it had repeatedly healed, and that he had generally attributed the fresh ulceration to irritation during intercourse. He had abstained from intercourse entirely for nine months after the first chancre, but not so of late. During the last eighteen months he had been almost continually taking either mercury or iodide of potassium, and on several occasions had had his gums slightly sore. Whenever they were so, the mercury had been left off and the iodide substituted. The latter had always had the effect of depressing him very much.

The history as regards the early stages of this remarkable case was, that at first the sore was supposed to be "soft," but that it indurated after a month or two, and would not heal. No specific was used until it had been present nearly two months. The glands in the groin enlarged and became hard, but there was no threatening of suppuration. At no time was any definite eruption observed on the body, and although the throat was sore, the medical attendant did not consider it was characteristic. The glands in the groin subsided, and at the

time that he consulted me there was nothing very definite. The patient was a man of dark complexion and was in excellent health.

The case next to be recited is (like others which have been given) one in which it was extremely difficult to say whether the sores were recurred chancres or the results of fresh inoculations. Their remarkable resistance to mercury and the appearance of satellite indurations while under treatment constitute also most exceptional features. Mr. —— first consulted me in 1882, and he had already been under treatment for symptoms which were in all probability syphilitic. He had had a chancre, which he had been assured was only "soft"; but there had been enlarged glands in the groin which did not suppurate, and a sore throat with loss of hair had followed. Having deserted the surgeon, who said that his chancre was not an infecting one, he was treated by another with mercury. Not the slightest trace of rash had ever been observed. When he came to me he seemed perfectly well, and I advised him to await events and do nothing more. During 1883, 1884, and 1885 he remained perfectly well. He was a man of thirty, of sound tissues. Such being the previous history, on December 29, 1885, Mr. —— was sent again to me by Dr. O—— on account of fresh chancres. He had two indurated half-dises in the roll of the reflected prepuce close to the corona. One was on the dorsum and one was on the right side, and both were most characteristically hard. One of them was not ulcerated at all, and the other showed in its centre a small ulceration, but had no secretion. These indurations had been present for about a month, and had, I was told, been getting harder and harder every day. One was in the exact site of the former sore, but one was in a part which had never been previously affected. He had been assured by a surgeon, before going to Dr. O——, that they were not true chancres. I took a modified view, and advised that he should at once commence treatment by mercurial inunction. This was done, and he also took mercury freely by the mouth. We found it very difficult to produce any effect, and

the indurations melted only very slowly. At the end of six weeks, when they were very nearly gone, and while we were still continuing the treatment, a third induration close to the left side of the frænum made its appearance, and developed a small but characteristic collar. The mercury was continued in increasing doses for about two months longer, and the gums were at that time slightly touched. The result was that all the indurations at length disappeared. There had not throughout been any induration of the lymphatic glands, nor any secondary symptoms. There cannot, I think, be much doubt that in this case the indurations were the result of fresh infection, and that their course was modified by the fact that the patient had had syphilis before, and by the facts of his sound health and the resistance of his tissues to the influence of mercury.

Recurrence of specific induration in the sites of three different chancres.—A man, who had had three chancres in 1902, came to me in 1905 (October 23) with recurred induration in the sites of all of them. One was at the upper part of the meatus, and the others were in the roll of the reflected prepuce just behind the corona, one on each side. They were quite separate from each other; all were as hard as cartilage. They had begun as indurations about six weeks before I saw him, and although free from ulceration at first, all had ulcerated. There was no enlargement of glands. Simultaneously with these recurred chancres, a small gumma had formed in the skin of one leg, and had ulcerated. The patient appeared to be in good health, and had no other symptoms. His original treatment had been prolonged over two years, inunction (on the Continent) and pills. He had been wholly free from symptoms for two years prior to the present ones.

Case illustrating the long latency of syphilis and the development of late tertiary symptoms. Recurring irritation in the chancre.—Mr. T. ——, aged fifty-two, was, when eighteen years of age, seduced, and had a sore and a bubo. For

these he was salivated. He was only a few weeks under treatment. He does not recollect any secondaries, nor had he any reminders until middle life. He married at thirty-two, and has now six healthy children. At the age of forty he consulted a surgeon for an eruption on his leg, who at once said that it was syphilitic, and cured it by specifics. Two years later the site of the original chancre became irritable again. After being an open sore for more than a month, it healed under treatment. At this date he took much iodide. His youngest child was born just before the sore relapsed. She has remained throughout in excellent health. For four or five years after this he was quite well, and then he had an ulcer on the left leg. Finally, he was sent to me for a large periphlebitic gumma in the left calf. He was at this date apparently in excellent health. It will be observed that all his tertiary phenomena were single and non-symmetrical. In each instance he was cured by specifics. Had the patient's social circumstances been different, it might have been suspected that the recurred chancre was rather a new infection. It will be observed, however, that some tertiary symptoms had preceded it, and that it was not followed by any secondary ones. I have also in two cases seen a similar relapse in chancres which had followed vaccination, and when consequently second contagion was impossible.

A case of recurrence after four years.—*Synopsis:*—Complete syphilis treated by mercury for three months; apparent cure; good health for three years; marriage; a healthy child; recurrence of induration in the site of chancre in the fourth year.

YEAR	AGE	DETAILS
1890	23	September: A hard chancre on skin of penis, followed by eruption and sore throat. He took mercury to beginning of December. In December in hospital with abscess in liver from dysentery (Bombay).

YEAR	AGE	DETAILS
1891	24	Successful opening into the liver abscess. In July he came to England and consulted me. No symptoms of syphilis then extant. No further treatment advised.
1892	25	Quite well. Living in India.
1893	26	Married in February. Both himself and his wife remained in good health.
1894	27	On July 17 an indurated chancre recurred in the site of the original one. It disappeared under mercury in three weeks. No fresh exposure had occurred. His wife was confined August 17. Both wife and child remained well.

In the case above scheduled I did not myself see either the original or the recurred chancre. Both were, however, seen by competent medical men, and about the facts there can be no doubt. We have to trust to the patient's testimony that he had not on the second occasion incurred any fresh exposure. He is, however, strongly corroborated by the circumstance that the recurred sore was exactly in the site of the former chancre, and that, too, an exceptional one—the skin of the penis near its root. It is improbable in the highest degree that a man should twice receive primary infection in this part and exactly at the same spot. The prompt disappearance of the second sore under treatment and the absence of secondary symptoms are also facts which support the belief that it was a recurred induration and not a new infection.

We have then an instance of recurrence of induration in a chancre-site three years and a half after cure of the first. The patient had in the interval enjoyed good health and needed no treatment. He had also become the husband of a woman who suffered nothing and the father of a child which showed no taint. Such facts favour the belief that the phenomena of the recurred chancre were in the main local, if not altogether so, and that they did not imply the continued existence of the virus in the blood.

Recurrence of induration in the site of a former chancre; remarkable resistance to mercurial treatment, but final cure during salivation.—A very remarkable example of a recurred induration which long resisted treatment occurred in the person of a Mr. ——. He first consulted me on April 5, 1888, being then thirty-five years old. It was eleven years since an attack of syphilis, and his motive for consulting me was that he was liable to herpes on the skin of the penis three times a year. In July of the same year, during my absence, he saw my son, who noted an induration in the site of the former chancre. Although Mr. —— confessed to having exposed himself to risk six weeks before, the diagnosis was a "recurred induration," and iodide of potassium was prescribed. The induration was in the frænum.

I saw Mr. —— on August 13, when all inflammation was gone and the sore quite healed. It was, however, still indurated. He had some eruption which was probably due to the iodide. There had been no other secondary symptoms. As I could not feel certain that the sore was not from a second contagion, I ordered mercury. At the same time I insisted that he should not marry.

On September 21 all induration was gone, and no secondary symptoms had shown themselves. He begged hard to be allowed to marry, as he had been long engaged and the day was fixed. I did not see him again for a year.

In October, 1889, he called on me and said that he had married, and that no constitutional symptoms whatever had shown themselves in consequence of the supposed re-inoculation.

After the last date I did not see Mr. —— until May, 1893, when he came to me with a very large and exceedingly hard chancre in the prepuce just to the right of the frænum. It had been present, he said, for several months, and had given but little inconvenience. His wife was advanced in her fourth pregnancy. They had three healthy children living, and his wife herself was quite well. On this occasion he denied any fresh exposure. The chancre was in the form of a collar, and as hard as cartilage. It presented ulceration, without secretion, in two spots. It was almost exactly in the site of the original sore.

From this date I had Mr. —— under treatment for nearly a year. The iodides and mercury in various forms were given very freely, but for a long time it seemed impossible to make any impression on the induration. Mercury was used both by inunction and internally, and at one time, in February, 1894, my notes state that he was salivated. At this date the induration was very much less, but it had not wholly disappeared. During the next two months it continued slowly to diminish and soften, and in May, 1894, I was able to record that it had quite disappeared. There had never been the slightest tendency to sore throat or eruption. Appended is a schedule of his case.

YEAR	AGE	DETAILS
1877	24	Contracted syphilis.
1878	25	Under treatment.
1879	26	Liable to recurring herpes on penis, but no other symptoms.
1880	27	
1881	28	
1882	29	
1883	30	
1884	31	
1885	32	
1886	33	
1887	34	
1888	35	Induration in site of former chancre; second contagion possible.
1889	36	Married; no constitutional symptoms.
1890	37	Wife well, and three healthy children.
1891	38	
1892	39	
1893	40	Came to me with another induration in same place.
1894	41	Salivated; induration disappeared only after long treatment.
1895	42	Well.

Case illustrating the difficulty of histological discrimination between tubercular and syphilitic lesions.—The case to which the appended illustration (Plate 8) belongs is one of peculiar interest. It was a typical example of the recurring chancre, and as such presents nothing exceptional. It afforded, however, the only opportunity which I have ever obtained for microscopical examination of this form of growth, and with results which at first were surprising. I sent the specimen immediately after excision to the Clinical Research Association, and received as report the statement that it was a well-characterised example of tuberculosis. The plate given was drawn from one of the sections, and is considered to display, not only in the presence of giant cells, but in the general arrangement of the structures or architecture, a good representation of recently developed tuberculous growth. Only one feature was absent: no bacilli were found. My reason for excising the part was the hope of determining the presence or otherwise of the spirochæte. This parasite was not found. The drawing may be left to explain itself, but I may here

add that the section was shown, without previous information, to several well-skilled histologists, who all pronounced for tuberculosis. Not being myself an authority on this subject, I abstain from adding any criticism beyond the statement that the case proves that, in absence of history, it is not possible to distinguish by the microscope between induration due to previous syphilis and induration due to tuberculosis. Thus we are left to the conclusion that tubercular changes can be proved only by the discovery of bacilli.

The patient was a gentleman whom I had treated four or five years previously for syphilis, the chancre having been near the free edge of a long prepuce. He had been quite without symptoms for three years or more, when induration began in the scar which had been left. He consulted a surgeon, who recognised "a recurred chancre" and prescribed mercury. After about a month's treatment without result, he was brought to me. I could only confirm the diagnosis which had been given; for induration was extreme, and it was exactly in the site of the former sore. Ulceration had set in at two points, but in the first instance there was none. As the part affected offered peculiar facilities for complete removal, I advised circumcision. This was performed, and the specimen sent, as I have already said, to the Clinical Research Association. To conclude the narrative, I may say that the parts healed well, and nothing further followed. The patient was at the time in good health, and there was little or no history of tuberculosis in his family. Appended is the report received from the Association :—

"This specimen has the characteristic structure of a recent tuberculous infection. The surface exhibits a fissure-like ulcer, beneath which there is a large area of young inflammatory growth. Scattered throughout this area are typical giant cells in great abundance. Many of them form 'systems' as in miliary tuberculosis, and in the centre of the area there is a distinct focus of caseation. Though tubercle bacilli have not been found in these sections, there can be no doubt of the tuberculous nature of the lesion.—Signed J. H. TARGETT."

In correspondence I informed Mr. Targett of the history of the case, and that I had sent the specimen

PLATE 8.—THE CHANCRE REDUX (SECTION)

In this drawing we have represented the conditions described in the case narrated at pages 183-85. Several good microscopic observers, as is stated in the text, pronounced the conditions to be characteristic of tuberculosis. There were, however, no corroborative facts, and there was no doubt that the induration was that of the recurrent chancre occurring in the site of a chancre of several years previously.

solely with a view to a search for the spirochæte. He adhered to his diagnosis, and told me that they had not made the special staining for the spirochæte because the disease was obviously tubercular. He added: "As to the nature of the lesion, I am quite convinced that it is now tuberculous, whatever the former chancre may have been." The director of the Histological Department at the Polyclinic, Capt. Pinch, was equally with Mr. Targett confident in the diagnosis of tuberculosis.

The case appears to be of great importance, whether we regard it in relation to the recognition of tuberculosis or of syphilis.* It is obvious that it is useless to appeal to the microscope for differential diagnosis, whilst the facts suggest that in the hands of a self-confident observer an erroneous verdict may easily be recorded.

A further suggestion may perhaps be permitted: that, after all, in these cases the two agencies are at work together, and that a latent tuberculosis modifies a more recent syphilis. I have already expressed the belief that in "syphilitic lupus," "rupia-lupus," a partnership of this kind exists.

* On this subject Dr. Macleod has the following important passage:—"The differentiation by the microscope between the granulomata of syphilis and tuberculosis is always difficult and in some cases impossible; for example, in the syphilitic gummata when a histological architecture may be present which resembles that of a lupus nodule in every detail with the exception of the presence of the tubercle bacilli."

CHAPTER XVIII

ERUPTIONS WHICH OCCUR AFTER THE APPARENT CURE OF SYPHILIS

Mr. ——, aged twenty-four, came to me on September 12 for an eruption which I may describe as follows. It consisted of very faintly marked blotches of pink congestion. Most of them were about as large as the tip of the forefinger would easily cover, a few were much larger, and they were all nearly, but not abruptly, rounded. There were no rings. Stretching the skin or a little pressure, immediately removed all trace. Although to the naked eye they looked as if slightly furfuraceous, I could not on using a lens prove that such was the case. Mr. —— showed me first the fronts of his forearms, where these blotches were most numerous, but on making him strip I found that they were sparingly scattered with fair symmetry over the whole trunk and limbs. There were many on his buttocks and legs. It was on the latter that they had been first observed. They were so inconspicuous that they would have been overlooked unless carefully searched for, but they were nevertheless very definite when once noticed. Mr. —— said that they varied much at different times and that often he could not find them. He thought that they were usually most conspicuous when undressing for bed, and that a warm bath would make them disappear.

He had observed them first about three weeks before he came to me, but, as he remarked, they might have been there much longer, for they caused no irritation and were not noticed unless looked for.

Mr. —— had formerly been under my treatment for syphilis, and he said that he had once, soon after leaving off treatment, observed an eruption like that which he now had. It disappeared, however, in a few days without any special treatment. The facts as regards his original syphilis were as follows:

He had intercourse on April 10, 1893, and contracted first a profuse gonorrhœa; this was followed by an ulcer which destroyed the frænum and then indurated. He was sent to me on May 16, when I recognised specific induration in the frænal sore and at the meatus, together with hard glands. He had then no secondary symptoms. (It was only five weeks from the date of contagion.) I prescribed the grey-powder pill, and six weeks later I recorded that the sore was quite

healed but still indurated, and that the inguinal glands were hard. He had had no definite eruption and only a suspicion of a sore throat. Four months later still (October 21) all traces of the chancre had disappeared, but the glands were still hard. No secondary symptoms had occurred, but his right tonsil showed some persisting films ("snail tracks"). After taking mercury for about eighteen months he was allowed to leave it off as he appeared to be quite well, having for a year been free from symptoms. He had never taken mercury freely, that is, never more than a single grain of the H.c.H. three times a day. Had he been exclusively under my own care I should probably have made him take more.

Comments.—I have thought it worth while to describe this case in so much detail because it offers a good example of a common but very curious phenomenon. It would appear that syphilis, even after very prolonged treatment and apparently successful suppression, leaves the vascular system of the skin (and presumably of other parts also) liable to local congestions of a passive kind, which develop symmetrically, but show no tendency to run into any more serious forms of eruption. These congestions are easily influenced by slight local changes, as of temperature or of pressure. They are often very transitory and may disappear without treatment. When they persist they are almost always easily made to disappear by a few doses of mercury. They are not attended by any concomitant symptoms of syphilis, nor do they apparently lead to anything else. Yet they must probably be counted as proof that the disease is not wholly cured.

Two cases of recurring erythematous eruptions on the trunk at long periods after syphilis. —Two patients called on me on January 11, 1887, whose conditions and previous histories were precisely alike. Both were in perfect health, and both had a dusky erythematous eruption on the trunk and upper limbs. The same words would describe the eruption in each. It consisted of blotchy, ill-defined patches, from the size of a threepenny-bit to a sixpence, of a dull purplish colour, and disappearing very easily on pressure. In neither patient did the rash itch, and each declared that he should not have known that it was there if he had not seen it. In both it was most

conspicuous on rising in the morning. In neither was there any history as to new vests, or of sleeping in the vest, or any other probable source of local irritation. The weather was cold.

In the case of Mr. —— it was three years and a half since the syphilis. He took, under my advice, small doses of mercury for nearly two years, during the greater part of which time he was without symptoms. He was the subject of albuminuria, and we always gave mercury carefully. During most of the time he was going about as usual, hunting, etc., regularly.

In November, 1885, I told him to leave off his pills, it being then two years and a half since the disease. On January 30, 1886, he came to me with a blotchy erythematous eruption, very faint but quite definite. It was limited to the vest regions, but he had not had any new underclothing. He was suffering from a bad cold when it came out. I gave him the mercurial pills again, and on February 20 my notes state that all traces of the eruption had disappeared. We again left off the pills, and I saw no more of him until exactly a year later, when he came, as already described, with a recurrence of a precisely similar eruption.

The subject of the second case was Signor ——, an Italian gentleman, aged about forty-eight. He had been under my care for a relapse of syphilitic eruption in April, 1886. He got quite free in two months under mercury. His original syphilis had occurred a year before. On September 16 he had been two months without any medicine, when a copious erythematous blotchy eruption appeared on the whole abdomen and chest. Small doses of mercury were again given. The rash vanished in a fortnight, and he did not let me see him again until, in the following January, he came with another relapse of the eruption.

I do not think that in either of these cases there can be any doubt that the eruption was at any rate predisposed to, if not caused by, the previous syphilis. As in the other cases which I have mentioned, there were no concomitant symptoms of persisting taint, no sore throat or periosteal pains. The eruption was a

very trifling ailment, disappearing directly under treatment, and showing no tendency to advance beyond the stage of erythema. That its location was influenced by the irritation of the vest seems very probable, though nothing definite could be made out in this direction.

It is a speculation of some interest as to the possible occurrence of similar states of congestion in concealed parts in the intermediate or tertiary stages of syphilis. They are well known in the case of the tongue, and it may be that the brain, spinal cord, periosteum, etc., are liable to slight congestions, which have a tendency to return after long intervals, and are easily relieved by treatment. Obviously such congestions are wholly different from inflammations which are serpiginous or which produce growths of the nature of gummata. Nor must we too confidently infer, because they disappear when mercury is given, that they are in any connection with active syphilis. It may be that it is not as an antidote to syphilis, but in virtue of its influence as a tonic to the vasomotor system and the capillary circulation, that this variously efficient remedy acts. Many facts support such an hypothesis; we may confidently expect elucidation by modern methods of research. Meanwhile we must carefully avoid the every-day fallacy of believing all things syphilitic which mercury will cure.

CHAPTER XIX

RUPIA AND LUPUS

Position of rupia amongst the phenomena of syphilis, and on rupia-lupus.—It is not needful to attempt to produce proof, by the citation of cases, that rupia does really occur in the early periods of syphilis. It is desirable, however, to say a few words as to what is meant by rupia, and as to the conditions under which, chiefly, this peculiar and rare form of eruption is produced. We must not confound, under the name of rupia, all conditions attended by ulceration and crust; for this would allow the inclusion of certain lupoid affections which do certainly, as a rule, come much later. By rupia we mean an eruption consisting of many distinct sores, which often begin as bullæ, and which tend to the production of conical crusts. There is ulceration of the skin beneath, but it is seldom deep, and there is a certain amount of infiltration, but never much. The face and limbs are its usual sites. Its sores are always round, unless two or more have become confluent, and it leaves round scars. The very fact that it is usually symmetrical sufficiently denotes its position as one of the secondary phenomena; but, although I claim that such is its place, it is to be clearly admitted that it is never one of the earliest. Usually, I think, the ulcerating forms of eruption, of which rupia is one and ecthyma another, occur after a certain amount of treatment, and after the first eruptions, which were erythematous or papular, have quite disappeared. Often there has been an interval of health, during which all treatment has been laid aside. Very often a peculiarity in the diathesis of the patient has been implied by the fact that his chancre inflamed and ulcerated. Thus a scar-leaving eruption often follows a scar-leaving chancre.

The belief that the occurrence of rupia, or other ulcerating eruption, makes it desirable to avoid mercury and to use only iodide of potassium is, I hope, fast losing its hold. Although, unquestionably, mercury does sometimes disagree in such cases, we know that it is chiefly a question of dose and mode of use, and that when these are well arranged it will almost always cure. The addition of arsenic is often of great value.

A rupial sore, as a rule, is not serpiginous : it does not creep at its edges ; its crusts, when typical, are always circular. The shilling-like scars which it leaves are well known. There is, however, another and an allied condition, possibly sometimes a direct consequence, in which the morbid process is allied to lupus. In this the round form of the sore is lost, for the inflammation spreads at its edges by local infection, and allows healing in the centre. Thus a horse-shoe form is assumed; or it may be that large irregular patches with crescentic edges become involved. This condition ("rupia-lupus") may last indefinitely unless carefully treated, and it often does extend over several years. It seldom, I think, originates *de novo*, as a genuine tertiary, many years after the secondary symptoms have all disappeared, but is more commonly a sort of continuation of an imperfectly treated eruption of early date. It has usually ceased to be a generalised eruption, is no longer arranged with any tendency to symmetry, and is often more amenable to local than to internal treatment. In all these features it occupies a transition position. The following narratives are illustrative :—

Severe syphilis ; rupia as a secondary eruption.—An example of a most severe secondary eruption occurred in the case of a Mrs. ——, whom I visited in consultation with Mr. Mills, of Covent Garden. She was confined to her bed, and covered from head to foot by an ecthymatous and rupial eruption. Some of the scabs were heaped up in the limpet-shell form, but smaller in size than the more typical forms of the rupia crust. She had been ill about six weeks. Her tonsils were ulcerated, and the pharynx was so sore that she could hardly swallow. She was rapidly losing flesh.

The history was interesting. Her husband had about four months before shown himself to Dr. Mills with an eruption on his abdomen and chest, which Dr. Mills had at once pronounced

to be syphilitic. Mr. —— denied having had any chancre, and submitted to examination, with the result that no trace of chancre could be found. He had, however, some weeks ago observed slight discharge from the urethra, and redness at the orifice. Under Dr. Mills' treatment by mercury the eruption soon vanished, and when we met in consultation he (the husband) had not a trace of disease left on any part. I inspected his meatus, and could find no indications of a sore. He quite admitted having been exposed to risk, but repeated that a little redness at the meatus, lasting only a week or two, was all that he had ever observed.

There was no history of primary sore in his wife. A rash was the first thing noticed, and this at first was mild, and soon disappeared under small doses of mercury with iodide. But as it was disappearing a relapse occurred, and the rupial eruption, which I have described, was developed. As regards this, Dr. Mills had thought that the treatment made it worse, and for a time desisted. There were enlarged glands in the groins of both husband and wife. The case subsequently proved most difficult of management.

These two cases well illustrate a fact of everyday experience, that differences in the severity of syphilis do not depend upon differences in the virus, but upon the idiosyncrasy of the patient. How often do we see that a disease which amounts to nothing in the husband affects with terrible severity the wife who receives her contamination from him! Sometimes the reverse is the case.

Case in proof that rupia may occur early, and illustrating other points of interest; "rupia-lupus."—A young gentleman in good health, who had never before had any venereal complaint, contracted disease in the autumn of 1870. He had a sharp gonorrhœa, which was treated. At the end of five weeks it was getting well, but the urethral meatus, which had been very sore, now began to ulcerate deeply. The chancre (for it was clearly such) became phagedænic, and the surgeon applied nitric acid and also gave mercury. The patient took the latter only for about a fortnight, when, as he was slightly salivated, it was left off and never resumed. The sore required much further local treatment, and did not heal for ten weeks. After it was healed the patient thought himself well for a month or two, and all treatment was laid aside. Next he had a crop of mucous tubercles on the scrotum and thighs, with sore throat. Then suddenly out came a terrible crop of rupia. The exanthem stage had probably been delayed by the use of specifics, and thus it came five months after the disease was contracted, instead of two, as it would have done had it been allowed to develop unchecked. For the rupial rash he was attended at home by a very able surgeon at Bristol, and full doses (twenty grains three times daily) of the iodide were given. He was for a time seriously ill, and was covered with large and deep ulcers. On the scalp, especially, the sores went very deep,

but they never actually laid bare the bone. Under iodides, with various modifications, he slowly improved, and when nearly well took a voyage in the Mediterranean. Here he relapsed, and subsequently he returned home, covered with patches of ulcerating tubercles. Let us note that the severity of the rupia had now quite passed, most of the former ulcers showing round white scars. What he now had was a kind of eruption which occurs sometimes as a true tertiary, and not infrequently as intermediate between the secondary or exanthem-stage and the tertiary phenomena. It is a sort of cross between rupia and lupus. It consisted in this instance of large patches, ranging in size from a crown-piece to the palm of the hand, or even larger; tubercular and pustular at their borders, and healing in their centres.

The patient whose case I have described above came under my care, for the first time, twenty months after his chancre. He then had numerous large scars of rupia, and many large patches of the serpiginous tubercular eruption which I have described as "rupia-lupus."* He had no disease of the mucous membranes or throat. He finally recovered.

Two cases in which severely ulcerating rupia occurred after the first outbreak of secondary eruption had passed away.—There is a very severe form of rupia in which the ulcerations are deep and coalesce over large surfaces, and the crusts thus lose the typical limpet-shell form. Of this I have seen but

* It is necessary to define our terms if we would convey our meaning with precision. By *rupia* I understand a form of dermatitis which is attended by vesicles that rapidly become bullæ, and, ulcerating superficially, form pus-crusts of limpet-shell type. Its ulcerations and its scars are never deep, and always round. It differs from pemphigus—of which it is, perhaps, a syphilitic variant—in that the latter does not ulcerate or form limpet-shell crusts and does not leave definite scars. From ecthyma it differs in that it begins as a vesicle, not as a pustule, and is attended by much less infiltration of the corium and less deep ulceration. Under the general term *lupus* or *lupoid* I designate all forms of chronic serpiginous dermatitis which spread indefinitely, destroy the integrity of the corium and leave scars that involve it. The patches are irregular in shape and usually non-symmetrical in distribution. The scars left are never round or of the nummular type. To the substantive term lupus, which signates a morbid process easy of clinical appreciation, may be added any suitable adjective demanded by pathological knowledge or habitual usage; but it is, I think, not convenient to insist, according to modern innovation, that "lupus" shall mean exclusively lupus vulgaris or the lupus of tuberculosis. At the same time, I am convinced that in most cases of "syphilitic lupus" there are tuberculosis antecedents, and that the conditions result from a pathogenic partnership.

very few examples, and the two which have made the most impression on my memory were almost exactly alike. The violence and the suddenness of the second outbreak were in each case most marked. The first occurred to me at the London Hospital, some forty years ago, in the person of a young man. I had treated him for a mild attack of secondary symptoms with the usual papular eruption, and he had got, apparently, quite well. He desisted from treatment, and I lost sight of him for some months. At the end of that time he came back with a vesicular and bullous eruption just beginning on his face. In conformity with the opinion of those days that mercury ought to be avoided for such eruptions, I gave him the iodide of potassium. The eruption blazed up with extraordinary quickness, and in the course of a week his whole face was covered with crusts; there were many also on his limbs. He became extremely ill, was confined to bed for several months, and was so much emaciated that we thought he would die. At first a mixed treatment of iodide of potassium and mercury was used, and for a while this seemed powerless. Ultimately, under the influence of mercury alone, the man recovered, but with a lamentable amount of scarring. Almost the whole of his face was involved in scars, and his lower eyelids were displaced downwards.

The exact counterpart of the above case came under my observation some years later. A young gentleman of fortune suffered from primary disease at Christmas, 1884. He had a sore, which was both exceedingly hard and deeply ulcerated. This sore healed under the influence of full doses of bichloride of mercury, leaving a deep depressed scar in the glans. In April, after about three months' treatment, the remedy was laid aside, as the patient appeared in excellent health, and had had neither rash nor sore throat. Through the summer he remained well, but towards the end of September what he described as "a slight red rash," which lasted only a few days, occurred on the chest. So far as is known, no specific treatment was used for this. No sooner had it faded, however, than some blisters appeared about his

lips, and, spreading with great rapidity, in the course of ten days or a fortnight covered his whole face and neck. At the same time others appeared on the buttocks, and a week or two later over all his limbs. The trunk, with the exception of the buttocks, remained free. The bullæ then became confluent, and heaped-up crusts, covering areas as large as the palm of the hand, were formed. The ulceration was deep, so much so that on the back of one hand the tendons were exposed. For nearly a month the disease continued to develop, in spite of the use of specifics. The patient was confined to bed, and was in the most loathsome condition. He became exceedingly emaciated. The treatment under which he finally recovered was the use of the bichloride of mercury in doses of one-eighth of a grain with five grains of iodide of potassium, the sores being dressed with a weak nitrate of mercury ointment.

During the period to which the above notes refer the patient was not under my care, but he was treated by a very able surgeon.

When I saw him (for the first time) in the early part of December, 1885, he was still confined to the house, though not to his bed. His face, with the exception of two small patches, one in the middle of each cheek, was wholly involved in scar. The lower lids were everted and dragged down to the utmost possible extent. The alæ nasi were destroyed, and the contraction of the scar around his lips had everted the prolabia, and so fixed his mouth that he could with difficulty open it. The cicatrisation of the skin of his cheeks had so much contracted them that it made the mucous membrane bulge between his teeth, so that he bit his cheeks in eating. The scars left on his neck, shoulders, arms, and hands were very peculiar; few of them were quite round, but all were abruptly margined, and in many cases it was clear that they had resulted from a confluent group of bullæ. Most of them were slightly raised, and looked as if they were in an early stage of keloid; but I was assured that their thickness was diminishing, and not increasing. The majority were of a deep purple colour, but a few were quite pale. The scars on the legs were

Plate 9.—Lupoid Syphilis

This plate is a reduced copy of an excellent one published by Dr. Taylor, of New York. The patient was a young man who had suffered from syphilis for two years. The eruption occurred on the face and on the front surface of the trunk as well as on the back. Dr. Taylor writes: "The lesions began as small tubercles scattered quite profusely over the trunk. These tubercles increased in area, and, when about an inch in diameter, absorption took place in the centre, leaving a more or less atrophic patch contained within a well-marked morbid ring. From this time the lesion progressed in this ringed form very much as the serpiginous syphilide increases. . . . These large gyrate annular patches . . . enclose integument which is somewhat atrophic from interstitial absorption, not from ulceration. . . . In the end a whitish, somewhat thinned skin was produced."

Respecting the type of disease illustrated, Dr. Taylor remarks: "This lesion is very apt to become chronic and indolent, to resist treatment unless it is very vigorous. . . . In this instance large rings may be seen on the shoulders, showing a tendency to creep down the arms."

It may be allowable to suggest that this eruption has its close parallel with what is sometimes seen in multiple lupus of non-syphilitic type, and which is well illustrated in my smaller Atlas. In its tendency to spread at its borders indefinitely (serpiginous) and to leave scars, it is clearly allied rather to lupoid (tertiary) affections than to those of the secondary group. It differs only in non-essential features from the well-known "horseshoe patch."

PLATE 9.

say that almost all the tertiary affections of the skin are of a lupoid character. I mean by this that all are serpiginous, all unsymmetrically arranged, and that all leave scars. We have done with roseola, psoriasis, lichen, and even with rupia; and if the skin at this stage suffers at all, it will usually be from a tubercular affection which creeps at its edges, persists indefinitely unless cured by treatment, and leaves scars. It is, in fact, an infiltrating and serpiginous gumma of the skin. This generalisation is a most important one, as giving us a clue to the character of the affections of the viscera and other deeply seated parts (hidden from view) which occur in this stage. They, like lupus, may be serpiginous, the cell-growth tending to infect the edge of the patch and thus cause persistent spreading. This pathological hypothesis would well explain what we witness in such affections as ophthalmoplegia externa, in which we find indications of slowly spreading central disorganisation, and corresponding external paralysis, the process often going on for years. The same remark applies to locomotor ataxy, concerning which it is to be admitted that it is usually of specific origin. All are locally serpiginous.

Not only are all the varieties of common lupus often closely simulated by syphilitic affections, but we have, as I shall have to show subsequently, very deceptive imitations of the conditions known as lupus erythematosus. In explanation of this close simulation of the different forms of lupus in the subjects of syphilis, the suggestion seems plausible that the tubercle bacillus enters into symbiotic combination with the cell structures under the influence of the syphilis. We were one day investigating at the Polyclinic one of the severest cases of lupoid syphilis which I have ever seen. The man was asked as to the health of his brothers and sisters. "I have none living," he replied; "they have all died of consumption." Very similar testimony has been offered in many other cases.

Syphilitic simulations of lupus erythematosus.—The imitation of lupus erythematosus which may be

produced by syphilis is one of unusual interest as an example of pathological law. Not only are the local process and clinical course closely simulated, but the special regions affected by the one are precisely those chosen by the other. It may affect symmetrically the nose and both cheeks and the concha of each ear. It may simulate the non-specific form so closely as to deceive even the most skilful. On the other hand, when once suspicion is awakened, there are generally minor features of difference to be noticed. The syphilitic form is as persistent as the common one, unless properly treated, and in some cases is just as slow in progress. It resists specifics often in a remarkable manner. Although, however, it refuses to be cured, it is probably always much restrained and modified by specifics.

I have seen many cases in which the features of lupus erythematosus were approached more or less closely by an inflammation of the skin due to syphilis, but I shall, for the present, content myself by describing in detail only two. Before doing so, I may remark that in the case of one of the most typical of the examples of common lupus erythematosus published in my Lectures, the patient was a gentleman who had suffered from syphilis, and who was constantly urging me to treat him with reference to it. He had in the interval had a large healthy family; the chilblain tendency, and the injurious influence of exposure to cold, were in him so marked that I always refused to entertain a suspicion of specific taint. I may here remark that it is, I believe, always the existence of a chilblain tendency which predisposes a patient, when suffering from syphilis, to exhibit a counterpart of lupus erythematosus. In this fact we have an important proof of the influence of pre-existing idiosyncrasy in modifying the events of syphilis.

The first case which I shall mention is that of a Mrs. ——, a comely woman of forty-two, in good health, and free for long from all indications of syphilis, excepting her lupus. She had been twice married. In the first instance, she was at the time twenty-three years of age and in perfect health, but

liable to suffer much from chilblains. Within a few months of her marriage she became the subject of syphilis and had a severe eruption. So far as she can remember it (it is now seventeen years ago), the patches on her nose and in her ears were left when the rest of the symptoms cleared off, and were therefore part of the secondary phenomena. (This, I may remark, is exactly the history given by my other patient, whose case I shall next relate.) The secondary eruption would appear from her account to have been followed by lupoid sores on various parts. She had them on her thighs and legs, and they left scars. She was several years under treatment; indeed, she has taken medicine, on and off, almost ever since.

At the time of writing, after being under my care at long intervals for eighteen months, Mrs. ——'s condition is as follows: The bridge of her nose is occupied by a scar, which is quite sound at the lower part, but at its upper part and sides presents a red erythematous border. It is a little thicker and more raised than that usually seen in lupus erythematosus. It extends on the sides of nose just to the cheek, and is quite symmetrical, but the cheeks themselves are not involved. There is no active disease at present in either ear, but the whole of the left ear, the helix as well as the concha, is in a condition of thin scar. In the right ear the scar exists only in the concha.

The whole of the lower lip, both prolabium and skin, is involved in a thin scar, which has a spreading erythematous edge. Here, again, the edge is a little swollen, and presents, in parts, a thin crust. I do not think that anyone looking at this lip would hesitate to pronounce the disease specific, although it might be difficult to mention any particular phenomenon in which it differed from erythematous lupus.

The same remark applies to the nose. There is more of inflammation in the parts still involved in disease, and a more depressed scar in those which it has left, than are usually seen in common lupus erythematosus.

As regards the ears, there is also a feature of difference, in that on the right side the whole of the

outer ear has been brought into the condition of a thin scar and every trace of erythema has ceased. This extensive spreading and complete cessation are, I think, seldom seen together in the non-specific form of the disease.

One might have been tempted to say that a feature of difference was to be found in this case in the extreme slowness with which the disease had spread. This would be, however, in all probability, a mistake, for its slowness has been due simply to the fact that the patient has been constantly under treatment, and the disease repeatedly all but cured.

What I particularly wish to draw attention to in this case is that we have in it an example of a lupus-like form of serpiginous inflammation of the skin, certainly due to syphilis, but arranged on the pattern of lupus erythematosus. Thus, it began on the middle of the nose and spread on its sides, and next appeared symmetrically in the concha of each ear. Its persistence during fifteen years is a very remarkable feature of resemblance; especially when we note that it has held its ground in spite of long-continued specific treatment. Had it not been treated, however, probably it would long ago have covered the whole face, and it is to be remembered that in the ears and on the hands and other parts of the body the remedies have effected a complete cure. Only on the nose and lips does the disease still persist.

Our patient, although now appearing to be in good health, suffered very much from chilblains in early life, and one of her sisters had glandular abscesses. In these facts as to the constitutional predisposition we probably have the explanation of the peculiar character which her syphilitic eruption has assumed.

I must add, respecting treatment, that in my hands the cauterisation of the patches with the acid nitrate of mercury effected far more in the way of cure than several months of administration of the iodide of mercury had done.

My next case is one in which the features of lupus erythematosus were still more closely simulated. The

resemblance to the common form was indeed so close that for some time I mistook the case, and even to the end there might be held by some observers to be a doubt as to whether the disease really was specific. I can give no better proof of the closeness of the simulation than the mention of this doubt.

Lupus erythematosus on nose and in ears, possibly syphilitic.—In this case, I believe, the patient, a woman aged about thirty, was shown at the Museum at the time of the International Congress as an example of lupus erythematosus, and without any criticism. She had then a patch covering the greater part of the nose, and symmetrical patches in the concha of each ear. I was not then aware that there was a history of syphilis; it was supplied subsequently by a surgeon who had attended her, and who had been treating her for periostitis of the skull up to the time of admission under my care to the Hospital for Skin Diseases.

From the date of the Congress, in 1881, to January, 1884, I did not see her. But during the interval she had been on and off under Mr. Tay's care, and had taken iodide of potassium and arsenic for long periods. The result had been that the disease had been to a large extent cured. The patches in the ears were now simply in the condition of scar; on the nose there was a considerable scar, and near its edges were three or four distinct crescentic patches of lupus. It was difficult to say that these patches differed definitely from lupus erythematosus, but there was rather more of thickening and less of surrounding erythema than is usual in that disease. The scar that had been left was attended with more depression and was much more conspicuous than those usually seen after lupus erythematosus. It appeared probable that the disease had been kept in check, but never quite cured, by the iodide of potassium treatment. I suggested that as a sort of test of the disease we should cauterise the patches. This was done on February 4, 1884, and with excellent results. The patient at this time was in good health, and the tendency to nodes had long since ceased. The history

was that she had had sore throat and eruption about three years before her first admission to the hospital, in 1881, and that when the eruption disappeared, the spots on her nose and in her ears were developed.

A general eruption of multiple lupus of syphilitic type in seventh year of syphilis coincidently with nodes on skull and immediately following enteric fever; cure by specifics.—Mr. ——, December 8, 1896. Enteric fever in June last kept him in bed six weeks, but it was not a very severe attack. (In India.) As he was recovering from the fever he observed "a sort of pustule" on his left thigh near the knee. This pustule was followed by others, and "a cluster" was produced. Within six weeks a general eruption had developed, which affected chiefly his limbs, but did not wholly exempt his trunk. Everywhere the eruption was of the same type, a sort of half-pustular lupus, the patches spreading at their edges and producing depressed scars in their centres. The original one was still the largest, and was as big as a crown-piece. The others varied in size from shillings to fourpenny-bits. Although bilateral and general, they were not accurately symmetrical, in this respect corresponding with what we observe in multiple common lupus. A brother, older than himself, had died, *ætat.* thirty, of phthisis. The subjoined schedule exhibits in orderly arrangement the facts of the case:—

YEAR	AGE	DETAILS
1890	21	Syphilis, complete. Took mercury some months.
1891	22	Well; no reminders.
1892	23	
1893	24	
1894	25	In India; well.
1895	26	In India; suffered from malaria.
1896	27	Enteric fever (India). A general lupoid eruption.
1897	28	August 6.—Quite well.

Syphilitic lupus affecting the penis.—In the case of a Mr. ——, aged twenty-nine (February 9, 1884), who had suffered from syphilis eight years pre-

viously, the skin of the whole penis and pubes was implicated in lupus and reduced to the condition of scar.

Lupoid affection of the glans penis, probably in connection with syphilis.—I attach considerable importance to the generalisation which I have ventured to make in other parts of this work, that almost all the really tertiary affections of the skin and mucous membrane are lupoid in character. By this it is meant that they are attended by a process of cell infiltration which is contagious to the adjacent parts, and that they spread at their edges indefinitely, leaving scars where healing has taken place. Sores of this kind are never seen in the secondary stage (with the rarest exceptions), whilst they are very common at periods of from five to twenty years after the primary disease. The mucous membranes, as well as the skin, are sometimes affected by this form of serpiginous inflammation. The difficulty of diagnosis always concerns common lupus, and in many cases it is quite impossible, apart from history, to determine whether the disease should be considered specific or not. I have seen it occasionally on the glans penis. A marked example of this came under my observation in the person of a surgeon-dentist. His glans showed large patches, slightly raised, and of a dusky reddish-yellow colour, but not ulcerated; where the inflammation had subsided a scar was left. It had been present and slowly spreading for three or four years. At the first consultation I expressed my conviction that it must be syphilitic, but my patient assured me that he had never had any disease. He admitted, however, that he had once consulted a surgeon for sores in the throat, and had been assured that they were syphilitic. On the second occasion I obtained better evidence. He then told me that he had suffered about twenty years ago from a very troublesome sore on one finger, which had been caused by an injury from one of his instruments. It remained open for three months, and a surgeon who saw it thought that it must be a chancre. Not long after this he married, and his wife and himself had bad sore throats at about the same time. His wife bore

fifteen children, of whom, however, only four were born alive, whilst of these four only two were reared. Such facts left but little doubt that he was really the subject of syphilis, and that his lupoid patches were in connection with that taint.

Syphilitic lupoid affection of the glans penis.—There is an exceedingly troublesome affection of the glans penis which occasionally follows some years after syphilis, and which is, I think, a variant of lupus. It consists in the development of yellowish-brown spots, which coalesce into patches and spread at their edges. Sometimes they ulcerate and form crusts, but I have never had any trouble with cases in that condition. They usually heal quickly under syphilitic treatment and the use of an iodoform ointment. When, however, the patches are perfectly quiet and show only a little thickening and yellow-brown discoloration, then I have found the condition very difficult to influence by either local or internal remedies. In this it much resembles the more chronic forms of psoriasis palmaris as we see them after syphilis. In both these affections mercury should be pushed to salivation.

I cannot better illustrate these very troublesome affections than by quoting the case of Mr. ——. Our patient was a healthy man of fifty-six years. He had had syphilis thirty years before. Four or five years ago his prepuce became exceedingly irritable, and, as he described it, looked white on the under surface when reversed. To relieve him of this trouble he was circumcised three years ago, and had ever since kept the glans exposed. The parts, however, never got quite sound, but continued thickened and very irritable. On March 3, 1906, I saw him for the first time.

His condition at this latter date was as follows: The exposed glans showed patchy excoriations at various parts and some irregular superficial scars. The remains of the prepuce, more especially near the frænum, were much thickened, and near to the meatus there was a small ulcer. The excoriated patches showed crusts which would detach themselves every few days. He

described the irritation as sometimes intolerable, and, as is often the case with pruritus of the vulva or anus, he located it in certain definite spots. One of these he was very desirous that I should cut away, although really it was only a little thickened. He had no skin disease, excepting a little seborrhœic eczema on the scalp.

I advised him to protect the exposed glans by a wrappage, to take mercury and iodide, and to use locally an iodol ointment.

A fortnight later I increased the frequency of doses. Six months later he was well. We had pushed the mercury to slight ptyalism, and no very definite improvement had occurred until this effect was produced.

CHAPTER XX

SYPHILITIC AFFECTIONS OF THE TESTICLE

The testicle, in common with other organs and structures, is liable to two forms of syphilitic disease. In the earlier periods it not unfrequently suffers from diffuse cell-infiltration, attended with indications of a more or less pronounced state of inflammation. In the more remote tertiary periods it is often the seat of massive depositions which more nearly approach neoplasms. There may be all gradations between the two. Indeed, it is probable that infiltration always precedes the larger gumma. The subjects of inherited taint are, in relation to their numbers, equally prone to syphilitic sarcocele, of the latter form, with those in whom the disease is acquired, and precisely similar conditions may be met with in both.

Chronic enlargement of the testicle.—The form of disease most frequent is a diffuse gummatous infiltration of the gland itself, occurring from two to four years after the primary symptoms. The gland may attain a great size, and is usually evenly rounded. Sometimes only one testis is affected, and sometimes both. The tumour in many cases feels lighter than in any form of new growth, and even than hydrocele, but in others this is not so. The vas deferens is seldom thickened. However large the tumour—and it may reach the dimensions of two fists—there is always much hope that it may be reduced to normal bulk by specific treatment. This form of chronic sarcocele may have various terminations. The most ordinary one is complete resolution, leaving the gland somewhat indurated and lumpy, but still more or less competent for its functions. In other cases softening and abscess may occur, and in others a condition of fibroid atrophy. Although the most usual

time for the syphilitic testicle is about the end of the second year, it may happen either much earlier or much later. The earlier it occurs the greater is probably the risk of suppurative inflammation. In the very rare cases in which it is met with amongst the secondary phenomena, it is almost always associated with great severity of the disease, and with tendency to acute inflammation. I have seen both testes inflame and enlarge enormously in association with a severe rupial eruption and phagedænic ulceration of the nose. Abscess occurred around the testes, and on both sides the gland was exposed. These conditions developed within six months of the chancre, and before it had quite disappeared. The patient recovered well under specifics, but was left covered with the scars of his rupia. In another case, in which a man died with syphilitic infiltration in the muscular substance of his heart and whilst his secondary eruption was still out, we found similar disease in both testes. Ricord states that he has seen the testis affected in syphilis as early as the fifth month, and Berkeley Hill records a case which occurred in the sixth month in association with rupia and periostitis. Dr. Colcott Fox has published a case in which a boy of five had contracted a primary sore on his lip. Before the chancre had disappeared and while the eruption was still out, inflammation of one testis occurred. The gland became dense and hard, but was painless.

In all the cases just referred to, the body of the gland was the part chiefly or solely affected. Many observers have noted, in the secondary stage, slight enlargements of the head of the epididymis, which rapidly disappear under treatment.

As a rule, the vas and the epididymis escape implication; but there are many exceptions, and we can by no means rely upon the position of the deposit as a means of diagnosis. It is often exceedingly difficult to distinguish between tubercular disease and syphilis, and the same terminations may await both, with the exception that specific treatment generally shows marked effect in those cases which are due to syphilis.

In cases in which the vas is enlarged, examination should always be made as to the state of the urethra. Cases occur in which there is a troublesome stricture, and in which enlargement of the vas appears to have preceded the orchitis and to have spread from the urethra, and yet the resulting disease of the testis is of a syphilitic character. In these cases we may believe that the urethral irritation takes the part of an exciting cause, and brings out disease which, but for it, might never have been developed. In such it is necessary to treat both the constitutional taint and the local cause.

There are certain rare cases in which the vas and the epididymis alone suffer, and without any evidence of urethral disease. The vas behind the testis may become greatly thickened and convoluted, without any tendency to abscess or formation of any lump, and may so remain for months or even years together. In some of these cases the history of syphilis is not clear and the effect of specifics not definite, but I believe still that they are usually in that connection, and are to be cured only by efficient mercurial treatment.

Occurrence of syphilitic disease of the testis after long periods of health.—Syphilitic disease of the testis may vary extremely as to the conditions of inflammatory action which attend it. As an example of one of the slightest forms I may mention the case of a gentleman who consulted me many years ago for a few white patches on his tongue. They had developed rather suddenly, and they quickly disappeared under iodide of mercury. He had gone through syphilis about seven years previously. Six months after leaving off the treatment for his tongue, he came with a lump as big as a hazel-nut in one epididymis. It felt as much like tubercle as gumma, but it vanished so quickly under specific treatment that there could be no doubt as to its real nature. It is now thirty years since this occurred, and the subject of the case has ever since led a most active life, and been wholly free from indications of relapse. Few men have used their brains more vigorously and unintermittingly than he has, yet he has

never induced the slightest symptom of disease in his nervous system.

The testis is one of the organs which are not unfrequently attacked suddenly after prolonged periods of absolute latency, and it sometimes happens that other organs or structures soon follow in the same course. The two following cases, in both of which lung disease resembling phthisis occurred simultaneously with syphilitic sarcocele, present features of great clinical importance.

A gentleman, aged twenty-four, contracted syphilis in Ceylon. He had rash, sore throat, and loss of hair. He was treated with mercury and iodides for six months and got quite well. During the six years next following he had perfect health and never took a dose of medicine. Then occurred his first attack of malarial fever, and whilst it was on him his right testis swelled. An abscess formed and was opened; the result being that two months later the whole testis was extruded from the scrotum. In this condition specifics were commenced, and a complete cure resulted, though with a somewhat hardened gland. After a while, however, the other testis enlarged. It also subsided under treatment, but was left much indurated. About six months after the first disease of the testis he had hæmoptysis, and spat up half a pint of blood. This recurred a month later, and he lost flesh, and was thought to be in consumption.

He was under treatment for some time at a special institution for consumption, and was considered to have definite lung disease. On leaving this institution he came under the care of a surgeon who treated him for syphilis, and under the influence of mercury he got quite well, both as regards the chest and the testis.

Severe outbreak of visceral syphilis twenty years after the original disease; symptoms of lung disease and great cachexia; large sarcocele; good recovery.—A gentleman at the age of twenty-five had complete syphilis. He took mercury and got well. Having been free from symptoms for five years, he married. Four children were born, and remained healthy. He himself kept his health till he was forty-one, when he had an enlarged liver. Soon after this he had cough and expectoration, and became very thin. He was sent to

Italy for the winter. During the next year he continued feeble, and was then supposed to be the subject of chronic phthisis. When he was forty-four he was sent to Algiers, and on his return home was so ill that he was expected to die. Suddenly, now, one testis began to enlarge. He came to me with the testicle as large as two fists. Its disorganisation appeared to be so complete, and it was so serious an encumbrance to him, that I advised its removal. I was especially influenced in this decision by the fact that he had taken much iodide and was in very feeble health. The iodide had much benefited him as regards his chest, but had not materially reduced the enormous testis. Whilst waiting for his decision as to the proposed operation, I ordered mercury. Under this remedy improvement at once set in. The result was that his testis, after a few months, had returned to its natural size, and that all his chest symptoms had vanished. This cure was in 1882, and its subject was several years later in sound health.

A curious fact remains to be mentioned. It is this: that whilst under the mercurial treatment, and when the testis first involved was rapidly diminishing, the other began to enlarge. It increased to a moderate size, and then subsided.

There can be little doubt that in this instance the pulmonary lesions had been of a syphilitic nature. I cannot quote any stethoscopic data of my own, but the patient had been examined by distinguished specialists before he was sent abroad, and was considered to be the subject of advanced lung disease. Of this he has not now for several years had any symptoms.

The case may serve as a good example of what we not unfrequently witness: a severe outbreak of tertiary symptoms after a long period of good health. Nearly twenty years had elapsed, during which a healthy family had been born. Then the disease attacked in succession several viscera, the liver, the lungs, and the testis, not affecting any external part. The cure carries with it a clear lesson, that in all obscure diseases of viscera in those who have at some former time suffered from syphilis, we ought to try the effect of mercury as well as the iodides.

Gummata in the testes from inherited syphilis.—Gummata in the testes of young children who inherit syphilis are not very uncommon. I possess an excellent drawing showing this condition in a boy who had also gummata in one lung and notched teeth. (*See* the New Sydenham Society's "Atlas.")

Plate 10.—Tertiary Lesions of Bones and Testes in the same Patient

The specimens depicted were obtained from a dissecting-room subject. The man was apparently about thirty years of age and had died of ascites. An interesting feature was that the conditions occurred in precise bilateral symmetry, the testes and the bones being exactly alike on the two sides. There were large nodes on the lower parts of the femora, and the whole length of the tibiæ on both sides was roughened and thickened by new deposit of bone. In both testes were large gumma masses which were restricted to the body of the gland. The conditions which characterise these lesions are well shown. That they should have been developed on both sides is exceptional but by no means extremely unusual. It probably implies that the time intervening between the secondary and tertiary stages had been but short.

(From a paper by the late Mr. Canton in *Path. Soc. Trans.*, vol. xiii.)

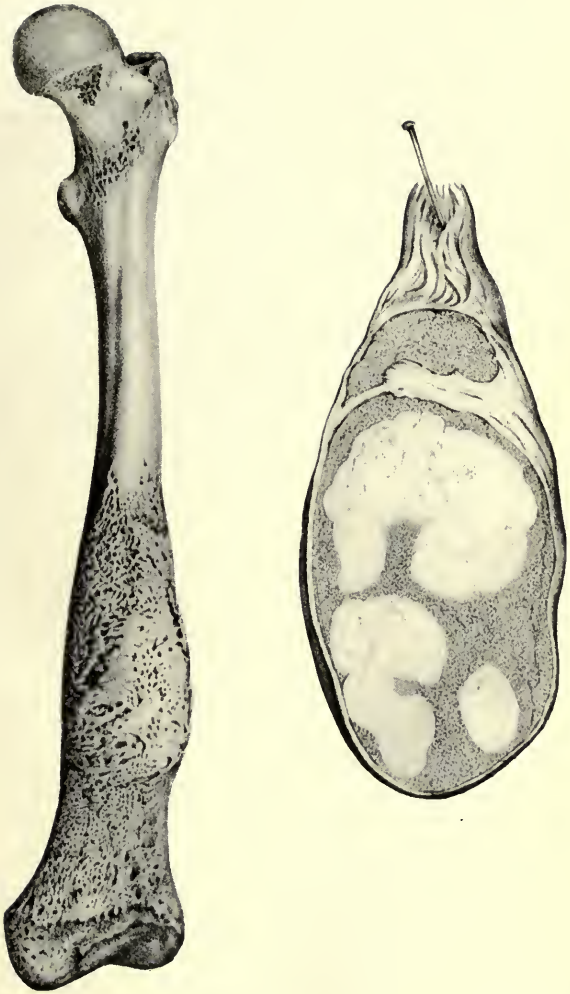

PLATE 10.

In 1881, Mr. Furneaux Jordan wrote to me that he had just removed a testis for "so-called strumous disease" from a man, aged thirty-eight, who had many nodes and the most markedly notched teeth that he had ever seen. There were eight or nine separate nodes on the skull, one on each tibia, and a very large one on the right humerus. His physiognomy was characteristic. There was no history of acquired syphilis.

An interesting example of syphilitic disease of the testes in connection with hereditary taint in the secondary stage was brought before the Pathological Society by Dr. Wilks in February, 1865. The infant was five months old and was suffering from the ordinary symptoms of syphilis. Both his testes were much enlarged. Three months after the exhibition, under mercurial treatment, all symptoms had disappeared and the testes had returned to their natural size.

Dr. Beetham Robinson has recorded in the *Transactions of the Pathological Society* for 1896 (vol. xlviii. p. 146) the following facts: A child aged nearly four months died during an attack of diarrhœa whilst under mercurial treatment for congenital syphilis. Both testes were enlarged, of stony hardness, and quite smooth. They were removed at the autopsy for examination. There was some fluid in both vaginal sacs. Histologically, there was very marked thickening of the tunica albuginea and of the septa, a diffuse cellular infiltration arranged generally in circles around the tubes. In some places this had developed into laminæ of firm fibrous tissue, with almost complete dwindling of the glandular structure. The vessels were in parts abnormally enlarged. In the epididymis similar changes were to be seen, and the increase of fibrous tissue was even more developed than in the body of the testis.

A fasciculus of the New Sydenham Society's "Atlas of Pathology" is devoted to diseases of the testis. It contains illustrations of all forms of syphilitic affection of that organ. One, in particular, may be mentioned showing gummata in connection with inherited taint.

CHAPTER XXI

SYPHILITIC AFFECTIONS OF THE MOUTH, TONGUE, AND LARYNX

Although I have in various parts of this work mentioned incidentally the affections of the mouth and throat which occur in syphilis, yet it seems desirable to devote a little more space to their special consideration.

Amongst the earliest and most common of the secondary symptoms we have sore throat, and the part affected is almost invariably in the first instance the **tonsil.** The symmetrical kidney-shaped ulcers which are seen in these organs were described by Hunter. In many cases these sores are quite painless, and in not a few they are very transitory. It occurs to the surgeon, not unfrequently, to be assured by a patient that he has no sore throat, and yet to find on inspection that there are very definite conditions present; and yet more frequently to have the history of past sore throat given, and be unable to discover any remaining appearances. It is only, however, in the very early stages of syphilis that this spontaneous disappearance is observed. Very frequently, as a parallel to what we have noticed in the skin eruptions, a much more severe form of tonsillitis follows it. In these recurrences the inflammation spreads from the tonsils to the pillars of the fauces, and up to the base of the uvula. Extensive superficial abrasions are produced, the margins of which are a vivid red, and the surfaces covered by a yellowish-grey secretion. This secretion not rarely becomes definitely pellicular, and the slightest attempt to scrape it off makes the surface bleed. By these features the conditions may usually be distinguished from those of certain rare cases of chronic pellicular or diphtheritic

pharyngitis which closely resemble syphilis, but are not due to it. In these latter a thick coherent pellicle may be peeled off without causing bleeding.

The form of acute syphilitic pharyngitis which I have just described is attended with great pain on swallowing. It is often coincident with a severe attack of syphilis, as denoted by a copious eruption, which to some extent resists treatment, and is, I think, often seen in patients to whom mercury has been given too vigorously at first. Its treatment is difficult, for mercury often appears to aggravate it, and must be used with great caution.

Together with the pharyngitis, there are often seen abrasions with inflamed edges and glutinous secretion on their surfaces in the pouches of the cheeks, the lining membrane of the lips, and the commissures of the mouth. In the cheeks they are always especially marked both behind and around the last molar tooth. On the tongue, also, similar patches more or less symmetrically arranged are often seen. In some patients the mucous membrane of the mouth suffers very severely while the skin is almost exempt. But in many the severity of the disease is marked by extensive lesions in both structures. It is, perhaps, a good rule of practice that when sores of unusual extent are seen in the mouth, after mercurial treatment has been tried for some time, iodide of potassium should be given in its stead. The prescriber must, however, be prepared to revert to the stronger specific after a while. The local application of solutions of chromic acid or nitrate of silver are often of great service. A certain slight amount of enlargement of the lymphatics in the back of the neck is to be expected as a consequence of inflamed throat. But though it may persist for long, it never advances to any high degree. The absence of any severe gland affection in connection with lesions of the secondary type is one of the features in which they contrast most definitely with those of the primary class.

It is not necessary to say much as to *primary chancres* in the mouth. They may occur on the lips, on the tongue, in the cheeks, or on the tonsils. They

are always to be distinguished from sores of the secondary class by the circumstance that they are single, and that they are attended by definite swelling of the lymphatic glands of the same side. They also usually, but not always, present peculiar features as regards induration and thickening. In several atlases delineations are given of primary sores on the tongue, the circular form of which, and the elevated edges, are very characteristic.

During the secondary stage it is not at all uncommon to witness the growth of papillomata on the surface of the tongue, and I have already more than once mentioned them as good evidence that syphilis can cause growth of normal structures, as well as inflammatory infiltrations. They are almost always restricted to the dorsum and posterior part of the organ. The reason of this probably is that this is the region most exempt from pressure when the tongue is at rest in the mouth.

After the attack of more or less severe pharyngitis and stomatitis which occurs in the secondary period has once passed away, it never returns in the same form. Nothing, however, is more common than for slight relapses to be witnessed, and in these the tongue is especially apt to be the part affected. A very marked difference is now observed in the liability of the two sexes, men being much more prone than women to suffer from persisting or repeatedly relapsing sores of the tongue and throat. This difference is no doubt due to the habit of smoking, the hot tobacco fumes exercising a very definite influence in localising and exciting the morbid processes. In many cases it is impossible to cure the mouth while the patient continues to smoke. Other local influences also take their share, such as broken teeth, ill-fitting tooth-plates, and amalgam stopping. Patients suffering from recurrent stomatitis should be warned not to drink beverages containing carbonic acid, and should also avoid cheese, sugar, fruits, and all articles of diet which make the mouth smart. In exceptionally persistent cases, if any teeth are stopped with amalgam, it should be removed and gold substituted.

Plate II.—Papillary Growths on Tongue

This plate is given in order to illustrate the fact that the poison of syphilis may cause not only various forms of inflammatory action, but also simple hypertrophic overgrowth. It represents the conditions which were present on the tongue of a patient who was in the secondary stage. A group of overgrown papillæ is seen on the middle of the posterior third of the dorsum. The papillæ are rendered white by the accumulation of fur. It will be at once realised that this is the region which is least exposed to either friction or pressure during the movements of the tongue in the mouth, and from which fur is least often absent. Thus the upgrowth of the papillæ is favoured, and conditions such as here shown are occasionally seen. They have their analogue in the crops of syphilitic warts which sometimes occur on the genitals and wither under the influence of mercury. In rare instances, secondary eruptions on the naked skin assume more or less the papillary type, even in European syphilis, whilst in the tropics this type is common. Condylomata are, of course, examples of the same tendency with modifications. Examples of this occurrence were given in the first edition of this work, and some excellent illustrations of it have since been published in Chotzen's valuable Atlas of Syphilis.

PLATE 11.

PLATE 12.—ERUPTION ON TONGUE IN SECONDARY STAGE

This illustration, copied from Chotzen's Atlas, is designed to prove the development of papillary (framboesiform) eruption on the back of the tongue. These papillary growths usually occur on the back of the tongue, for the reason that this part is exempt from friction in eating, and from pressure when the tongue is at rest in the mouth. It will be seen that on the anterior two-thirds of the organ the eruption takes the form of scattered superficial sores with scarcely any tendency to papillary growth. It may be here counted as a form of psoriasis. The plate is valuable as illustrating the influence of locality in determining the character of a secondary eruption.

PLATE 13.—ECTROPIUM OF LIPS

The portrait here given is that of a patient who had suffered from stomatitis in connection with constitutional syphilis. There had been chronic sores on the inside of the lips which had proved, as usual, very intractable, and had induced a condition of solid œdema of the whole lip with eversion of the prolabium. The early treatment had no doubt been inefficient and probably was neglected; very possibly there had been recurring attacks of herpes.

In the stage here represented, specifics are often of but little use, and the only adequate measures are either excision in a long strip of almost the entire thickness of the prolabium, or its destruction by the liberal use of the actual cautery. At the same time constitutional measures, mercury and iodide, should not be omitted.

The lips.—A very troublesome form of chronic inflammation of the lips sometimes follows syphilis. It is met with chiefly in men, but not exclusively. Its origin appears to be usually from recurring sores of the mucous surface, possibly, in some instances, of herpetic character, and sometimes perhaps due to mercury. Finally the whole lip becomes the seat of solid œdema or hypertrophy. The prolabium is expanded, and the lips, especially the lower one, are everted. A condition of pronounced ectropium may result. The mucous follicles are much enlarged, and discharge a glairy fluid upon the exposed surface. This implication of the mucous glands has induced Volkmann, of Halle, to describe the affection as *cheilitis glandularis*. In severe cases the later stage, *ectropium labialis*, is exceedingly disfiguring. Specific treatment is of little avail, and may even aggravate. Great benefit may, however, result from a free excision of the inner half of the prolabium and adjacent mucous membrane, or by the liberal use, with similar object, of the actual cautery.

The larynx.—During the secondary stage of syphilis, if the symptoms have, under imperfect treatment, been allowed to develop, the mucous membrane of the larynx may share in the general liability to local congestion. The symptoms are not, even by the aid of the laryngoscope, easily distinguishable from those of catarrh. Under proper treatment they are usually quite transitory. Small superficial ulcers may occasionally be observed, which are possibly herpetic in nature, and which seldom last long. Later on, more troublesome ones may occur, the symptoms produced depending upon the precise part affected. In a yet later stage, gummatous infiltration may be followed by destructive ulceration, and a condition serious in itself and its consequences may result. If not speedily arrested, cicatrices and stenosis may follow, and respiration may be seriously impeded.

In addition to efficient specific treatment, the local application of iodoform should be perseveringly carried out. If severe paroxysms of dyspnœa have occurred,

an anticipatory tracheotomy should be performed, and in some instances it may be needful to retain the cannula permanently. Cases in which such measures come under consideration are, however, extremely rare. In cases in which diagnosis is difficult it will usually concern tuberculous affections, and in them the microscope may be of great use by demonstrating the presence of the tubercle-bacillus.

In rare instances there may arise much doubt as to the diagnosis between syphilis and cancer. In reference to these the patient's history must not be trusted, for syphilitic antecedents are often introductory to malignant neoplasms. The results of vigorous treatment, both local and general, will be more instructive, but there must be no unnecessary delay.

The tongue.—The diseases of the tongue which are met with after the secondary period show considerable variety in their forms. A common affection of the tongue from syphilis is witnessed at intervals of from two to six or ten years after the occurrence of the disease, and is of the nature of superficial sclerosis. From it women and non-smokers are almost wholly exempt. It consists in the formation in the first instance of ill-defined patches on each side of the dorsum of the organ, which become smooth and of a silvery white. If the habit of smoking be continued the patches gradually indurate and thicken more and more until they present dense white leathery plates, the so-called "ichthyosis of the tongue." The state first described is at no stage to be considered as wholly syphilitic, and all its conditions may be produced in great perfection in those who have never suffered from that disease. It is in reality the "smoker's tongue." But I do not think there can be any doubt that those who have suffered from a specific glossitis are far more prone to it than others. When the condition has advanced to sclerotic atrophy it is too late to expect any benefit from the internal use of specifics. Whilst a diffuse lumpy condition of the tongue is a very common consequence of syphilis, swellings that can be classed as true gummata are rare. Occasionally,

however, we see a well-defined swelling which is of this kind form in the muscular substance of the organ. These large gummata may now and then, by their hardness, simulate malignant growths; they always, however, answer very quickly to the iodide of potassium, and the diagnosis is thus easily established. Syphilitic lesions of the tongue are at all stages, but especially in that of sclerosis, very liable to take on cancerous action. It is scarcely possible to repeat this assertion too emphatically. In such cases some benefit is almost always obtained by giving the iodide, and both patient and surgeon may easily be lulled into false security. If the ulcer be syphilitic only, it ought to be quickly cured by specifics, and not merely made cleaner and less painful.

In the tertiary stage of syphilis, and indeed at any period after the secondary, acute phagedænic inflammations may occur in connection with the mouth. They are most common in the soft palate, and not unfrequently destroy it. But they may involve also the pharynx, tongue, and larynx. They are seen both in the inherited and the acquired forms of syphilis, but are more common in the latter. The rapid destruction of parts, the swelling and the acute inflammation present, usually denote with sufficient clearness the nature of the disease. The most vigorous treatment is necessary; iodide of potassium should be pushed, and iodoform liberally applied by insufflation and tampon. As a rule, when sound healing has once occurred, no relapse need be feared. Destruction of the epiglottis, stenosis of the larynx, and now and then almost entire occlusion of the pharynx, with posterior adhesions of the velum, are amongst the lamentable consequences of these attacks. They occasionally necessitate the performance of tracheotomy and the permanent use of the cannula.

It remains to state that herpetic affections of the throat and mouth are not by any means uncommon in connection with syphilis. They are sometimes very troublesome on account of their tendency to recur after very short intervals, and they always distress

the patient by making him think that he is not cured. They may be diagnosed from other forms of syphilitic sores by the observation that they are rarely bilateral, but are usually restricted to one side of the palate or pharynx. Although a tendency to spontaneous cure is always present, yet herpetic sores on the palate, after syphilis, are prone to last much longer than herpes usually does on other parts. It is doubtful whether the use of specifics does much to prevent the liability to herpes of this kind. At any rate, quinine or arsenic ought always to be given in combination with them. Even when given alone these remedies will usually, if continued, suffice to prevent recurrences.

To sum up. The tongue presents us *sub oculo* with an epitome of syphilitic processes. On its surface primary sores may exhibit their most characteristic features, and they may be followed in due course by characteristic eruptions on the skin. We have also in the secondary stage a demonstration, seldom to be seen elsewhere, of the very important fact that the protozoon may stimulate growth, for crops of well-formed warts may appear, placed symmetrically on the back part of its dorsum. In sequence to these, patches, usually one-sided, may recur frequently, which are obviously allied to herpes. We have also the curious phenomenon of temporary atrophy of the filiform papillæ in patches, producing one form of what is known as the "ringworm tongue." At all subsequent periods we may often witness demonstrations of the law under which tissues that have once suffered from syphilitic inflammations remain vulnerable ever afterwards. Thus, tobacco-smoke, effervescent drinks, or broken teeth may produce results which would not otherwise have followed. Under the influence of these, conditions of diffuse atrophy occur, to be followed by sclerotic growth, and to end not infrequently in cancer. Finally must be mentioned the liability to the formation of large tumour-like gummata, which may most deceptively simulate malignant new growths. As regards treatment, also, what we may see in the tongue is often most instructive. The wart-like hypertrophies

waste away under mercury, whilst the shrivelled normal papillæ grow again; herpetic sores are cured by quinine, and the tumour-gumma melts under iodide of potassium, like a hard snowball on a sunny day.

The following notes describe a very exceptional syphilitic eruption on the tongue, of which a good portrait is preserved in my Clinical Museum :—

Eruption on the tongue of peculiar character nearly three years after syphilis. — Mr. ——, a tall, rather pale man, who lived freely.

November, 1890.—A chancre with double bubo which did not break; eruption and sore throat cured by a two months' course of mercury under Dr. F——.

During 1891-92.—Quite well.

March 24, 1893.—A most peculiar eruption on the tongue.

The eruption consisted of a number of white dots, twenty or more, scattered with tolerable symmetry over the front half of his tongue, which was partially denuded of fur. They were slightly elevated, and distinctly rough to the touch. They were of the nature of the filmy patch, but were very small—mere dots, and not patches. They had been developed, he said, within the last four months, and, coincidently with them, some small scaly rings had formed on his scrotum. The latter condition made me feel sure that the disease was syphilitic. It will be seen that there had been an interval of about two years since his treatment. I prescribed the solution of the bichloride of mercury in doses of a drachm and a half. This was on March 24. He came to me again on April 11, with his tongue so well cured that it was only with great difficulty that I could find the sites where some of the spots had been. All the appearances depicted in a drawing made by Mr. Burgess on March 24 had disappeared, and anyone seeing the tongue for the first time would have taken it for a perfectly normal one.

It may be useful to recapitulate the various conditions referred to in connection with the tongue, and, in passing, to say a few words about each, leaving all details to the descriptions of cases or of drawings.

Primary chancres usually occur near to the tip. They are caused by pipes, drinking-vessels, or immoral practices, and are usually attended by a bubo under the angle of jaw or in the floor of mouth.

Secondary eruptions occur in association with general symmetrical eruptions on the rest of the body, and often with those in the palms. They are

symmetrically placed, and easily curable by mercury. They constitute a true syphilitic psoriasis.

Papillary growths, for obvious reasons, are seen chiefly on the back of the tongue, since it is in this position only that the surface is exempt from pressure and friction against the palate. They are usually attended by smooth patches of psoriasis on the front parts of the dorsum. They disappear when mercury is given.

The meaningless term of "**mucous patch**" is usually given to well-margined patches of superficial abrasion which occur, often in groups of two or three together, on the tongue or inside the lips or cheeks, and are seldom seen in bilateral symmetry. They sometimes seem to be aggravated if not caused by mercury, and are often transitory and recurrent. Quinine or arsenic is needed for their prevention. They are doubtless usually herpetic in their nature.

The term "**ringworm tongue**" is applied to states in which well-margined patches are denuded of their filiform papillæ. They usually spread from the sides of the dorsum inwards by a border convex towards the middle line. They change, often, with great rapidity. They are frequently seen on the tongues of syphilitic infants, and M. Parrot held that they always implied syphilis. They are sometimes seen in the acquired disease. If the condition persists, with variations, for years, it may be supposed to be not of syphilitic causation; but if it disappears readily under mercury, the converse assumption will probably be the correct one.

Sclerosis producing a smooth surface with atrophy of papillæ and slightly glazed greyish-white appearance is common in cases in which syphilitic glossitis has been kept up by smoking or other irritation. There is a variety of it in which the larger papillæ are hypertrophied, and a warty or spinous surface is produced, and another in which the layer of sclerosed basement membrane is greatly thickened and assumes a condition like white leather. All forms of sclerosis are, as age advances, dangerous in the direction of

PLATE 14.—SYPHILITIC PSORIASIS OF THE TONGUE

The conditions here shown occurred in the third month of syphilis and were coincident with an abundant papulo-scaly eruption on the skin. The patient was a surgeon, and the infection had been acquired in midwifery practice. In addition to the eruption he had sore throat with laryngeal hoarseness and deafness in one ear. He was treated by grain doses of grey powder three times daily and was salivated. The patches on the tongue disappeared very quickly, and a few months later not a trace of them could be detected. It will be observed that the patches are arranged with bilateral symmetry, although not of equal size on the two sides.

PLATE 15.—GROUP OF HERPETIC SORES ON UNDER-SURFACE OF LIP.

I copy again from Chotzen's excellent Atlas an illustration of herpes as it is so frequently seen on the mucous membrane of the lip. It will be observed that the group of vesicles—five in number—is isolated and has no representative on the other side. It is to such eruptions that the term "mucous patch" is often given. As a rule they disappear after a week's duration, but with great tendency to recurrence either in the same part or elsewhere. They always develop suddenly, and the group is complete from the first. Sometimes they persist for several weeks.

Plate 16.—Atrophic Sclerosis with Precancerous Papillomata

The patient was a smoker who had long ago suffered from syphilis. His tongue had given him but little trouble, but had been slowly passing into its present condition for many years.

The surface of the tongue is seen to be destitute of papillæ in parts, smooth, and of an opaque white tint from superficial sclerosis. In other parts it shows lumpy hypertrophy, and the central furrow is exaggerated. Near to the tip, and again in mid-dorsum posteriorly, are some firm papillomata, the bases of which are constricted. The tongue was excised by the late Mr. Wagstaff, in St. Thomas's Hospital, in 1874. After several operations the man ultimately died of epithelial cancer of the submaxillary glands.

PLATE 16.

PLATE 17.—THE "LUMPY TONGUE" IN TERTIARY SYPHILIS

The tongue of a gentleman who had suffered from syphilis some years previously. In the interval he had experienced severe stomach symptoms, and had more than once almost died from hæmatemesis. Cancer or ulcer had been suspected, and there had also been suspicion of brain affection. He had had much treatment during several years.

I saw him first in 1883, and again in 1889. At the latter date he had gained in health and his tongue had much improved. The condition was one of lumpy ridges arranged symmetrically. The whole tongue was swollen, and the ridges were apparently in part the consequence of long-persisting œdema with some general overgrowth of the structures. It is an exaggerated condition of what I have termed "the fern-leaf pattern." The papillæ were destroyed. It has recently been designated the "geographical tongue."

PLATE 17.

cancer, and especially those which show a tendency either to ulcerate or to develop papillæ.

The "**white paint tongue**" is a term sometimes applied to advanced stages of smooth sclerosis with great thickening.

The "**lumpy tongue**" is produced in cases of chronic interstitial syphilitic glossitis, in which, under the influence possibly in some instances of mercury, the tongue has long been swollen and its ridges have been exaggerated. It is often attended by coarse papillary hypertrophies. It is distinct from the "tumour-gumma," and is far less amenable to treatment.

The "**tumour-gumma**" may be met with in the tongue both in acquired and inherited syphilis, and is characterised by the rather rapid formation in the substance of the organ of a well-defined, hard, and usually single mass. There is seldom any pain, and never any lymphatic enlargement. Almost invariably the mass disappears quickly and completely under iodide of potassium, and there is no marked tendency to relapse. If not cured there may be softening and ulceration, followed by a most formidable-looking condition which is very difficult to distinguish from cancer.

Epithelial cancer occurs so frequently after syphilitic sclerosis of the tongue that it is impossible to avoid the conviction that the latter exercises a predisposing influence. In some cases the diagnosis is difficult, even to the experienced, and most unfortunately it is always so to the untrained. The early stages are almost invariably treated by the specifics for syphilis, and invaluable time is lost. The best general rule for diagnosis which can be given is to note whether there be anything of the nature of growth preceding the ulceration. In all cases in which there is doubt, the part should be promptly and freely excised.

Influence of sex and age.—All the syphilitic affections of the tongue are rare in women, sclerosis and epithelial cancer especially so; the explanation being the double one, that but few women incur

syphilis and still fewer smoke. Similar explanations are to be offered for the fact that the tongue rarely suffers in inherited syphilis. Well characterised gummata are, however, occasionally met with in the latter connection.

It is admitted that herpetic sores, ringworm, denudation patches, and all forms of sclerosis may occasionally occur independently of taint. It is also important to point out that the scabrous white patches which occur in lichen planus are very deceptively like those of a syphilitic eruption. Their peculiarities are well shown in my "Illustrations of Clinical Surgery."

Diagnosis between syphilitic affections of the mouth and palate and tubercular lupus.—The cases to which I now refer may come under our notice in two different stages. We may see them either whilst the ulceration is in progress, or after it has passed and left only its results in the form of scars and contractions. In nineteen cases out of twenty, ulcerative destruction of these parts, if it be not cancerous, is syphilitic. There remain, however, a few cases in which it is not so, the disease being tubercular* lupus affecting mucous membranes.

The diagnosis, at first sight very difficult, becomes less so if we keep in mind certain facts. Both conditions admit of repair, and may be followed by sound scars, but the lupus-process is so very much slower than that of syphilis that the mere chronicity of the case may generally be allowed to constitute the diagnosis. Lupus is a granuloma followed slowly by ulceration, and yet more slowly by healing; the syphilitic process is an inflammation, often attended by acute, almost phagedænic ulceration, but which, when once arrested, may heal very quickly. Syphilis may destroy as much in a month as lupus will do in years. With lupus there is never acute inflammation, never much pain, nor any great redness; whilst with syphilis there is usually much swelling, great redness, and often severe pain. Lupus always creeps on the

* The term "tubercular" is here used to imply tuberculosis.

surface of the parts, whilst syphilis may begin in their substance. Thus all perforations are probably syphilitic, and the scars due to this disease are deeper and more irregular than those of lupus.

The history and the concomitant phenomena will, of course, give great help in most cases, but the real difficulty comes where these give no assistance. It is of such cases, in which we have to rely solely on the objective symptoms, that I am speaking. Lupus vulgaris of the palate and pharynx is a very rare disease, and it is usually attended by lupus of the gums, hard palate, and of the skin of some part of the face or body. There are cases, however, in which it is restricted to the throat, and these it is most difficult to identify with confidence. Their exceedingly slow course is, as has just been said, the most trustworthy datum for diagnosis. It is to be noted also that in tubercular lupus the bones are never affected, whereas in syphilis a periosteal gumma is often the first stage. I have elsewhere published many facts in proof that almost all the cases of palate disease in young persons, which used formerly to be called scrofula, are really due to inherited syphilis. It is to be admitted, however, that even in childhood we now and then encounter lupus vulgaris almost, if not absolutely, restricted to these parts.

Gumma of the palate in a lad of remarkably good development, and without the slightest indication of diathesis; clear history.—Many years ago a gentleman brought me his only son, a youth of fourteen, but looking seventeen, very stout and muscular, and having the appearance of excellent health. There was nothing suspicious in his teeth or physiognomy, but he had a sloughing ulcer in the middle of the hard palate, which exposed bone. I was beginning to beat cautiously about for facts as to history bearing upon syphilis, when his father in great distress exclaimed, "I thought you would know in a moment! It is surely clear enough." I was then told that he (the father) had suffered from syphilis two years before his marriage, and that the lad before us was

the third birth. The first was still-born, and the second died of "infantile syphilis" at the age of nine months. Our patient was at birth a "magnificent baby," but at three months old had a slight eruption. This lasted only a few days, and he then continued to have excellent health until two years old, when he had another transient and doubtful eruption, which was treated as syphilitic.

At the age of ten he became depressed mentally, and it was feared that he might become insane. After this he was carefully examined by a distinguished physician, who declared that there was no syphilis in the case. Subsequently an eruption of eczema led to his being put under a French physician, who, having heard the history, and looked at the boy's splendid physique, absolutely declined to believe that he was syphilitic. Yet a few months after this decision the gumma in his palate formed.

I have only to add that the ulcer in the palate, after cauterisation and applications of iodoform with internal use of iodides, soon became healthy. After some bone had exfoliated, it healed soundly.

The case is valuable as an instance not only of good development in spite of syphilis, but of exceptional growth. Had the father chosen to deny the history instead of volunteering it, no one could have found a single fact in support of a suspicion of syphilis. The ulcer in the palate would have stood alone. The almost absolute absence of infantile ailments explains, no doubt, the absence of peculiarities in physiognomy and teeth.

CHAPTER XXII

DISEASES OF THE NAILS IN SYPHILIS*

The nails may suffer in different stages of syphilis and may present several different types of disease. In the secondary period a symmetrical form of onychitis affecting both hands and feet may occur, which is almost subacute in its severity. The nail-bed is the part first affected, but the nails are themselves inflamed, and become thickened and broken up, whilst the ends of the digits become swollen and painful. Specific measures of treatment will usually be found effectual, and the nails may be restored to almost perfect soundness. The best examples which I have seen of this form have been in medical practitioners who had suffered from midwifery chancres.

At a somewhat later stage, or it may be in association with a psoriasis eruption, the nail-bed may suffer whilst the nail itself remains smooth. In these cases the nail, at its free border and sides, is undermined and looks opaque from the accumulation of epithelial scales beneath it. This form is curable by mercury in combination with arsenic.

In the later tertiary stages the nails may exhibit various persisting changes. They may be thickened and marked with transverse ridges, or may show very large leucomata. At this stage it is seldom that all the nails are affected alike. Most often no other

* In studying diseases of the nails it is desirable to keep in mind the distinction between the nails themselves and the vascular-papillary bed upon which they rest. It is from the latter that they obtain the supplies by which they increase in thickness as they grow forwards. In the majority of cases the morbid process begins in the nail-bed and affects the nail itself secondarily. The nearer to the root of the nail the inflammation begins, the more certain is it to involve the whole nail substance, and *vice versa*.

syphilitic lesions are present, and it frequently becomes open to doubt whether the specific disease has really had much share in producing the condition, for specific treatment seldom effects a cure.

The condition known as **onychia maligna,** which is usually restricted to one digit and causes the nail to exfoliate with suppuration and much swelling, may occur both in acquired and in inherited syphilis. The results from specific treatment alone are seldom satisfactory. The loosened nail should be removed, and the exposed surface freely brushed over with liquor arsenicalis, or iodoform may be used, whilst specifics should simultaneously be given. The affection is by no means always syphilitic, nor is it always confined to one digit.

The case-narratives which follow will instructively illustrate various questions in connection with our subject.

Symmetrical and general disease of the nail-bed in a man who had had syphilis four years previously; question of diagnosis.—Not all that follows syphilis is necessarily syphilitic. A gentleman four years past his syphilis, and now the subject of disease of the nails, was brought to me by a surgeon who knew his history. The question as to the share taken by the taint was very difficult. I will briefly describe his state. All the nails of the fingers and toes were affected, and the symmetry was exact. The nails of the toes had begun first, but were now less definitely diseased than those of the fingers. The disease was of the nail-bed, rather than of the nail itself, and invariably began either at the free edge or at the sides. The surfaces of the nails were still smooth, and to the touch nothing was perceptible, but large portions were undermined and looked opaque and grey, owing to the changes which had taken place underneath. The whole finger-ends were slightly congested, but the nails at their roots, the lunulæ, etc., were unaffected. Our patient was a healthy man of twenty-eight, and the present disease had begun in the toes about four months ago, and a month later

Plate 18.—The Nails in Syphilis

Fig. 1 shows the conditions present in syphilitic psoriasis from acquired disease. The distal half of the nail was split up, ragged and broken. The patient was a woman of sixty-four, the subject of secondary syphilis with double iritis and copious psoriasis. The nails of the right hand and of the right foot were alone affected.

Fig. 2 represents the onychitis of the nail-bed and "pinched nails" of inherited syphilis. The infant was six weeks old.

Figs. 3, 4, and 5 show the nails of infants who suffered from congenital syphilis.

(From original drawings. See *Path. Soc. Trans.*, vol. xiii., p. 259.)

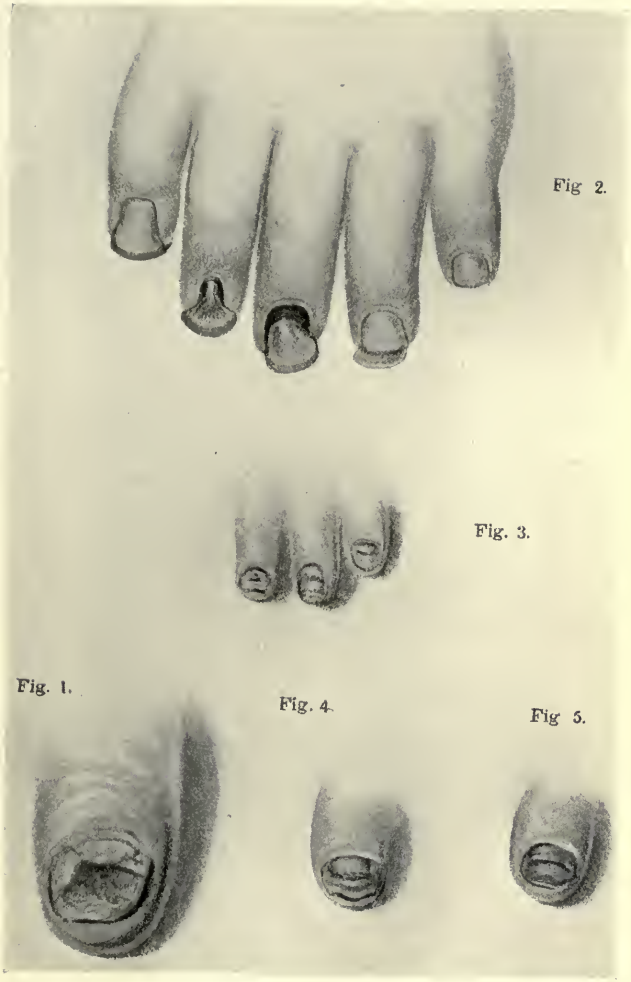

Fig 2.

Fig. 3.

Fig. 1.

Fig. 4.

Fig 5.

PLATE 18.

had shown itself in the fingers. The great toes and the thumbs had been the first to suffer. Mr. —— had been under Dr. H——'s treatment for syphilis at intervals for four years. Of late his chief ailment had been sores on the tongue, probably due to smoking, but he had also had, until quite lately, "eczema of the scrotum."

I was inclined to diagnose this as common psoriasis of nails rather than syphilis, and for the following reasons: 1. Its characters were exactly those of common psoriasis, and not those of syphilitic inflammation. 2. It had developed quickly, attacking all the nails, and with perfect symmetry (it is exceptional to see a symmetrical outbreak of any form of syphilis at so long a period as four years after the primary disease). 3. There was a history of liability to dartrous affections of the skin, both in the patient and his family. Since boyhood, Mr. —— had, he said, been liable to eczema, and a brother and his mother had also been troubled by it. Mr. —— himself had, from youth up, been liable to a dry scaling affection of the scrotum, and he had also had dry patches on his elbows and knees. The condition of his nails was exactly like that in another patient, who has for many years been the subject of common psoriasis in a severe form. Two years later, in spite of arsenic, Mr. ——'s nails were much in their old state.

Psoriasis of the nail-bed.—A patient in the fourth year of syphilis, who had done well under treatment, but had sometimes interrupted it, had an exceptional form of eruption. On the tips of his elbows, above the cleft of the nates, and on one thigh and one leg, dry scaly patches had developed, to which I gave the name of "lupoid psoriasis." They spread at their borders, healed in their centres, and left thin scars. Many of his finger-nails became affected. They became loose at their distal extremities and sides, and allowed the accumulation of dirty epithelial débris. They were not in the least thickened. It was typical psoriasis of the nail-bed.

Syphilitic psoriasis of the nails.—All varieties

of onychitis may occur in connection with syphilis. In a case of secondary syphilis in the sixth month, the nails were affected. The condition was that of psoriasis of the nail-bed. The nails became loose at the borders, and dirty grey epidermis accumulated. There was no thickening of the nail.

Chancre of the nail-bed followed by general inflammation of all the other nails.—A surgeon who consulted me with a chancre of the nail in June, 1891, had during the secondary stage inflammation of all his nails, both of fingers and toes. The nail of one of his great toes was for a time much inflamed. When I saw him in May, 1892, all the nails had grown again perfectly, excepting the one involved in the original chancre. This was in a condition of scar, much reduced in size, thin, and fluted

I add this case to a number of others which I have elsewhere recorded, which seem to show that secondary affections of the nails generally are very prone to follow primary chancre of a single nail.

Disease of nails in inherited syphilis, with bullæ on hands and feet; exfoliation of nails and of the crowns of some of the milk-teeth.—In the *Medical Times and Gazette* for February 8, 1879, I find an interesting case of an infant, recorded by my friend Mr. R. W. Parker. Mr. Parker's patient came under his care when three weeks old, and, in spite of apparently successful mercurial treatment, it died when aged two months. The child had appeared healthy at birth, excepting that it had pinched nails. It soon afterwards wasted, had snuffles and mucous patches, and other conditions which are thus described: "Temperature in axilla 101° Fahr. Corresponding with the place for the two upper central incisors there were two 'gumboils,' the size of large peas; that on the left side was the more advanced, and appeared as if about to give way. The rest of the gums were very red and inflamed. (Other 'gumboils' developed over the position of the molar teeth during the course of the

case.) The mucous membrane of the rest of the mouth was raw-looking. On lancing one of these gumboils (I use the mother's own expression) a milk-tooth dropped out. The hands and feet presented a peculiar aspect; the extremities of the fingers and toes, on the palmar and plantar aspects respectively, presented small bullæ of various sizes, and there were other bullæ scattered about the fingers and toes, and the palms and the soles. In other places there were patches of redness, as though bullæ were about to form. These bullæ appeared quite superficial, and showed no tendency to ulcerate deeply.

"The nails of the right index and middle fingers, and of the left middle and ring fingers, were absent, having been raised up and dislodged by bullous inflammation affecting the nail-beds. The toe-nails were quite normal. Other finger-nail-beds became affected during the course of the case. There was at first an exudation of a pale yellowish fluid beneath the nail; this was visible through the nail, which itself appeared unaffected, its surface being smooth and shiny. In other cases the nail seemed to undergo a change in shape rather than in substance, for it became pinched up and 'filberted.' The exudation beneath the nails gradually became purulent, and the nail, along with the dried-up exudation, shortly shelled off. There were no pemphigous bullæ on any other parts of the body than those mentioned. There was no glandular enlargement."

In this narrative we clearly have an example of an affection closely allied to pemphigus neonatorum, and, as is the rule in that malady, ending in death. The peripheral distribution of the principal lesions probably implies that the nervous system took some share in it. The association of inflammation of the tooth-sacs with a similar implication of the nails is of peculiar and most instructive interest.

CHAPTER XXIII

PSORIASIS PALMARIS

General remarks.—The affections which pass under the name of "palmar psoriasis" vary much in character when in association with syphilis. They take their peculiarities from the special stage of the disease at which they are found. Those which occur in the late periods of syphilis often present great difficulties as to diagnosis. It may be impossible to say whether they are really specific in their nature, or due only to local causes. Two cases which came under my observation on the same morning may serve as examples of the differences referred to.

A young man, whose first chancre dated only five months previously, had both his palms covered with patches on which the epidermis was broken up, and on parts of which it was accumulating in scale-crusts. The patches were separate, and varied in size from a pea to a halfpenny. They were all abruptly margined. The two hands showed similar conditions, and there were patches also on the soles of both feet. These conditions were coincident with a psoriasis-eruption in the forehead, scalp, shoulders, neck, and limbs, and with sores on the tonsils and sides of the palate. On the trunk there were a few patches, but not many. Everywhere the eruption approached the characters of psoriasis, but the scale-crusts were (as usual in the syphilitic form) only thin. The patient had been insufficiently treated, with iodide of potassium only, and thus his symptoms had persisted. His chancres, of which there had been two, one at the meatus and one on the frænum, had as yet scarcely disappeared. Here, then, we have a good example of a true syphilitic psoriasis of the hands occurring as a part of the

secondary eruption, and we find it affecting the palms and not the backs of the hands.

My next patient was a gentleman of fifty-three, in splendid health, who had suffered from syphilis nineteen years ago. He had been treated in the first instance by Mr. Langston Parker, of Birmingham, and had been cured by mercurial baths. The cure appeared to have been a good one, for he had ailed nothing since, until within the last six years, during which his left palm had been affected by "psoriasis." The condition was a slight erythema, which affected the whole palmar aspect of the hand and all the fingers. It extended over the front of the wrist also, and at this part had a few separate patches. The palm was simply dry, red, and rough, with numerous little pits where the epidermis had been broken up. There were no scale-accumulations, nor any fissures, nor was the edge of the patch in the least swollen. The condition was essentially diffuse, implicating the whole palm, and no other part. The opposite hand was scarcely affected, being simply a little redder and drier than natural. The only other relic of syphilis which the patient presented was a bald and superficially sclerosed tongue, in which he fancied that a little lump had recently developed. The latter was so indefinite that I could scarcely be sure of its existence. The condition of diffuse "psoriasis" of the palm presented in this case is a very common one in the late stages of syphilis, but it is one as to which it is almost impossible to feel sure whether it is really due to the syphilis or not. No doubt it is much influenced by local irritation, the use of tools, etc., just as the chronic sclerotic atrophy of the mucous membrane of the tongue is by the habit of smoking.

If we contrast these two cases we may usefully note that the palmar psoriasis of the secondary stage is always symmetrical, whilst that of the tertiary one is only accidentally and exceptionally so, and that the former is in patches and not diffuse. By far the chief feature of clinical difference, however, is as regards the influence of drugs. The psoriasis of the secondary

stage will vanish rapidly under the use of mercury, whilst the other will persist for years, in spite of all treatment, especially if the patient continue to use the hand in any way involving pressure on the palm.

If we may take these two cases as well illustrating the two extremes of syphilitic palmar affections, it may next be remarked that between them we have several other varieties which share their peculiarities. Within short periods (two or more years, for instance) from the chancre, we sometimes see well-margined patches of large size, with definite and slightly raised and inflamed edges, which spread in the horseshoe pattern. These are always definitely syphilitic, but little influenced by local causes, and readily amenable to treatment. Unless treated they last for years, and gradually pass into the type just described as distinctly tertiary. They sometimes affect one palm only, and sometimes both. Although, as I have said, they are generally amenable to treatment, they sometimes resist it in an extraordinary manner, and yet yield finally in a way which proves their specific nature. I once treated in the usual manner a man who suffered severely from this disease in one palm. He had been sent to me by Dr. Falconer, of Weymouth. Not getting well so fast as he liked, he put himself into the hands of a quack, who rubbed in mercury so freely that the man almost died of salivation. He was for some weeks in bed under Dr. Falconer's care, and lost most of his teeth. His psoriasis palmaris was, however, absolutely and permanently cured.

In another case, a commercial traveller, in excellent health, was under my treatment for eighteen months at least, and took mercury internally, and used inunction very freely indeed, without curing a patch of psoriasis in one palm. Finally I prescribed for him an iodoform ointment, under the use of which the patch vanished in a fortnight. The palm became perfectly soft, and, though it is now eight or ten years ago, there has never been the slightest sign of relapse. This freedom from proclivity to relapse, when once completely cured, is a very important characteristic

of the form whieh oeeurs at comparatively early periods. It supplies a strong incentive to perseveranee with vigorous treatment, and to the trial of fresh remedies if success is delayed. In the case mentioned all varieties of mereurial ointments had been used loeally for months together before the iodoform was tried. Yet I must admit that I have seldom in any subsequent case found iodoform to act in a very definite manner for the eure of this disease.

As regards the forms of palmar psoriasis whieh are met with in very late periods, they usually benefit somewhat by treatment, but seldom get well. They present in this respeet a elose parallel to the chronie diseases of the tongue which often attend them. A not unimportant parallel may also, I think, be drawn between them and certain very slowly aggressive disorders of the nervous system whieh occur in the same stage of the disease, and are equally insuseeptible of eure. In this diffuse palmar psoriasis, often eoineident with diffuse selerosis of the tongue, we see ehanges attended at first by erythema, leading to atrophy, distinctly limited to speeial parts, but steadily aggressive there for many years. They are benefited by speeifies, but seldom quite eured, and they are always very diffieult to distinguish from similar types of disease not due to speeifie eause. It is just so in loeomotor ataxy after syphilis, which often comes on very insidiously, and often appears to be excited by eauses of spinal irritation, just as palmar psoriasis is by local pressure (tools, walking-stieks, etc.). It happened euriously in the ease whieh I have mentioned that I had notieed that the pupils were very small. On examination I found that they did not dilate in the least when shaded, but that in aeeommodation they eontracted yet more. The patient had no patellar reflex. He had not experieneed any definite pains in the limbs, nor had he lost the power of steadying himself with his eyes shut. I could not doubt, however, that he was in the early stage of ataxy.*

* I have left these paragraphs as they appeared in my first edition, and as they were written out many years before its publication.

In using palmar psoriasis as a diagnostic symptom of syphilis in the tertiary stage we must be very careful. An impression is, I believe, abroad that it almost invariably denotes syphilis. In this I cannot share, for in about half my cases there has been reason to believe that no such taint had ever existed.

Tertiary syphilis, in the form of palmar psoriasis and lupoid ulcerations, confined to one upper extremity and persisting, in spite of some treatment, more than twenty years.—A singularly instructive case in proof of the local nature of tertiary symptoms and in illustration of their indefinitely long persistence under inadequate treatment, occurred in the person of Mr. ——. This gentleman has been under my observation for twenty years. I have, however, seen him only once every four or six years, but he has persevered in taking pills during the whole of this period. He assures me that he has, with rare intervals, "regularly as clockwork," swallowed a pill after each of three meals every day. His pill has contained one grain of grey powder and two of reduced iron without any opium. Throughout he has enjoyed excellent health, and he is now (1896), at the age of fifty-four, to use his own expression, "all that could be desired." His tertiary dermatitis, although kept in check, has never been quite well, and he still has numerous patches of a peeling and desquamating psoriasis on his left hand and forearm. Throughout these patches have been restricted to this member, with the exception that once he had for a short time a patch on one side of his neck. That this palmar psoriasis is really in connection with syphilis is proved by the fact that he has on the forearm of the same limb very large scars which have been left by lupoid ulceration, of which I cured him by specifics twenty years ago. It is further evidenced by the fact that his palm always gets worse if he leaves off treatment, and is much benefited if, for a few weeks, he adds to his pill a dose of fluid mercury with iodide of potassium. This latter, however, always so much depresses him that he cannot go on with it. The grey-

powder pill, on the contrary, he regards as a tonic. The form taken by his dermatitis is that of mapped-out abruptly-margined patches, which almost cover the palm and extend on the sides of the fingers to their very tips. Some of the nails are slightly affected and loose at their borders. The palmar patches show peeling only, but if he leaves off his medicine he avers that they inflame and crack. On the backs of his wrists (the backs of his hands are quite sound) there are some irregularly-rounded patches, which show scale-accumulation and not mere peeling. Mr. —— has not persevered much with local treatment, as he has found it disagreeable. If he had I have no doubt that he would have cured his hand long ago. From all other indications of tertiary disease he has been absolutely free throughout.

The history of his syphilis is that at the age of sixteen he contracted the disease, and had all the usual phenomena. At the age of twenty-four he married. His wife always retained good health, and their eldest son enjoys robust health. Three sons are living, and none of them have ever had any symptoms; all are "as strong as could be wished."

I have no note as to the date at which his syphilitic lupus began on the forearm, but it is certain that it was more than twenty years ago, and probably it was nearly twenty years after the date of his syphilis.

It is obvious from the citation of such a case as this, and of others which are to follow, that the term "tertiary syphilis" is habitually used in application to very different maladies. When, as in the above, we have a local and unimportant form of dermatitis, unattended by either growth or ulceration, persisting long in spite of treatment, and evidently only very partially under the influence of the latter, it is fair to assume that the specific cause takes only a minor and remote share in the result. We may regard it as highly probable that a single really profuse salivation might have effected a cure. (The reader may refer with interest to p. 232.)

CHAPTER XXIV

THE HEART AND VASCULAR SYSTEM

The heart itself, the large and smaller arteries, and the capillary system are all liable to suffer during syphilis. Nor is the liability restricted to any one stage of the disease or to any one pathological process. In most cases it is the secondary consequences of vascular disease which give to these affections their great importance, and it is in connection with the nervous system that these become of greatest importance. As a cause of aneurysm, of peripheral gangrene, or of Raynaud's phenomena, syphilitic arterial disease plays only an infrequent part, but in reference to headaches, tabes, paralysis, and mental disturbances, we meet with it in everyday experience.

In the case of the heart itself the muscular substance may be infiltrated by cell proliferation which displaces or even destroys the fibrils, or it may be embarrassed by the local formation of gummatous masses.

Importance of periarterial inflammations.—As regards both larger and smaller arteries it is probable that the commonest change is cell effusion into the perivascular sheath, pressing upon the vessel, and leading to thickening of its coats and narrowing of its calibre. In some cases the coats themselves may be affected from the first, and certainly they usually participate sooner or later. In the early stages of syphilis these perivascular changes may be very widespread, but in the later periods they are more locally restricted. In the smallest arteries and the capillaries the intima is the structure commonly affected, and narrowing of the

vessel is the ordinary result. Although thrombosis is a common consequence of perivascular effusions of lymph, yet it is of interest to note that sudden occlusion, as if from an embolus, is rare. The "strokes" or sudden attacks of paralysis which occur in syphilitic disease of the cerebral arteries may often be distinguished from those due to embolus or hæmorrhage by their gradual onset. The patient has usually had warnings; such symptoms as giddiness, aphasia, forgetfulness, brain clouds, or slight attacks of muscular spasm are frequent. It is not improbable that often, unless the disease is symmetrical, there may be no symptoms at all. Everything depends upon the extent to which the narrowing has progressed. In extreme cases the brain region involved may be deprived of blood supply and starved, almost as efficiently as if plugging had occurred. I have already mentioned that when finally the "syphilitic fit" occurs, it is often not sudden, but is preceded by variable numbness and tingling in the limbs about to be involved. This stage of threatening probably implies that the blood supply is all but cut off by periarterial pressure or by thrombosis, but not absolutely. I have received this description of the advent of the attack from many patients who subsequently became affected by hemiplegia.

It is of the utmost importance to recognise these premonitory symptoms, for as a rule specific changes in the arterial coats are as promptly amenable to the use of remedies as other forms of syphilis, and even after the stroke of hemiplegia has been consummated it is essential to push treatment. In these respects syphilitic forms of paralysis differ for the most part from all others.

In no other class of syphilitic affections is it more essential to push specific remedies with boldness and perseverance. In reading the cases about to be adduced in illustration of our subject a regret will repeatedly arise that treatment was not pursued with more confidence. Most of them occurred, however, before opinions had been so fully formed as they are, we may hope, at the present time.

Syphilitic affections of the heart.—In reference to affections of the heart in syphilis we may suitably use the terms—

Infiltrating myocarditis.
Gummata.
Vegetations or "condylomata."

The lesions are but seldom such as the stethoscope can reveal, and the symptoms are usually subjective, or they may be wholly absent until death suddenly occurs. The following extracts and cases are offered in illustration.

Dr. Cayley has recorded in the *Pathological Transactions* for 1875 the account of a *post-mortem* on a gentleman, aged twenty-eight, who was found dead in bed, probably in consequence of an overdose of chloral. He was known to have had syphilis some years before, and interesting conditions were found in his heart.

The following is Dr. Cayley's description: "The pericardium was not adherent. The heart was somewhat enlarged, this being mainly caused by hypertrophy of the left ventricle. Embedded in the wall of the left ventricle near the apex were several roundish dense nodules of a whitish colour, which projected both externally and into the cavity of the ventricle. The bases of the museuli papillares were partly invaded by the growth. There was no general fibroid change in the ventricular wall. On microscopical examination the growth was found to consist of small round cells embedded in fibrous stroma. At one or two points caseous transformation had occurred, and these spots consisted of amorphous débris."

Plate 29 of Ricord's "Atlas" is a good illustration of scattered gummata in the substance of the heart. It is from a patient who had possibly had syphilis two or three times.

Sir Dyce Duckworth has recorded a case of cardiac syphiloma in the *Clinical Society's Transactions* (vol. xxix.). He advocates treatment by large doses of iodide of potassium.

"Condylomata of the heart."—The expression "condyloma of the heart," which has been used by several authors, must be understood to be synonymous with vegetations. Proof has been given in the case of the tongue that papillomatous growths in the form of fimbriated warts may be caused by syphilis. Similar vegetations are well known on the valves of the heart, and we have now to admit that syphilis may in some instances be a cause of them.

In the magnificent collection of plates published by Auvert, in Moscow, is one showing what are named "condylomata of the heart." Two portraits are given. In one (Fig. 1, Plate XC.) there is a large vegetation on the free edge of one of the pulmonary semilunar valves. It is as big as the kernel of a hazel nut, and looks florid and soft. The rest of the valve is not thickened. The patient was a man of thirty-eight, who had suffered from syphilis three years before, and who had had condylomata at his anus.

Fig. 2 of the same plate shows a "condylomatous ulcer" placed just between two of the semilunar valves of the aorta. The specimen was taken from the body of a young man, who had suffered severely from syphilis. The ulcer is florid, with elevated edges and surface, and is about the size of the end of the little finger.

Syphilitic disease of the valves of the heart.—I find another example of supposed syphilitic disease of the aortic valves recorded by Dr. Leared. The patient was aged thirty, had not suffered from rheumatism, but had been treated for syphilis eighteen months previously. He died with dropsy. On slitting open the aorta, a well-defined, elevated, condylomatous-like mass, the size of a sixpence, was seen.

An instance has been published of a similar condition in the heart of a syphilitic infant. Mr. Shattock, in 1880, exhibited, at the Pathological Society, the heart of an infant in which, in connection with the right ventricle, there was "a small, circumscribed, slightly nodular and granulated, ovoidal tumour." He designates it as "a mucous tumour of the heart,"

syphilitic gumma. It involved the under side of the cusp of the pulmonary valve. The other organs of the body were healthy.

Dr. Rolleston has published, in the *Pathological Transactions* for 1893 (p. 35) a case in which the points of interest were "the very early condition of the future gummata and the fact that being multiple they were almost confined to the wall of the right ventricle and to the septum." The patient was a man of thirty-four, who had been killed by a fall. His testes weighed six ounces, both being almost transformed into fibrous tissue. The vaginal tunics were universally adherent on both sides, and much thickened. There was a small gumma in the left testis. The heart weighed sixteen ounces, and on the outer wall of the right ventricle there were a number of fine white nodules about the size of peas. These were present in smaller number in other parts of the muscular substance. These white masses were composed of small round cells, which infiltrated and obscured the muscle-substance. There was no well-formed fibrous tissue, and there were only a few spindle-cells. There were no gummata in the liver; nor was the arterial system obviously affected.

Syphilitic disease of the myocardium.—Two cases are reported in the *Archives of the Pathological Institute of the London Hospital* for 1906 (vol. i., p. 8). In the first there was a gumma in the wall of the left ventricle, with three aneurysmal pouches. The patient was a man, aged forty-six. No history of syphilis could be obtained, but there was a gumma in one testis. He had suffered from shortness of breath for five or six months. The area of cardiac dulness was enormously increased. He died suddenly. In the second case there was a calcareous mass in the interauricular septum, and a diffused fibrous condition of the whole myocardium. The patient was a man, aged fifty-six, under the care of Mr. Mansell Moullin.

There was in this last case the history of a chancre twenty-five years previously. The diagnosis was made

of obstruction of the vena cava inferior. He died of peritonitis in connection with the appendix.

These two cases illustrate the changes which syphilis can produce in the myocardium. In both there was extensive interstitial fibrosis throughout the walls of the ventricles. In both there were gummatous deposits. In the first case the gummata had caused aneurysmal pouches in which fibrin had been deposited, and in the second the gumma was represented by a large calcareous mass. It is worthy of note that the vascular changes were not advanced, and that the most noticeable thickening was of the adventitia. Moreover, the general fibrosis was in advance of the vascular changes, and was probably a direct effect of the circulating syphilitic poison. Lastly, in both these cases there was the conclusive evidence of syphilis in the gummatous condition of a testicle. The report is signed by Messrs. C. H. Miller and R. A. Worthington.

The larger arteries.—The larger arteries may be affected by effusions into their investing sheaths, constituting fusiform gummata, or by processes leading to sclerosis of their proper coats. Either of these may lead to obliteration, or in rarer cases to aneurysmal bulgings. The influence of syphilis as a common cause of sacculated aneurysm has probably been exaggerated. Diminution of calibre, tending towards obliteration, is probably a far more frequent event.

When obliterative sclerosis affects the arteries of the extremities it is rarely confined to single vessels, hence a far greater risk of acroteric gangrene than in cases in which a large trunk is occluded and the establishment of collateral circulation is more easy.

The following is one of the best examples which I can offer of occlusion of a large artery in connection with syphilis.

Tertiary syphilis; fusiform gumma surrounding the femoral artery; recovery under iodides; obliteration of the vessel; subsequent defects of nutrition in the foot.—Mr. —— came to me in March, 1895, on account of some patches of dry eczema on his right foot. I did not at first remember having

seen him before, but, observing that the foot was more dusky than the other, and that all the nails were thickened and broken, whilst those in the other foot were in a healthy condition, it came into my mind that I had attended him many years before for a fusiform gumma around the femoral artery. I asked him whether he had not once had a tumour in the thigh. He replied, "Yes, but that has quite gone away." On examination I found that there was no pulsation in any part of the femoral artery, nor could I detect any trace of the aneurysmal dilatation. Pulsation could be felt feebly on the brim of the pelvis, but not lower. Thus it was clear that the defects of nutrition in the foot were consequent upon interrupted arterial circulation. Mr. —— said that his foot often felt a little numb, and that he was not able to stand on it long with comfort. Thus, when standing he always rested his knee on a chair, and had produced a patch of thickened and roughened skin by doing so. He was able, however, to walk almost as usual, and during the six years which had elapsed since I had treated him for the arterial disease he had had no particular ailment. I ought, perhaps, to speak rather of a fusiform gumma around the artery than of any real aneurysm. The treatment had conissted in the administration of full doses of iodide of potassium. Mr. —— had suffered from syphilis in his early life. He was a man of middle age. He was married and had a healthy family. Only this one artery, so far as we knew, had ever been affected, and in it a long, fusiform gumma had been developed around the vessel, which had led to its complete obliteration.

In this case it will be seen that the obliteration was of the superficial femoral, and that the profunda was probably still free. When Mr. —— consulted me in the first instance he had a fusiform swelling four to six inches long, and as thick as a large ruler, in the middle of the thigh. It was easily felt, and although tolerably firm, pulsated distinctly. I wished Mr. —— to keep at rest, but this he declined, and he continued to visit me for some months, still following his usual

avocation. I found the swelling gradually diminishing under the iodide, and its pulsation becoming more and more feeble until it finally ceased. I had attended Mr. —— for tertiary symptoms previously, and I do not think there could be any doubt that it was a periarterial gumma. That obliteration should follow was a very interesting and somewhat unexpected occurrence.

Mr. —— remained within my observation for several years after the events above described. He retained good health, and had no recurrence of syphilitic lesions.

I have seen several cases somewhat similar to the preceding. In one of these a man who had had syphilis some years before—I am unable to state how many—had a fusiform swelling form around the common carotid which persisted for several months in spite of treatment, but finally disappeared without inducing either aneurysm or obliteration. Many years ago I occasionally saw during several years a laundry-woman who had an aneurysm of the carotid, apparently just at its division, since it entirely filled the hollow under the angle of the left jaw. It pulsated most vigorously, and about the diagnosis there was not the slightest doubt, but it showed little or no tendency to increase. I am able to state from positive evidence that it remained exactly in the same condition for six years. In this instance the aneurysm was preceded by a syphilitic gumma, which began about ten years after syphilis and was soon followed by saceulation. The patient meanwhile had no other signs of tertiary syphilis and remained in good health. I had once seen one of her children for iritis in connection with inherited disease. Her case is, as regards the disease of a single large artery without any other of the tertiary symptoms of syphilis, almost exactly like that referred to above. It may be asked why the carotid had not been tied. The fact is that the aneurysm had been *in statu quo* for three years when I was first consulted, and that it gave so little trouble that the patient was unwilling to contemplate an operation, nor could I strongly urge

it. Anyone seeing it for the first time, and ignorant of the history, would certainly insist upon an immediate operation, for there were no indications of consolidation. The operation would, however, have been a ligature of the common carotid, and, recognising the unavoidable risks attending that measure as regards the cerebral circulation, I was unwilling to advise it unless absolutely necessary.

As has been stated, although sometimes a considerable tract of the artery is involved, in others the areas are multiple but limited. The changes differ from atheroma in this marked feature, that while the latter weakens the vessel and favours dilatation or pouching, syphilis causes induration and contraction. It is, therefore, only very exceptionally a cause of aneurysm; nor does it commonly produce ulcerations which are likely to shed embolic material into the blood-current.

It is not to be denied, however, that changes not distinguishable from atheroma may result from syphilis, and may be followed by ulceration and various forms of aneurysm. In such the patches are usually disseminate. My assertion is that contraction and obliteration are far more common results of syphilitic disease of the larger arteries than dilatation, ulceration, or aneurysm.

In the following instance we have, I think, a good example of arterial occlusion from steadily developing sclerosis. A man, aged forty-four, who had passed through the early stages of syphilis at the age of twenty-one, enjoyed freedom from symptoms till he was thirty-two, when he began to suffer from pain in his feet. The pain was increased by walking and was attended by great coldness. He had also a node on one tibia. In the following year he lost the last phalanx of one great toe by acrotcric gangrene, but in the next year he was well enough to marry. A year or two later a child was born which grew up quite healthy. The coldness of his feet continued, and toe after toe was affected by gangrene at the tip. The feet ached so that he could take no exercise, and often

he could not sleep. At the age of forty-two he was brought to me. His feet were cold and dusky, and several of the toes showed unhealthy ulcers which led down to bone. He had no ulcers in the soles, and his knee-jerks were quite good. He was worn out with pain, thin and cachectic.

Under treatment by small doses of mercury with opium, and the local use of opium, he improved so much in the course of a year that he was almost free from pain, and all the sores but one were sound. I twice carefully searched for the tibial arteries, and could find in their place only hard cords.

The case differed from one of Raynaud's malady in that the coldness and lividity were persistent and not paroxysmal, and, further, in that his hands were never affected.

It differed from tabes in the persistent aching character of the pain and in the normal reflexes.

The case appears to be a definite example of slowly increasing sclerosis of arteries, ending in occlusion.

As already noted, syphilitic disease of the arteries does not usually result in ulceration of their coats. We meet, however, with exceptional cases. A sudden death may occasionally occur from perforation of the arterial walls. Of this there is a specimen in the museum of the London Hospital, presented by Dr. H. E. Sargent. The patient was a prostitute, aged thirty, who had died suddenly whilst at breakfast, having had no previous symptoms of thoracic disease. The pericardium was full of blood, consequent upon a deep excavation of the arterial wall the size of a large pea, which had sharply-cut and overhanging edges. There were many patches of disease in the descending aorta and the larger arterial trunks. The intima was especially thickened, but the middle and external coats were also involved. This case is described by Dr. Charlwood Turner in the *Pathological Transactions* for 1885.*

* *See*, in reference to arterial changes of this class, an excellent and well-illustrated paper in the *Reports of the London Hospital Pathological Department* for 1908, by Dr. Miller and Dr. Worthington.

Obstructive disease of the cerebral arteries in an early stage of syphilis.—Dr. Sharkey has recorded in the *Pathological Transactions* (vol. xxxiv., page 10) a case in which a patient died from disease of the cerebral arteries in the seventh month of syphilis, and whilst he was still covered with eruption. It is of much interest to myself to know that the arterial disease was bilateral, affecting the middle cerebral on each side. It had begun in the external coat, and spread inwards. Both the arteries were occluded, the right completely so, and there was softening of the parts supplied by them. The patient had suffered from headache, and was under syphilitic treatment, when he rather suddenly passed into a semi-comatose condition, with convulsions of all the limbs. So he remained until he died, a week later.

I find in the *Pathological Transactions* for 1881 an important case illustrating the slowly developed results of arteritis of the cerebral vessels (recorded by Dr. W. Anderson). I have condensed the narrative into the subjoined tabular form :—

AGE	DATE	DETAILS
29	1st year	A hard chancre and secondary symptoms, which wholly disappeared under the usual treatment.
30	2nd ,,	Quite well.
31	3rd ,,	Quite well.
32	4th ,,	Quite well.
33	5th ,,	Began to complain of headache and loss of memory. Dull pain in temples, and mental confusion. Made worse by mental exertion, and relieved by bodily exercise.
34	6th ,,	The head symptoms persisted. Headaches worse. Manner reserved and suspicious. Specifics used without much result.
35	7th ,,	Suddenly attacked by partial facial paralysis. Confusion of ideas. Manner surly. Partial left hemiplegia. Dull pain in right side of head. Six days later fell partially insensible, with complete left hemiplegia. Temporary recovery. Relapse a fortnight later. Death in coma after tetanic spasm. Opisthotonos. Hyperpyrexia.

No details are given as to the extent to which the specific treatment which is mentioned had been pushed. The case is exceptional as to the mode of death, but in other respects is probably an illustration of what is not uncommon.

Autopsy.—Dense nodular thickening of the coats of the basilar artery, and in less degree of the right middle cerebral. The changes were characteristic of syphilis, and involved all the coats, but in some parts especially the intima, and in others the media and adventitia. No gummatous formations within the skull, nor other changes excepting superficial softening near the right island of Reil.

Dr. Anderson writes: "The revelations of the *post-mortem* fully accounted for the symptoms up to a certain point. The headache, excited only by mental effort, coincided with the gradual narrowing of the basilar artery, which prevented the free influx of blood demanded by active brain functions. The impaired memory, etc., are to be explained by the same cause. The final paralysis and subsequent well-marked hemiplegic attack were attributable to the plugging of the middle cerebral artery."

Syphilitic disease around small arteries in brain producing induration.—In reference to syphilitic disease of the arteries of the brain, Prof. Sir Clifford Allbutt has recorded an important observation. In the brain of a patient who died with syphilitic disease of many organs, he found several scattered masses, varying in size from a pea to a walnut, which were somewhat indurated. On microscopic examination the induration appeared to be chiefly due to cell effusion into the perivascular sheaths. This effusion caused great thickening around the arteries, embedding them in a semi-transparent granular matter.

We owe to Dr. Alexander Bruce, of Edinburgh, a very valuable paper entitled "Syphilitic Nodose Periarteritis." He supports, by the citation of pathological evidence, the belief that periarteritis is often a very important condition. This is an opinion which

I have myself long held, and it was most instructively illustrated in a *post-mortem* which I have recorded. In that instance a man who was in the second year of syphilis died after obscure head symptoms. The autopsy showed nodular gummatous effusion at various positions along the course of the cerebral arteries of both hemispheres.

Dr. Jullien, of the St. Lazare Hospital, Paris, recorded in 1886 some cases of obliteration of the larger arterial branches in the course of syphilis. Subsequently, in a paper entitled "*Syphilis cause de gangrène*," he claimed specific affections of the smaller vessels and capillaries as a cause of local sphacelus of skin and mucous membranes. The two cases cited in the latter were both in connection with inherited taint.

It has been already noted, respecting all examples of occlusion of arteries in connection with syphilis, that the onset of symptoms is rarely sudden. I have adverted to this in a paper on "Sudden Occlusions of Arteries by Coagulation," given in my *Archives* (vol. ix.). In one of the cases there was a history of syphilis twenty years before sudden hemiplegia, but there did not appear any reason to associate the two as cause and effect.

In my *Archives* (vol. vii., p. 30 *et seq.*) will be found some very remarkable examples of occlusion of large arteries. In two at least of the cases cited syphilis was a possible cause.

Dr. Charles Chapman has given an account of a case in which, in 1897, he had described before the Clinical Society* the phenomena of bradycardia with obstruction of the inferior vena cava. In the session of 1899 the same patient was referred to as exhibiting obstruction of the inferior vena cava, probably syphilitic. This patient remained under Dr. Chapman's observation for eight years, the signs of caval obstruction having existed for fourteen. The pulse had ranged from 33 to 44, and there had been attacks of syncope. There was a history of syphilis twenty

* *Clin. Soc. Trans.*, vol. xxxix., p. 26.

years previously. The man finally died after an operation for suppurative appendicitis. The *post-mortem* showed advanced fibrosis of the myocardium, with mitral stenosis and narrowing of the left auricle. The left testicle presented a typical diffuse fibro-gummatous condition.

Periphlebitis as a consequence of syphilis.—There is a curious form of periphlebitis due to syphilis which is often very chronic in its course, and produces very peculiar changes. It is attended by great thickening around distended and convoluted veins, which become matted together in a cake-like mass, and adherent to the skin. Sometimes suppuration occurs and portions of cellular tissue slough, producing characteristic sores, but in other cases the condition may last, in a state possibly of partial cure by specifics, for many years. It always tends to spread. Slight forms of syphilitic periphlebitis are not uncommon and are usually seen in the legs. I will describe two exceptional cases.

In the case of a Swedish gentleman who was sent to me by Sir Joseph—now Lord—Lister, there was an area on the left thigh and buttock as large as both hands outspread, which was greatly thickened and cake-like. Its surface was uneven, hard in parts and doughy in parts, whilst here and there thickened veins of considerable size could be easily distinguished. The margins of the patch were tolerably definite, but from them passed enlarged veins. In parts there was a sort of subcutaneous scarring, which had produced depressions. The history was that the condition had been slowly extending for four or five years, and that a complete attack of syphilis had preceded it.

In the case of a patient who was sent to me by Dr. Calthrop, of Holloway, the state of things was yet more peculiar. The whole of the right lower extremity was involved. The skin and subcutaneous tissues were irregularly thickened and lumpy. In parts there were deep depressions (subcutaneous scars), whilst in others the thickening amounted to an inch or more. At first sight I thought there had been

extensive ulcers, but I was assured that this was not the case, and that the depressions had formed without any external sore. In many places there were thick masses of convoluted veins, which were dilated and plugged. In some parts the skin was dusky and red, but in most it was tallowy. I was told that the condition had commenced six or eight years ago in the leg, and had gradually spread from the leg to the top of the thigh. The attack of syphilis was twenty years ago, when the patient was in excellent health. I believe that nothing in the way of specific treatment had been adopted for its cure. The patient came to me, not so much on account of his leg, as for a patch of dusky erythema which covered one cheek. This latter was very peculiar, and was, I do not doubt, a syphilitic simulation of lupus erythematosus. The patch spread from the left ear upon the cheek, and was as large as the palm of a hand. It was slowly serpiginous and quite without ulceration. Its border was raised, and slightly, but distinctly, œdematous. There was pitting on pressure.

CHAPTER XXV

DISEASES OF THE EAR IN CONNECTION WITH SYPHILIS

Our knowledge of diseases of the ear in connection with syphilis is of recent acquisition, and as yet incomplete. A very serious form of deafness, often absolute, has, however, been clearly identified in connection occasionally with the acquired disease, and far more frequently with the inherited. Its features under these two conditions are, for the most part, similar, though with differences, and it is probable that it depends upon similar changes in both. That those changes take place in the internal ear, or the nerve apparatus, is tolerably certain; but as to their exact site and nature we are still in doubt. Apart from these forms of nerve deafness, which I shall describe directly, the function of hearing may be impaired in syphilis by disease (*a*) in the external ear, as, for instance, by a chancre, or a papular or condylomatous eruption, or, later on, by periostitis or lupus; (*b*) in the Eustachian tube or middle ear, by extension of inflammatory action from the throat; or by adhesions, or stricture, secondary to ulceration.

None of the conditions forming these two groups cause absolute deafness; nor do they interfere with conduction through the cranial bones. The patient can always hear his own voice or a watch placed between his teeth. For the most part one ear only is affected. The prognosis is usually good (that is, up to a certain point), and the measures of treatment are easily laid down.

It is wholly different in the affections to which we must next ask attention. In these the onset is rather sudden: both ears are affected, though, perhaps, not quite simultaneously; the progress is rapid, and,

unless the treatment be very prompt and energetic, the loss of function may be absolute. There is seldom any material pain, and scarcely ever any otorrhœa, or other evidence of external inflammation. Tinnitus is almost always present from the first, and is sometimes distressing; and occasionally, but not usually, especially if both ears be affected, there is giddiness. Probably many cases occur both in the inherited and acquired form of disease in which the ears are slightly affected, and the condition passes off, but if once the state has reached a certain point the prognosis is most grave. All observers admit that in such cases their degree of success has been very slight. It is imperative, therefore, whenever the ear is threatened in syphilis, to push specific measures as rapidly as possible. The patient should be made to keep his bed, and mercury so used as to touch the gums within a week. By these measures, in one case of the most alarming character, I believe that I was successful in restoring perfect hearing. Unfortunately the disease but too often does not come under the notice of the specialist until too late. My own experience would lead me to believe that these severe forms in association with acquired disease are rare.

In the inherited form they are, unfortunately, tolerably common, and are yet less amenable to treatment. It is a not infrequent cause of acquired deaf-mutism. It is quite possible that the recognition of the bad prognosis may have induced, in reference to this class of cases, supineness in treatment. We do not usually in hereditary syphilis adopt the vigorous measures which I have just hinted at, but I am sure that, having regard to the terrible results in prospect, it would be more than justifiable, in the early stage of ear disease of this type from inherited taint, to confine the child to bed and induce ptyalism quickly. Mr. Hinton, from his practice at Guy's, calculated that one in twenty of his patients had suffered from it, and that it was by far the most frequent cause of non-congenital deaf-mutism. Sir W. Dalby places it next to scarlet fever as a cause of that condition.

When disease of the internal ear occurs from acquired syphilis, all observers agree that it is usually toward the latter part of the secondary stage. Its progress is so rapid that some have spoken of its onset as "sudden"; there is, however, always a premonitory stage. The loss of power of hearing through the cranial bones is usually early and definite. Occasionally some nocturnal pain may occur in the temporal and frontal bones. It will be seen that it has its analogue in iritis and neuro-retinitis when these affections occur from acquired disease. It is not so, however, when they occur from inherited taint. If the subject of the latter have iritis, it is almost always in infancy, whereas the deafness seldom happens till eight years of age, and is usually later, occurring at the same time as the keratitis. The discovery of this ear-disease in association with inherited syphilis was one of the earliest results of the recognition of the teeth as a means of diagnosis. At the meeting of the British Medical Association in London in 1860 I demonstrated at the same time the peculiarities of the teeth and this special form of deafness. On this occasion a considerable number of patients were produced. It would appear that females are more subject to the affection than males. I was assisted in my work in this matter by my friend the late Mr. Hinton, and he subsequently did, independently, other valuable work in respect to it.

Deafness and facial paralysis together on one side in connection with syphilis; recovery from the paralysis, but permanence of the deafness.—I saw Mr. ——, with Dr. B——, on August 29, 1879. It was believed that he had had primary syphilis in 1875, and for some time preceding our consultation Dr. B—— had been treating him on account of large nodes on his head, one of which had suppurated. My chief interest in his case was in connection with almost absolute deafness in his right ear. This, he said, had occurred together with complete paralysis of the face on the same side some years ago. I have not recorded the precise dates, but it must

have been within a comparatively short time of his primary syphilis. He did not remember that he had ever suffered much from either headache or earache. Under treatment his facial paralysis had been completely removed, but he remained almost absolutely deaf in the affected ear.*

On the association of facial paralysis with deafness.—The association of facial paralysis with deafness from syphilis was new to me when the ease of

* Dr. Knapp has recorded the following facts in reference to "Deafness in Acquired Secondary Syphilis from Disease of Inner Ear" (p. 67). They illustrate what I have said as to the risk of permanence :—

"Mrs. ——, forty-two, in *May*, 1870, began to have headache, nausea, and giddiness. Ice to head ordered.

"*July*.—Pharyngitis and papular rash over whole body.

"*Dec.* 23.—Suddenly she had severe headache, dizziness and nausea, but no vomiting ; with intense tinnitus and rapid diminution of hearing. Was obliged to lie down ; on attempting to get up she always fell, but not in any determinate direction. When lying down, the room seemed to roll from side to side, or to balance up and down, according as she lay on her side (the former) or on her back (the latter). In a week, almost absolutely deaf.

"*Jan.* 12, 1871 (three weeks later).—Increase of headache and giddiness, with failure of sight, coloured vision, sparks, and wavering of surrounding objects ; these latter symptoms lasting only a few minutes, and recurring often during three days, but not afterwards.

"*Jan.* 18.—Well-marked double iritis with + tension. Syphilitic sore throat and papular rash still well pronounced. Much complaint made of noises in head. Mercury ordered. Rapid improvement in iritis, and as soon as fundus could be seen, vitreous found to be cloudy and neuro-retinitis present. No retinal hæmorrhages nor any exudation patches.

"*After four weeks' treatment.*—Headache, rash, and sore throat almost well ; giddiness less, hearing slightly improved. To have iodide of potassium and use electricity.

"*Two months later.*—Iritis quite well, pupils movable ; some neuro-retinal haze still remaining. Noises in ears continue, but are less distressing ; still subject to dizziness, but can walk alone ; hearing not better than last note. Health good, skin clear (April 22, 1871)."

Knapp, *ibid.*, p. 72, quotes Gruber's remarks on deafness in syphilitic persons, which he translates thus :—

"I [Gruber] have had, up to the present time, the opportunity to examine four syphilitic soldiers, who had suddenly become deaf after having taken cold. They suffered from vertiginous attacks, from which they recovered, but remained deaf in spite of all treatment. One of these patients died from typhus fever shortly after his aural difficulty. On examination, considerable hyperæmia was discovered in the mucous membrane of the drum, and in the membranous labyrinth, which appeared much thickened. The liquid within the labyrinth was sanguinolent and abundant." Gruber asks, says Knapp, "whether this condition is perhaps to be thought an inflammation with hæmorrhagic exudation, to which syphilitic patients are predisposed. Further observations are needed."—From *Arch. Ophth. und Otol.*, vol. ii., pt. 1, 1871.

Mr. —— came under my observation. This case interested me exceedingly, for I could not but see at once how much help it gave us towards a correct understanding of the local cause of this form of deafness. It had previously been a matter of plausible conjecture that the nervous apparatus of the internal ear was the part implicated in almost all forms of syphilitic loss of hearing. Whether, however, the process was more analogous to optic neuritis, to retinitis, or to iritis it was difficult to guess. No opportunities for *post-mortem* dissection had occurred to me, nor could they be expected. It seemed clear, however, when we saw the seventh nerve involved also, that the inflammation was probably one of fibrous tissues, and not primarily of nervous elements; that it was, in fact, the analogue of sclerotitis, iritis, and choroiditis, rather than of retinitis or neuritis.* The facial nerve could only become involved by pressure upon its trunk during its passage through the temporal bone. Hence the legitimate inference that the fibrous lining of its canals must be implicated in the inflammation.

The facial nerve enters the internal meatus with the auditory. At the bottom of the meatus they part company, and the facial pursues a winding direction in the Fallopian aqueduct, and passing along the inner wall of the tympanum, finally arches downwards to the stylo-mastoid foramen, its aperture of exit. In one part of this course it lies between the cochlea and vestibule, and the whole of it is in such close connection with the internal and middle ear that any

* It is well, however, to remember that although we use these terms, "neuritis," "retinitis," etc, as if they implied primary inflammation of nerve elements, they do not really do so. In all cases it is probably the fibro-cellular investments of the nerve structures which are implicated, and not those structures themselves. The suggestion made in the text goes, however, somewhat further than the general statement that all syphilitic inflammations have their primary seat in cellular tissue, for it implies that in these cases of ear disease it is not the cellular framework of the nerves, but that which lines the bony chambers containing the aural structures, which is implicated. Is it not possible that this hypothesis may throw important light on the pathology of other ear affections than those due to syphilis, such, for instance, as Menière's malady, etc.?

inflammatory swelling might easily involve the fibrous lining of its canal, exercise injurious pressure on its trunk, and cause its paralysis. Nor is it easy to conceive of its implication in any other manner, for it is not in close association with the auditory nerve at any other part of its course.

We come, then, to the conclusion that the deafness which occurs in the secondary stage of syphilis is due to the inflammation of a sense-capsule, analogous to that which occurs in the eye, and of which iritis is the most conspicuous symptom. We know well that what we call syphilitic iritis is often an ophthalmitis implicating other structures as well as the iris, and that it is one originating in cellular and fibrous structures, and not primarily, or chiefly, implicating the nervous elements of the organ. We may have a syphilitic retinitis without iritis, and in turn the latter without retinitis. The parallel probably holds good in the case of the ear, and the cases in which the trunk of the portio dura becomes compressed are those in which the fibrous structures are most severely implicated.

Deafness in the secondary stage of syphilis, with paralysis of facial nerve; recovery from the facial paralysis, with permanent deafness; subsequent occurrence of other nerve symptoms.—In the case referred to on p. 255, the patient was a man of forty-five, in good health, for whom I had myself prescribed during the secondary stage of syphilis. He then had a copious eruption and an acute attack of iritis in the right eye. The chancre occurred in March, and I prescribed mercury for the first time in June. He got rid of all symptoms. In September he was allowed (not by myself) to leave off mercury, and took iodide only. For a fortnight he had left off all treatment, when, in the last week of the month, facial paralysis set in on the right side. I saw him on October 1st. He was then absolutely deaf in the right ear, and could not hear the watch when pressed over the ear, the forehead, or the mastoid. So insidiously had the deafness come on that he had not himself found it out until others discovered

it. He had consulted Dr. P—— for the facial paralysis, and it was then ascertained that he was also quite deaf in the ear of the affected side. The facial paralysis was not quite complete. He could just manage to shut his eye, but could not wrinkle his forehead; the side of the face remained expressionless during conversation, but on strong effort none of the muscles appeared to be absolutely paralysed. He thought that it was already beginning to improve.

On inquiring particularly as to what his first symptoms had been, he replied, very definitely, "Giddiness"; "I reel in walking, and on one occasion I asked my brother if he had not noticed that I reeled, and he said that he had." At this time nothing drew his attention to his ear; he had no noises or uncomfortable sensations in it; and neither he nor his wife had noticed that he was losing hearing until, on consulting Dr. P——, it was ascertained that he was totally deaf in that ear. Soon after this was found out he began to be conscious that the other ear was failing a little. On one or two occasions he had felt a little sick in connection with the giddiness, and once, on waking and turning over, he had vomited bile. At first there had been no pain in the head nor tenderness, but when I saw him, ten days after the commencement of the symptoms, he had a fixed pain in the top of his head, and there was tenderness, though without swelling, all over the mastoid region. The other ear had at this time decidedly failed, and he did not hear a watch until brought within eight inches. It is not without interest to note that the ear first affected was on the same side as the eye which had suffered first from iritis.

I saw this patient again two months later. During almost the whole of the interval he had been freely treated with mercury, and his gums had been for a long period kept sore. He had also taken latterly a good deal of iodide of potassium. The result had been that the paralysis of the right portio dura had almost disappeared. He remained, however, absolutely deaf in the right ear, and although he said

that the hearing in the left was quite good, it was certainly somewhat defective. At first he could not hear the watch on his forehead, though after a while he thought that he did so, and he did not hear it through the air at any greater distance than about one foot. He could see almost perfectly with the right eye, but not so well with the left; the presence of vitreous opacities in both, and in much greater abundance in the left, probably explained this. There was no optic neuritis. A remarkable feature during the latter part of his illness had been a constant liability to severe neuralgic pains in his head. These had for several weeks almost entirely prevented his sleeping, and still did so to a large extent. He said that he rarely slept more than ten minutes at a time, unless under the influence of opium. He described the pain as "a biting pain," and said that it usually began in his forehead or eyes, and then passed to the occiput and top of the head. In connection with the pain he mentioned a symptom which I do not know that I ever heard described before, "an acutely burning sensation on the rim of the ears." He said that this was often intolerable, and that he could only relieve it by constant pressure. He had been confined to his bedroom during the whole treatment, and although he could walk and even move about quickly, he was very liable to giddiness in doing so. He usually kept his head wrapped in a shawl, for the slightest breath of air would, he said, "bring on the neuralgia in his neck and head."

The prompt recovery of the portio dura, whilst complete deafness remained, renders it almost certain that the cause of both symptoms was, as we had supposed, inflammation of the fibrous structures of the middle and internal ear.

On August 6 of the following year (1889) I saw the patient again. I made note that he was still quite deaf in the right ear, but that his facial muscles had quite recovered. He had been at his office working hard for three months. His brain, he said, was perfectly clear. He looked well. At this date he had

been taking specifics for more than a year. He said that he sometimes staggered in the street, and made people think that he was drunk; but he never had the slightest feeling of giddiness in the head. His sight was perfect in both eyes, but he described symptoms of temporary failure of accommodation in the right eye. The movements of the eyeballs were perfect.

I find from a note on October 12, 1889, that the patient had then been quite well for some months. He had been attending to his business and taking no medicine. During the preceding month, however, he had been suffering from severe neuralgia in the occiput and right side of head. He said that it affected the socket of his eye; and his reason for coming to me was that he had that morning found the sight of his right eye for a time very dim. The dimness was all but gone when he reached my house, and he could just puzzle out No. 2. From his description, I inferred that it had been a failure of accommodation in connection with a low degree of hypermetropia.

On April 29, 1890, the patient was again under my care, having had an attack of what he called "paralysis of the tongue." It appeared that after having been at an evening party and got a good deal excited, he had awakened in the night in a condition which had much alarmed him. His expression was, "I could neither think, speak, nor write; I could not find words." This attack occurred on January 29, and was only transitory. He had had no hemiplegia, but "felt numb and stupid." He was in bed on account of this attack for about a fortnight, and again took specifics.

I saw this patient repeatedly afterwards on account of various nervous symptoms. In 1891 he was in good health, but the deafness in the right ear continued complete.

I saw him last in June, 1899. He was then in excellent health, and came to me only on account of rheumatism.

Deafness in the course of secondary syphilis.—A gentleman, aged thirty-one, came to me on

January 17, 1894. He was very deaf, being unable to hear a watch when pressed on his forehead, and only just able to do so when pressed on the ear. His deafness had been coming on for about two months, and his first symptom had been singing in the ears. He had been out shooting one day in October, and on coming home found himself deaf. He had at the same time a sore throat. He had suffered from a chancre in the preceding September, which had been followed by a sore throat, and he still had some filmy, white-edged sores on the tongue, tonsils, and cheeks. His teeth and forehead were somewhat suggestive of inherited syphilis.

Deafness and blindness in the same patient, consequent on inherited syphilis.—A case will be found given in the first edition of this manual (p. 231), in which a young woman who displayed characteristic teeth was both blind and deaf. The failure of hearing began at the age of twelve, and in two years was complete. The eyes had been lost by relapsing kerato-iritis. It may be suspected that a taint of gout was also present. The girl was well grown, of good features, and, in spite of her cruel disabilities, active and cheerful.

A second case in which blindness and deafness occurred together is recorded on p. 443 (first edition).

Cases illustrating the occurrence of anæsthesia of the lower extremities in the secondary stage of syphilis; Menière's phenomena; giddiness and reeling gait; extreme anæmia and debility; inability to write.—The following case is of great value, as illustrating the variety of nervous phenomena which may occur in connection with syphilis in its secondary stage. It also well enforces the lesson that in all obscure cases with a syphilitic history mercury ought to be pushed. The patient was at one time so anæmic and feeble that I feared he would die, and he himself believed that his debility was due to mercury. Yet this was the remedy under which, when used by inunction, his cure was brought about and his health completely restored.

It will be convenient to begin the narrative of this case in the middle, at a date when, at my request, we sought the advantage of Dr. Hughlings Jackson's assistance in consultation.

This was on January 16, 1884. At this date the defect in sensation had very much passed off. It had been greatest in the right lower extremity, although slightly present in the other also. It had been preceded by back-ache. He assured us that there had been a time (a month ago) when he could pinch the skin, or stick in a pin, without causing sensation. Now, however, although it still felt numb, he could easily feel a pinch. The improvement had occurred whilst taking mercury.

At this date he was still deaf in one ear, but not absolutely so, being able to hear a watch when placed within two inches. His ear had been examined at my request by Dr. Laidlaw Purves, who said that there was nothing abnormal to be seen. He was still much plagued with what he called giddiness, but it did not prevent him from going to business, taking journeys, etc. It was never attended by "swimming of the things in the room," and from first to last he had never had any paroxysms. It was entirely absent in the recumbent posture and when sitting still; but came on if he moved his head, as in writing or reading, and especially when rising from his chair, and in walking. It was worst on movement when in the dark. He could not well describe it, but said his head felt full, as if he must reel or fall. He was conscious of great unsteadiness in walking.

Dr. Jackson laid stress on the fact that he had no paroxysms, and that his gait was that of drunkenness; that is, with a definite tendency to reel. Our patient thought also that there was decided weakness of the right lower extremity, but on careful examination we could not prove weakness of any particular muscle. The knee-jump was good, perhaps exaggerated.

We agreed that it was quite possible that the deafness was not connected with specific disease, and thought it probable that his reeling was wholly in association with the ear. The numbness of his lower extremities we were inclined to attribute to spinal meningitis.

We thought it not improbable that the coincidence of phenomena was accidental. Our patient, however, insisted that his head symptoms had become worse at the same time that his legs became numb.

The previous history of the case was briefly this. Mr. —— was a gentleman, aged forty-eight, under the care of Mr. R——, by whom he was first brought to me on May 8, 1883.

He had had specific disease complete, beginning in August, 1882. He was treated with mercury and iodides, and it was whilst still under treatment that his giddiness began in February. First, under the impression that the treatment disagreed with him, he was sent on a voyage to the Cape. He

returned better in health, but still giddy. The giddiness had come on rather suddenly, but not with any great severity, and about the same time he became deaf in the left ear. He suffered at this time from a distaste for food and a feeling of sickness, but he had no pain in his head. This was all before I saw him. When I saw him for the first time on May 8, he was so thin and pale that I suggested that he was passing into malignant anæmia. We gave him mercury, and he improved both in general health and as regards local symptoms. In the beginning of the next November, my notes state that he had then left off treatment for six weeks, that he was quite deaf in the left ear, but nearly rid of his giddiness. He complained much of his hand trembling, and said that he had been obliged to give up writing his own letters. In December he relapsed, and began, as previously stated, to complain of the numbness in his leg. We decided to push mercury by inunction.

Mercury was subsequently freely used, and the patient recovered perfectly, with the exception of slight persisting deafness. He lost his giddiness, became able again to write easily, and regained his colour and strength.

At the same time that I was attending this patient, I had also under care a young medical man, who had exactly the same symptoms, so far as the lower extremities were concerned. He had numbness of both, but chiefly, if I remember rightly, of the left. He complained that the limb felt numb and heavy, and that he could pinch the skin without feeling any sensation. The interval was about the same as in the above case, that is, a little more than eighteen months. The numbness almost wholly disappeared under specific treatment, and he regained and retained good health.

CHAPTER XXVI

AFFECTIONS OF THE EYE

I HAVE already mentioned in different parts of this work the various affections of the eye which are met with in connection with syphilis. It may, however, be convenient to give a brief categorical statement of them. I have, therefore, arranged them in the following list, placing them under the two headings of acquired and inherited disease.

A. Acquired syphilis.

1. Acute iritis.—Usually symmetrical; always in the secondary stage; of fairly common occurrence.

2. Inflammation of the vitreous body.—Often an accompaniment of iritis in its severe forms.

3. Diffuse keratitis.—This is very rare in connection with acquired syphilis. Only a few cases have as yet been observed.

4. Neuro-retinitis.—A primary inflammation of the ocular portion of the optic nerve and of the retina, attended by general haze, but without evidences of choked disc. It is usually seen in the secondary stage. It may affect only one eye or both eyes. Not common.

5. Choroiditis disseminata; scattered choroiditis; gummata in the choroid.—This affection is rare, and is seen chiefly in the late secondary stage. It may be attended by neuro-retinitis, or may occur alone. Sometimes almost wholly confined to one eye.

6. Optic neuritis, with swollen or choked disc.—Usually seen in the tertiary stage, and in association with meningeal gumma. It is rare. As a rule affects both eyes at the same time.

7. Serpiginous choroiditis.—This form (very rare) differs much from the disseminate form. Large patches

of absorption are seen, which slowly spread at their edges. It is often confined to one eye. "Lupus of the choroid."

8. Aquo-capsulitis.—A form of insidious and chronic iritis, of which the most conspicuous phenomenon is the dotted condition of the posterior lamina of the cornea. It may be doubted whether recurring iritis and recurring irido-cyclitis have much claim to be considered as the results of syphilis. They are usually in association with gout.

B. In connection with inherited syphilis we have—

1. Acute iritis.—This is very rare, and usually occurs at about the fourth month, as one of the secondary class. More common in female infants than in males. Very dangerous to sight.

2. Interstitial keratitis.—Tolerably common; usually affects both eyes; often attended by slight iritis, and sometimes by choroiditis. Remarkable for its tendency to complete recovery in most cases.

3. Choroido-retinitis.—Usually chronic, and attended by atrophy; most frequent at periphery; may simulate the results of retinitis pigmentosa, or, on the other hand, may approach choroiditis disseminata.

4. Choroiditis disseminata.—May occur in early childhood or at any time during adolescence. Not known to commence in adult life, but its results are permanent.

5. Serpiginous choroiditis.—Exceedingly rare, just as the corresponding lupoid affections of the skin, so common in acquired syphilis, are almost unknown in the inherited form.

6. Optic neuritis, followed by white atrophy.—Very rare, and almost never recognised excepting in the atrophic stage.

7. It is possible that a few rare cases of chronic iritis, irido-cyclitis, etc., occurring in adolescents or young adults may be due to inherited taint. They are, however, very exceptional in that association, and, as a rule, the inheritance of gout is rather to be suspected, either alone or as a complication.

Plate 19.—Syphilitic Choroiditis

Fig. 1.—Choroiditis disseminata in connection with acquired syphilis. Both eyes were affected. A late stage.

Fig. 2.—Choroiditis in connection with acquired syphilis. The patches of very large size, involving almost the whole of the central part of the fundus, with the exception of the yellow spot itself. There were many other smaller patches. The disease was aggressive. The sketch, which was taken twenty years after the attack of syphilis, is of the eye of a woman, aged fifty, whose eldest child was at the same time under care for syphilitic keratitis.

Fig. 3 represents the eye of a boy, aged eight, who was the subject of inherited syphilis. The conditions in part simulate in a coarse way those of retinitis pigmentosa. The patches of pigment are arranged in a zone; some of them are in streaks, but many others are round. The margins of the disc are partly concealed, and the disc itself is waxy. In this case the boy did not show the usual indications of inherited syphilis, but his elder sister, who was under care at the same time, exhibited them to perfection. She also had choroiditis.

Fig. 4.—Sketch showing recent syphilitic choroiditis. There are numerous isolated yellowish patches in the choroid (gummata). The attack occurred several years after syphilis, and the patient had suffered from retinitis during the secondary stage. When seen three years later, the gummata had disappeared, and pigment patches remained in their place.

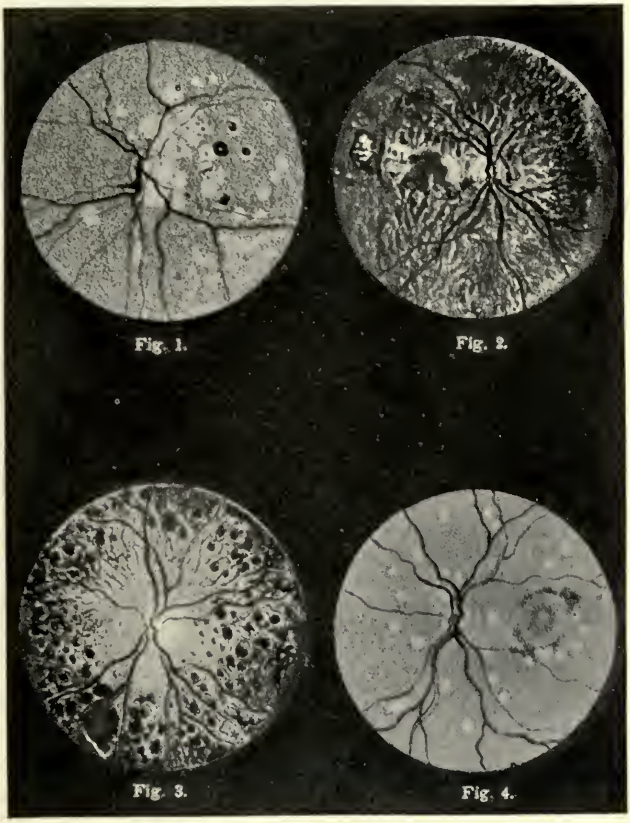

PLATE 19.

Case of choroido-retinitis, with peculiar symptoms, more than a year after syphilis; recovery; degenerative changes eight years later. — Mr. ——, aged thirty-one, suffered from primary disease in August, 1884. The surgeon under whose care he was, a gentleman of large special experience, insisted that the sore was "soft" and not infecting, until the eruption appeared. When it did so, he acknowledged his mistake and prescribed mercury. This was given for two or three months, and then, as all symptoms had passed away, the treatment was laid aside. About eight months later the sight began to fail. The patient was now for several months under the care of an ophthalmic specialist, who recognised the disease, but gave only iodide of potassium. He came under my care for the first time in March, 1886, eighteen months after the primary disease, and four since he had noted failure of his sight. His case is of interest because there had been no relapse of symptoms, excepting in the eyes. He had had no headache or giddiness, and if we except a slight dulness of hearing in both ears, I was unable to discover any other symptoms whatever. He thought that his sight was somewhat improving. He could with a little difficulty see to read No. 5 with either eye, and he was accustomed every day to read his newspaper. He averred that he could see little things well enough, but could not see large objects, and stated that if he went out in the evening he was continually running against people. His occupation obliged him to drive about a great deal, and he had been obliged to give this up, excepting by broad daylight. He could see $\frac{20}{40}$ of the test types; but his sight varied much at different times. There had been no pain in the eyes, and no ocular symptoms except dulness of vision. I was prepared, from his description, to find changes commencing in the retina of the periphery, but this was not so. The condition was one of symmetrical neuro-retinitis. The discs were slightly swollen, their edges concealed, and the adjacent parts of the retina hazy. There were no opacities in the vitreous of either eye, and no iritic adhesions.

[The above narrative appeared in my first edition. Opportunities occurred subsequently for tracing the sequel, and they have rendered the case one of the utmost interest.]

After the patient's single visit to me in March, 1886, he continued small doses of mercury for some months, and made great improvement. He married two years later, and his wife, in due course, bore him four healthy children, without any miscarriages or dead births. He himself enjoyed good health, and it was not till seven years later that he experienced any serious failure of sight. The appended schedule gives an orderly statement of events :—

YEAR	AGE	DETAILS
1884	29	Contracted syphilis. No treatment until eruption.
1885	30	Under treatment irregularly.
1886	31	March, came to me. Neuro-retinitis.
1887	32	Quite well. Sight regained under mercury.
1888	33	Married. A child born (healthy at age of twelve).
1889	34	Good health.
1890	35	A second child, healthy.
1891	36	Good health.
1892	37	A third child, healthy.
1893	38	A fourth child, healthy.
1894	39	
1895	40	Good health, but sight failing.
1896	41	
1897	42	Came to me again, with cataracts. Health good.

The case affords an excellent example of degenerative changes occurring in organs which had suffered from inflammation in the secondary stage of syphilis. Those changes were evidently the results of what had gone before, regarded as local damage, and were not in any sense indicative of still persisting syphilis. The man had for ten years or more enjoyed excellent health, and still did so. He had not lost any of his children, and his wife and four children were all in good health. Excepting in his eyes he had nothing whatever the matter with him which could be claimed as a tertiary symptom. He had no indications of impending tabes. Such a case may be allowed to throw

light on many others in which the changes cannot be brought under direct observation, such, for instance, as tabes itself, general paralysis, and some other remote affections of the nervous system which occur to syphilitics. These may possibly in like manner be due to consecutive atrophies, or other changes incidental to the structures, and not to any recrudescence of syphilis. They may suitably be named "*post-syphilitic degenerations.*"

We must note that the neuro-retinitis first occurred almost two years after the chancre, and at a time when all other symptoms had passed away and treatment had been for eight months laid aside. Dulness of sight was his only symptom when, two or three months after its commencement, I was consulted. The amblyopia was peculiar, and a prominent feature was nyctalopia. He could not see in the dusk, and had much difficulty in quickly recognising large objects.

After this he made no complaint of eye symptoms, and pursued his occupation as a farmer. As shown in the schedule, he married, and four children were born, all of whom survived and had good health. It was not until eight years later that he noticed any material failure of sight. When he came to me in 1897 his left eye had no useful vision, and with the other he could not read easily. I found as the chief condition in the left a dense posterior polar cataract. In the other eye, although cataract was beginning, the fundus could be easily inspected. Patches of absorption of the pigment layer covered almost the whole fundus. Some were small, deep, and white, with pigmented edges, whilst others were large but superficial. The disc itself was rather pale, and its borders were notched. The vitreous was clear. The yellow spot itself had escaped disturbance, and to this circumstance was no doubt due the fact that with such extensive disorganisation he could still see fairly well. Judging from what I have seen in other cases, I should infer that the absorption of the pigment layer had been slowly in progress during many years, and it is very interesting to note that the changes observed in

the first instance were those only of general haze of retina. Posterior polar cataract is, of course, a not infrequent consequent on extensive disseminate choroiditis. It must be stated that I had opportunity for only a single ophthalmoscopic examination.

Different forms of choroiditis.—It is certain that we encounter choroiditis in connection with syphilis in different forms and at different stages of the malady. In the secondary stage there is a choroido-retinitis, beginning at the disc, and not usually spreading far from it. In this affection the choroid is but little involved, but in some instances ill-defined gummata at a distance from the disc are present at the same time. These conditions usually disappear very completely under treatment, and without much damage to the eye. At a later stage—say, from two to four years after the primary disease, and possibly much later—we sometimes encounter scattered gummata of small size, without any indication of disease of the retina or the disc. These are sometimes absorbed very quickly under treatment, but they usually leave atrophic patches, or scars.

Another form of choroiditis, which occurs at a much later stage—say, eight, ten, or twenty years after the disease—is characterised by very large patches of atrophy, which spread peripherally; that is, are serpiginous. The affection in these cases appears to resemble a lupus-process in the skin, and unless specific treatment be vigorously carried out the eye may be almost lost. It is remarkable that the yellow spot itself is sometimes spared when all around it is disorganised. I have seen this in two or three cases. In inherited syphilis we have yet another form of choroiditis, in which the disease begins peripherally, and the patches are arranged in the form of a zone. In this the pigmentation is permanent, and the conditions much resemble those of retinitis pigmentosa. The disease begins about the same time as the interstitial keratitis. It may end in very serious damage to sight.

Scattered gummata in the choroid of one eye only, nearly two years after syphilis; retina not implicated.—I saw Mr.

——, aged twenty-one, with Mr. George Mackenzie, on November 23, 1884. His right eye had failed him suddenly in the preceding August, the failure having been discovered when out grouse-shooting. It soon became so bad that he could scarcely see at all with it, but the other eye remained perfect. He consulted a good specialist, who at once gave him mercury. He improved somewhat under treatment, but not regaining his sight he was, as stated, after three months' treatment brought to me. I found that he could not see $\frac{2}{200}$, and could only just puzzle out Jæger 18 at 8″. Ophthalmoscopic examination demonstrated the conditions of choroiditis disseminata in a comparatively recent stage. Scattered over the fundus were an immense number of gummata of various sizes, from mere points to areas of considerable extent. They were of a yellowish-white colour, and some of them distinctly, though but slightly, raised. In all, the margins shaded off gradually. The smaller ones were round, but the larger were of irregular forms. None were seen near the periphery, and one of the largest involved the yellow spot. It appeared that the choroid alone was involved. The disc and the retina, with their vessels, were quite clear. Where vessels crossed the patches they were not in the least concealed. In further proof of the escape of the retina there was not, with one single exception, the slightest disturbance of pigment. At the margin of one of the largest patches there was at one part a narrow border of black pigment, but all the others were absolutely free from it. Our patient, it should be stated, had light-brown hair and grey irides. Although three months had elapsed since the beginning of the attack, and he had been having mercury, yet, as he had never been salivated, and as there was still proof of some deposit, I had no hesitation in advising further and more vigorous treatment. The history of the syphilis was definite but peculiar. Mr. George Mackenzie, who came with him, had himself treated the case from the beginning. It was exactly two years ago. There were three chancres, and one of them was so decidedly hard that Mr. Mackenzie at once ordered mercury, without waiting for secondary symptoms. The result was that no rash ever appeared, and only a slight and doubtful sore throat. As a bubo suppurated, it was even hoped that the diagnosis had been mistaken. Mercurial treatment was not continued long, but he got quite well, and remained without other symptoms until his eye inflamed. That the choroiditis was syphilitic no one could doubt, for its features were pathognomonic.

As Mr. —— had appeared to be not easily susceptible of the influence of mercury given by the mouth, I advised that he should be made to keep his bed and undergo a vigorous inunction treatment. This was done, and three months later I saw him again. I was told that it had been found impossible to salivate or to produce any obvious effect. He had rather gained in health than otherwise, although large quantities of

the ointment had been used. The eye had improved so far that all the gummata were now represented by white patches. There was still the same absence of pigment at their edges. The sight had improved a little, but not much. He had no other symptoms of constitutional syphilis, was in excellent health, and eager to join his regiment in Egypt, assuring us that he would take care that no one should know that he had a blind eye.

The case seems of interest to the student of syphilis as a proof that a single organ in the body, and a single tissue in that organ, may alone suffer from the constitutional taint. There was not, throughout, the slightest trace of disease in the other eye. It also supplies us with a fact as to the stage of the disease at which choroiditis may occur. It began probably in about the twenty-first month from the date of contagion. It will be noted that it ranged itself thus with the late secondary, or early tertiary, symptoms. Gummata in the testis and arterial diseases are, I believe, prone to occur about the same period, and these, too, are often only one-sided.

I well remember another case in which I myself treated the patient for his primary disease, and in which, as in Mr. Mackenzie's patient, no obvious secondary symptoms ever manifested themselves, and yet a severe choroiditis almost destroyed the sight of one eye. The patient had literally no other symptoms, and twenty years later he remained well.

Keratitis in connection with acquired syphilis.—The occurrence of syphilitic keratitis in connection with acquired syphilis is exceedingly rare. I have not myself seen more than three or four cases in which there was any reason for diagnosing such a condition, and in most of these the affection was but slightly marked and transitory. With the exception of the single case which I am about to describe, I have not seen any in which the keratitis was severe and symmetrical. It is a very interesting fact, and one of which as yet I know of no explanation, that symmetrical keratitis of a severe form should be so common in inherited syphilis and so rare in the acquired disease.

Example of most severe keratitis in association with the secondary stage of acquired syphilis; resistance to treatment for a long period, but final recovery.—The important exception to which I have above referred occurred in the person of a young married woman, whom I saw in Moorfields Hospital, when she was under the care of my late colleague, Mr. Wordsworth. The keratitis occurred simultaneously with the secondary syphilitic eruption and sore throat. She suffered also severely from rheumatic pains. The form of keratitis was most peculiar. I will describe it in the words of Mr. Stanford Morton, by whom the case was published, with illustrations, in the *Moorfields Reports* (vol. ix., p. 51):

"She had intense photophobia, great ciliary congestion and tenderness, with haze in the centre of each cornea, and greyish-yellow deposits of lymph at the periphery, triangular in shape, with the apices converging towards the centre." This was on November 10th. On December 1st "the opacities at the periphery of the cornea had assumed the form of striæ, reaching to the centre of cornea, and a minute blood-vessel could be seen, by means of a lens, to be sent into each stria; in some instances running straight towards the centre, in others branching and anastomosing with the neighbouring branches." By December 5th the whole cornea was more or less opaque; the central opacity and the striæ, however, remaining well marked, and being distinctly in the layers of the cornea, as was the vessel in the centre of each opaque stria. In this case treatment proved very disappointing. Mercury was used more or less from November until September of the following year. During this long period the eyes had remained in much the same condition, but there had been repeated relapses, attended by acute pain, œdema of the lids, and chemosis of the conjunctiva. In September, her corneæ remained in the same condition; the opacities were no less dense, and the striæ, with their vessels, were as well marked as ever. The recurring attacks of inflammation had been so severe, and her loss of sight was so nearly complete, that it had even been suggested that it would be better to have the eyes excised. Other symptoms of syphilis also long persisted; she had ulceration of the alæ of the nose and vomer, and psoriasis of the palms and soles. Long after all other symptoms had disappeared the corneæ remained hazy. Finally, however, they cleared, and I believe that she can now see almost perfectly. Lapse of time seemed to have been the chief agent in the case.

A recent series of cases in which inflammation of

the cornea occurred in adults who had suffered from acquired syphilis has been placed on record, chiefly from the practice of the Moorfields Hospital. Messrs. Lang, Lawford, and Collins have been the chief contributors. Most of the cases appear to have been of comparatively short duration, and in no single instance were both eyes affected. In several the primary sore had been on the conjunctiva of the lids; but in all these a considerable interval between the chancre and the keratitis had occurred. They were all, however, rather associated with the secondary than the tertiary stage. As compared with what is so well known in the inherited form, and with Mr. Morton's case just quoted, none of the cases were severe, and in none perhaps was the whole cornea involved.

The case which most nearly approached the hereditary type was one given by Mr. Lawford, in which the keratitis occurred thirteen years after the primary symptoms, and in close connection with others of the tertiary group. This woman brought with her her daughter, aged eight, who was the subject of a symmetrical attack from inherited taint.

Most of these cases proved amenable to anti-syphilitic treatment, but in one it is mentioned that the attack lasted for a year. Mr. Morton's case, given above, remains, so far as I know, the only recorded example of a symmetrical attack of severe and generalised keratitis in connection with acquired syphilis. The apparent association of chancre of the conjunctiva with subsequent keratitis is of interest, as is the observation that in several cases of the latter the patients' nails were also affected.

Treatment.—It is impossible to insist too strongly on the importance of prompt and efficient mercurial treatment in all forms of inflammation of the eyeball.

In the present chapter I have dealt with syphilitic inflammations of the eye in general. The reader will find a subsequent chapter devoted specially to the eye in inherited syphilis. Recent experiments on animals have shown that the cornea appears to be attacked with especial ease by the spirillum of syphilis.

CHAPTER XXVII

SOME GENERAL STATEMENTS RESPECTING SYPHILIS AS AFFECTING THE NERVOUS SYSTEM

It is perhaps not too much to assert that there is scarcely a single type-form of disease of the nervous system which has not its representative in the chronicles of syphilis. The influence of the specific poison may be exerted either directly on the nervous elements, or indirectly on the blood-vessels which supply or the fibrous structures which protect them. Changes attributable to inflammations may occur in the earliest stages, whilst those of a degenerative character may become conspicuous only after very long intervals. Important and very various complications may result from the inherited proclivities of the subject of the case, or from the influence of other maladies, or from habits and mode of life. From these considerations it will be seen that it is impossible to write with any approach to completeness on this part of my subject, and most emphatically to do so within the compass of the present work. I can only attempt to deal with a few of the more important topics.

As a preliminary it may be laid down as a safe rule that in all cases of chronic disease of the nervous system occurring in those who have ever had syphilis, it is well to try the effect of a long course of mercury in small doses. Such courses, judiciously managed, very rarely interfere with the general health and often much assist it, whilst their effect is usually very beneficial if there be any taint remaining. A much more restricted recommendation must be given to the iodide of potassium, which often seriously depresses the nerve tone and should never be used unless really needed.

Other chapters in this work are devoted to special branches of this subject. In the present one we are concerned chiefly with such topics as are not specially dealt with in them.

Headaches occurring to those who have suffered from syphilis are a symptom which should never be neglected. They are very often the danger-signal of impending disaster, and if accepted as such may prove invaluable. We must, however, be on our guard against undue suspicion, and investigate each case on its merits. When the diagnosis remains uncertain, the golden rule—when in doubt give mercury—should be observed, for many a case of liability to bilious headaches will be cured by a mercurial course. The following narrative has perhaps some useful lessons in this direction.

Case illustrating the differential diagnosis of syphilitic headaches.—A young gentleman, aged twenty-five, was sent to me in the belief that he was suffering from "syphilitic headaches." He was thought to have had syphilis three years ago, and had been under treatment for it nine or ten months; he remembered a sore throat, but it was believed that no rash had ever occurred. He described his headaches as being such as entirely disabled him from his occupation, and said that he often did no more than two days' work in the week. The pain was usually in the eyebrows, or forehead, or side of head; it never prevented his going to sleep, and would usually disappear as the day wore on, being almost always at its worst in the morning. He said that he scarcely ever woke without headache, unless he chanced to wake unusually early. Sometimes, waking early, he would find himself perfectly free from pain, feeling lightsome and remarkably well. This temporary immunity, however, was almost always the precursor of a very severe headache, which was especially liable to come on if he allowed himself to fall asleep again. A second sleep in the morning invariably produced headache, and if he chanced to sleep in the daytime for a few minutes it generally had the same result.

Noeturnal emissions and sexual intercourse generally left him with a bad headache.

These facts fitted far better with the supposition that his headaches were of neuro-vaseular origin than that they had anything to do with syphilis, and on inquiry as to his family history he told me that his father had suffered terribly from headaches just like his own, and further, that one of his sisters was frequently laid up with headache on the same days as himself.

He had also been liable to headaches of a somewhat similar eharaeter, though not so severe, before he had syphilis. On inquiry as to other aeeompanying eonditions, I found that he was not liable to eonstipation, nor were his hands and feet usually cold when his head aehed. On the contrary, his hands and feet were warm and moist. He had observed that the slightest amount of draught in the room would make the left side of his body feel chilly. Both tea and eoffee disagreed with him, and the latter always kept him awake.

Although it was impossible wholly to put aside the suggestion of syphilis, yet I could find nothing in the ease which pointed definitely in that direction. Even the history of his syphilis was somewhat doubtful, and he had during the last two years had no reminders—nothing, indeed, that was in the slightest degree suspieious, except his headaches. The symptom which he mentioned as regards a seeond sleep in the morning is exactly one that is very common in the headaches which we may suppose are due to venous eongestion. The syphilitic headaehe is usually a nocturnal one, whilst this was always worse in the early part of the day, and ended as night came on. These facts, taken together with the family history, seemed to justify a seeptical diagnosis as to syphilis. Under a mixed treatment with tonics and minute doses of mereury he made good progress. Nothing oeeurred subsequently to confirm the suspieion of syphilis.

Acute and generalised paralysis resembling Landry's malady.—There are some cases of rapidly

increasing spinal paralysis which have been regarded as of syphilitic causation, concerning which it is difficult to make a diagnosis from "Landry's paralysis." A case in the *Clinical Society's Transactions* (vol. xxxviii., p. 194) is one of these. The paralysis had developed rapidly, and involved the upper as well as the lower extremities. There was difficulty in swallowing and double vision. The pupils were almost motionless. Within five days there was great improvement. Two months later the patient could use his legs freely, the pupils reacted well to light, and the knee-jerks were returning. In this instance there were no sensory symptoms. Many similar cases might be quoted from recent medical literature. If the symptoms have developed very rapidly, and if both upper and lower extremities are involved, the diagnosis of syphilis must not be made too confidently, but it will always be wise to push specific treatment. A very rapid and complete recovery does not, however, confirm the suspicion, but rather the reverse. More will be said on the topic further on.

Paralysis of the fifth nerve.—Cases of paralysis of the fifth nerve occur every now and then in connection with syphilis, and constitute a group of great clinical interest. If I were to speak from my own experience, I scarcely know of paralysis of the fifth nerve, except as a consequence of syphilis, while I have repeatedly seen it in that connection. Sometimes it is complete, and sometimes only one part of the nerve is involved. I have more than once removed the eyeball, in consequence of loss of the cornea, in cases in which the anæsthesia was so complete that the patient needed no anæsthetic and did not feel the incisions at all. Yet even in these cases the cure, under the use of iodide of potassium, was in the end almost complete. I do not recollect a single case which remained under my care, in which paralysis of the fifth nerve was permanent, when it depended on syphilis. In several, however, I have lost sight of the patient before the cure was complete. The manner in which the temporal and masseter muscles may again

plump-out, after having been completely paralysed and atrophied for months, is very striking. It is to be admitted, however, that, although they almost invariably recover to a considerable extent, yet they almost always remain weakened. I may quote one remarkable case in which, about twenty-five years ago, I treated a gentleman, first for paralysis of one fifth nerve, and then for that of the other. Owing to ulceration of the cornea, excision of one eye became necessary, but under treatment he regained both sensation and motion in the nerve territory. The recovery was permanent.

As a rule, paralysis of the fifth nerve from syphilis affects only one nerve, and shows little or no tendency to become complicated by affections of the other cranial nerves. There are, however, exceptions. I have seen two cases in which both fifth nerves were involved (not simultaneously), and several in which other nerves suffered also. This want of symmetry and want of aggressive tendency would suggest that paralysis of the fifth nerve is usually due to disease of its trunk or ganglion rather than at its place of origin. Some instructive cases of paralysis of the fifth nerve will be found recorded by Mr. Dixon in the *Medico-Chirurgical Transactions*, and I have myself reported several in the *Ophthalmic Hospital Reports*.

Immunity of the seventh nerve in syphilis.—A remarkable point in reference to the influence of syphilis on the cranial nerves is the almost constant exemption of the facial nerve. Facial paralysis from rheumatism (Bell's paralysis) is tolerably common, but Bell's paralysis from syphilis is infinitely rare. I do not think I have seen more than half a dozen examples of it, and they were always associated with affections of other nerves. Dr. Buzzard and Dr. Hughlings Jackson have both, I believe, recorded examples of it. Its occasional association with internal otitis and deafness has already been referred to.

Paralysis of the glosso-pharyngeal and pneumogastric nerves.—I have seen two or three cases in which the inability to swallow, with other symptoms of syphilis affecting the nervous system, suggested

paralysis of the glosso-pharyngeal. In two cases the patient had to be fed with a tube for a considerable time while under treatment, but in both recovery resulted. Defects in the innervation of the muscles of the larynx occur every now and then in connection with syphilis, and make it probable that branches of the pneumogastric are involved. They are, I think, usually recovered from under treatment. I do not know that the diagnosis of a gumma disorganising the trunk of the pneumogastric nerve has ever been made, but it is a possibility which is worth keeping in mind. I have already remarked on the curious fact that while ophthalmoplegia externa appears to be, in nine cases out of ten, a consequence of syphilis, we scarcely ever in any case trace bulbar paralysis (or glosso-labio-pharyngeal) to that cause.

CHAPTER XXVIII

SPINAL PARALYSIS IN SYPHILIS

Amongst a considerable variety of forms of spinal paralysis which may occur in connection with syphilis, one takes the lead both in its frequency and importance. I allude to what is known as syphilitic paraplegia. It is a well-defined malady, many of its examples exhibiting very close similarity to each other in their course and results. Unless promptly and efficiently treated it is a very dangerous affection. It may be convenient in the present chapter to give chief prominence to this affection, and to allow other and less frequent forms to range around it in similarity and contrast. Next in importance to it we have cases which are more than paraplegia, since the upper extremities are also involved; and next to these, certain cases of acute affection in which cranial nerves, or even the cerebrum itself, are involved. These last, as already observed, present us during their early stages with very puzzling simulations of the paralysis which is known as Landry's.

Paraplegia in syphilis.—Although I have seen a great many cases of syphilitic paraplegia, I have never in a single one had an opportunity for a *post-mortem*. This fact says much for the efficiency of treatment, but leaves me obliged to be indebted to the observations of others for all that I can say as to its pathology.

In some cases the motor function suffers chiefly, and in others the sensory; but in many both are involved, though not equally. It is seldom that one limb alone is implicated, but very common for one to take precedence, and be throughout more severely affected than the other.

Pain in the back, across the lumbar region, is an almost constant symptom in the early stage, and has been supposed by some to imply meningeal mischief. Its value in this direction has probably been overrated, for we know that in other affections severe pain in the back on motion may be present, whilst there certainly is no meningitis.

When either sensation or motion fails alone, and over a large area, and especially if both limbs are affected, it is more probable that the condition is central than that it results from pressure on the cord or nerve-roots.

When both sensation and motion fail together, and in a limited and definite area, the inference is, of course, easy that there is damage to a nerve-trunk after the roots have joined, or to both roots. This condition is, however, rare. It may imply simply a local neuritis.

In severe cases the sphincters almost always suffer.

In my experience cases of syphilitic paraplegia almost always recover, but much weakness of the back and limbs remains. The recovery is usually permanent.

I may say that in 1887 I found recorded in my note-books examples of this affection to the number of more than forty. If it be asked how it is that so large a number have fallen to the lot of one observer, whilst only a few single examples have been recorded by others, I must explain that I have been interested in the subject for many years, and have carefully collected all the evidence that I could get. Many of my patients came under care long after the attack of paraplegia, and on account of other symptoms of tertiary syphilis, or possibly for some wholly independent ailment. In these the previous occurrence of the paraplegia was recognised by the patient's gait, and the history of the long-past illness was obtained either from the patient himself or from his surgeon. These cases, although less trustworthy, as regards the early symptoms, than those under personal observation, are of especial value in reference to prognosis, and as

illustrating the kind and degree of recovery which ensues.

Briefly to describe this form of paraplegia, it may be said, that its first symptom is usually pain in the lumbar region of the spine. Very quickly numbness of the feet follows, and, with but little delay, paralysis of the bladder and rectum. The paraplegia may be complete, or almost so, as regards both sensation and motion, in the course of a week or ten days. At this stage the patellar reflex may be lost. If specifics are very promptly and efficiently used, indications of tendency to recovery are soon observed, and after an illness of two or three months the patient is again able to walk, and enjoys fair control over the bladder and rectum. The recovery, however, in severe cases is never complete, and, although improvement may continue during years, the patient is often to some extent permanently dependent upon the help of sticks, and almost always the peculiar manner in which he throws his legs about in walking betrays the malady from which he has suffered. During all the later stages of the affection the patellar reflexes are greatly exaggerated, and there is seldom perfect control over the sphincters. A very remarkable feature of the disease is that, when once recovery has taken place, there is no tendency to relapse.

The invariable implication of the sphincters, the usual limitation of the paralysis to the lower half of the body, and the rapid development of increased patellar reflex, distinguish these cases from those of symmetrical and multiple neuritis observed in connection with the abuse of alcohol.

Although in the above sentences I have endeavoured to sketch the more typical form of this paraplegia, it must be admitted that it is liable to great variations in degree of severity. The group of symptoms is, however, I think, tolerably constant. In some cases the attack may be only threatened, and never approach completeness; whilst in others the paralysis may be so absolute that it may be followed by bedsores or other complications, and end in death.

A few cases, although not ending quickly in death, may show no tendency to recover. As might be expected, the more severe the symptoms, and the more absolute the paralysis, the less is the hopefulness. The degree of recovery, however, is usually, considering the severity of the symptoms, very surprising. As regards the stage of syphilis in which these attacks occur, it may be said to vary from the fifth month to the end of the second year, and a few cases will be observed even later. The most severe cases, however, are usually witnessed within the first year. The later in the course of syphilis it is that the spinal symptoms are developed the more likely is the paraplegia to be slow in progress and to evince aggressive tendencies. In a few of the cases described the upper extremities have been to some extent involved, but, as a rule, it will appear that the morbid changes are strictly limited to a definite part in the dorsal region of the cord, and show no tendency to extension. In very few indeed of my cases was there any complication with head symptoms.

A series of cases upon which chiefly my statements here made are based will be found recorded in the *Proceedings* of the Royal Medical and Chirurgical Society.

One of the circumstances which may give us most confidence in the belief that this form of acute paraplegia is a definite clinical malady, is the remarkable similarity of the isolated cases which have been recorded by various authors. They are all almost exactly alike, and fit very closely with the description given above. This remark applies to the detailed records of cases, and not to the general statements of authors unaccompanied by facts. Whilst the general evidence of symptoms—the sudden acute onset, the definite local limitation, and the severity of the paralysis—all seem to give support to the belief that the process is a myelitis and not merely a change secondary to disease of the blood-vessels, it is yet to be admitted that in most of the carefully performed autopsies the latter condition has been found. More

facts are needed before we can feel sure of our ground in this matter. In the meantime I think we may provisionally adopt the phrascology of Erb, who speaks of it as a "*myelitis transversa dorsalis.*"

At the date of my first edition I had found but little in our systematic works concerning the spinal cord in the early periods of syphilis. Dr. Hilton Fagge and Dr. Buzzard were the chief exceptions. The latter, in his excellent clinical lectures, has devoted one to "Syphilitic Paraplegia." One of the cases there related coincides in all its details with those to which I now refer. A coachman, aged twenty-five, who had contracted syphilis only eighteen months previously, became paraplegic in the course of nine days. He had severe pain in his back. Sensation was so far lost that he could not recognise the prick of a pin, whilst the reflexes were exaggerated. The power of motion in the right leg was almost wholly lost, but the left was less affected.

During the first four days the temperature was slightly increased, but never higher than 100°. Iodide of potassium was given, and the inunction of mercury was pushed to ptyalism. On the thirty-sixth day the patient could get up and walk; and on the fiftieth he was discharged, and returned to his occupation. Dr. Buzzard records in the same lecture another case, in which a married woman, aged twenty-nine, recovered from paraplegia, of three months' duration, under iodide of potassium. In this case there were present the remains of disseminated choroiditis, but no history was obtained as to syphilis. The upper extremities were affected as well as the lower. Details of the recovery are not very full, and there is no note of progress after she left the hospital.

In the first edition of this work (1887), I wrote: "I have seen a great many cases of syphilitic paraplegia. . . . My impression is strong that many of them are due, to central changes of the nature of myelitis." I also wrote at that date that the bladder and rectum were usually involved, that most of the cases resulted in partial recovery, and that such recovery

was usually permanent. Thus almost all the statements which I now make were made then.

In 1892, Prof. Erb published a short but excellent paper on "Syphilitic Spinal Paralysis," in which he mentioned having seen upwards of twenty-two cases. Many of Erb's statements agreed closely with those which I had made, but in some important respects they did not. Our differences were, I think, to be chiefly explained by the fact that he included many cases which began much later in syphilis than those which I had adduced. Thirteen out of twenty-two cases on his record occurred within the first three years of the syphilitic infection, eighteen were within the first six years, whilst four were as late as the ninth to the twentieth year. It is probably the inclusion of these late cases, in which the malady showed a somewhat different course, which led this high authority to state that the onset is generally gradual and seldom rapid; and, further, that the affection of sensation, although constant, is only slight. Erb's paper excited much attention on the Continent, and was followed by others—by Kuh, Oppenheim, and Lamy—which, in the main, corroborated his statements.

It cannot probably be too clearly understood that the facts collected by different observers will vary in character in connection with the peculiarities of the sphere of observation of each. The acute cases fall to the lot of the hospital physician, the family practitioner, or the private consultant, while the chronic cases flock to the specialist or pass into asylums.

Dr. Déjérine had recorded the two following cases in the *Revue de Médecine* of January, 1884, and they were quoted in the *Lancet* of February 9, 1884 :—

The first was that of a coachman, aged fifty-one, who had contracted syphilis thirteen months before, "having had no other manifestations beyond the primary chancre, which ulcerated anew five months after its cicatrisation." On each occasion mercury was taken for two months. The nervous symptoms commenced with headache and irritability of the bladder, followed by weakness of the legs, lightning pains, and cramps. In a few days complete paraplegia ensued, the loss of power occurring suddenly. There was absolute

anæsthesia from the umbilicus downwards, incontinence of urine, headache, commencing sloughs over the buttocks, as well as complete loss of motion. The course of the case was rapid, and twenty-eight days from the onset death occurred as the result of pulmonary œdema. The autopsy revealed "acute central myelitis from the lower part of the cervical to the lower part of the lumbar region, with commencing ascending degeneration traceable to the medulla." There were marked degenerative changes in the anterior nerve-roots, but the posterior roots were intact.

The second case was that of a man aged thirty-eight, who a year previously had contracted syphilis, followed by secondary lesions, rapidly disappearing under specific treatment. Pain in the spine was the first symptom noticed, and about a week later paraplegia ensued with a "girdle pain" round the abdomen and lower part of the chest. The onset was rapid; total paraplegia, both as regards motion and sensation, occurred, the reflexes were abolished, and there was paralysis of the sphincters. Bedsores appeared on the sacrum, and death ensued eight days after the onset of the paralysis (fourteen days from the beginning). At the *post-mortem* myelitic changes were found involving the grey matter of the lower half of the dorsal, and upper half of the lumbar region, with degenerative changes in the corresponding anterior nerve-roots, but none in the posterior.

A case is recorded in the *Lancet* of June, 1889, which was under the care of Mr. Bernard Walker, of Rotherham, which is valuable because a *post-mortem* was obtained. The notes were written by Mr. H. Cropley. A man, aged thirty-four, had syphilis seventeen months before his paraplegia. His early treatment was neglected, and he had an eruption followed by iritis. Whilst using specifics for the latter, paraplegia set in, and was complete in ten days. Sensation was not abolished, but the patellar reflexes were lost. The catheter was needed, and cystitis and bedsores followed. Death occurred one month from the beginning of the symptoms. The cord and its membranes looked healthy, but its lowest part was somewhat softened and the white columns were crowded with leucocytes. The arteries of the pia mater over the softened part were occluded by thickening, chiefly of the internal coat. A remarkable point in this narrative was that sensation was not materially affected, yet bedsores caused death.

If we may count Sir William Gull's case as the first in which pathological appearances were noticed, we have in it the record of inflammatory changes in the cord which were appreciable only to the microscope. In Dr. Hilton Fagge's case there was in addition to these a most remarkable condition of occlusion of the small arteries of the pia mater.

In a case recorded by Lamy, in which a man died with paraplegia one year after contracting syphilis, to the naked eye the cord appeared normal, but microscopic examination revealed diffuse gummatous arachnitis and lepto-meningitis. The infiltration was most marked about the veins, and the spinal arteries were almost unaffected. There was softening of the cord in the upper dorsal region.

In another case by Lamy the paraplegia set in one year after the syphilis, and was complete in seven days. Death from bedsores, etc., occurred eighteen months after the onset of the paralysis. The autopsy revealed lepto-meningo-myelitis, with implication of the nutrient vessels of the cord (periarteritis and periphlebitis).

Dr. Arthur Fox, of Bath, has recorded in *Brain*, Part vii. (vol. ii., 1880, p. 418), the case of a prostitute who had suffered from syphilis, and who died after a fortnight's illness with symptoms of ascending myelitis. Her illness began with pains in the legs and loins, and was followed by incontinence of urine and loss of power in both upper and lower extremities. Very slight changes were detected on microscopic examination of sections of the cord, but they were believed to indicate an early stage of diffuse myelitis.

Case of paraplegia beginning about two years after syphilis; recovery under mercury; partial restoration; optic neuritis of one eye only, ending in blindness; no relapse during twenty years.—I have a case of much interest to relate which bears important evidence as to the prognosis of certain cases of paraplegia. A gentleman of fifty was sent to me for an eruption which proved to be only pityriasis versicolor. I observed that he was partially paraplegic, his legs dangling loosely, although he could both stand and walk. I asked him to tell me the

history of his former illness. It was this. Before his marriage he had some venereal sore, and was treated with mercury and iodide, but he could not remember having ever had any symptoms excepting the local ones. No reminders of any kind ever occurred, and he married about two years afterwards. Before allowing him to marry, his surgeon put him through a fresh course of the iodide.

The marriage took place, and all went on well for six months, when, whilst travelling in Norway with his wife during very hot weather, he noticed that his right leg was becoming weak; then suddenly one morning on rising he found that he had lost sensation in both legs. In this condition he was brought home, and put under the treatment of one of the most eminent physicians of the day. Mercury was given to salivation. He was three or four months confined to his room and couch, and during the early part of this period had incontinence of urine and fæces, and entire inability to feel in the lower extremities or to move them. Recovery was gradual, but he finally became able to walk and to retain his excreta. After about six months no further pain occurred. He could walk with a stick slowly, his legs swinging loosely. His bowels had ever since been obstinately costive, and his bladder acted slowly and often not efficiently. Sexual power had been permanently lost. The upper extremities were never affected, and he never had any other definite nerve symptoms excepting failure of the left eye. This eye became blind a year or two after his paraplegia. It diverged, and he lost all perception of light in it. The occurrence of paraplegia six months after marriage gave rise, of course, to a suspicion in another direction, and I inquired on this point as to my patient's own impressions. He did not admit that such was the case, and added that up to the time of its occurrence he had always been very strong, and accustomed to very vigorous exercise. Excepting his paraplegia he appeared to be in very good health. There had never been any ataxic symptoms, and the pupil of the sound eye still acted well. He had formerly been troubled with muscæ, but had never had any definite cerebral symptoms.

Case of paraplegia occurring two years after syphilis; iodide cure; partial restoration; no relapse during six years.—Many years ago a lady and gentleman brought to me their son, a boy of ten, on account of inflamed eyes. The mother reminded me that she had herself consulted me two years before, for a sore in her throat; and that I had then inquired particularly as to whether her children had any of them suffered in their eyes. My treatment, she added, had quite cured her throat. I turned to my notes of her case, and found that I had diagnosed her throat as syphilitic, and had prescribed accordingly. Now that her husband and son were before me it seemed a good opportunity to verify the diagnosis, and get the family history, which on the first occasion, when

the lady only was present, I had not ventured to inquire about. I looked at the boy's physiognomy and teeth; but there was nothing suspicious in either, and on examining his eyes I found no evidence of interstitial keratitis, but only a superficial ulcer. Having sent the boy and his mother out of the room, I put some questions to the father. I observed that he walked without a stick, but with a very awkward gait, as if partially paraplegic. His gait was not that of locomotor ataxy, but his legs dangled as if loose at the hips, and he had evident difficulty in managing them. He at once admitted that his medical advisers, among whom had been two or three of our most distinguished specialists, had attributed his paralysis to "venereal taint." He had contracted syphilis during his married life, and *since the birth of his boy,* the date being almost eight years ago. No children born since had lived. Thus the escape of the boy was at once explained, and the diagnosis of specific disease in the mother at the same time confirmed.

I was next much interested in extracting what facts I could as to the paraplegia in the husband. It appeared that the first indications of disease in the spinal cord had consisted of pain in the back, which occurred almost exclusively in the night. For this pain he consulted many physicians, and could get no relief. Next his legs began to get weak, and he had difficulty in holding his water. At length almost complete paraplegia set in, and he was confined to bed with inability to use the lower limbs, and incontinence of urine and fæces. Dr. Radcliffe was the first to diagnose the syphilitic nature of the disease, and to prescribe the iodide. After two months in bed he slowly recovered up to his present point, and for some years past had remained in the same condition, able to walk about, but obliged to wear a urinal, and quite without sexual power. There had never been any brain symptoms; the pupils still acted well, and the general health was good. The lower limbs were liable to occasional reflex spasmodic movements. For some years he had taken no medicine, and there had been no tendency to relapse. Thus it will be seen that the paraplegia set in about two years after the primary symptoms, that it was preceded by pain, that it involved motion more than sensation, that it implicated the sphincters, and had destroyed the sex-function.

Disease of the spinal cord with paraplegia in the secondary stage of syphilis; death and autopsy; extensive occluding disease of the arteries of the spinal pia mater.—I extract the following case from Dr. Hilton Fagge's "Practice of Medicine." It gives us a good example of paraplegia occurring in the secondary stage of syphilis. Its chief

value, however, consists in the circumstance that an autopsy was obtained, and extensive disease of the vessels of the cord proved to be present. The softening of the cord appeared to be secondary to this arterial disease.

"A man, aged twenty, was actually under treatment by Mr. Davies-Colley for syphilis when he became paraplegic, and was transferred to the care of Dr. Wilks. He died two months later. The cord in the mid-dorsal region was flattened and soft for about an inch and a half of its length; the antero-lateral columns, and the grey matter, etc., were especially affected, the latter being of a rusty-brown colour. To the naked eye there was no obvious change in the pia mater. But when a piece of it, corresponding with the softened part, was placed on a microscopic slide and examined with a lens, the walls of the arteries were at once seen to be enormously thickened and degenerated. By reflected light they looked like solid, opaque, white cylinders; by transmitted light their tissues appeared black. Neither Dr. Goodhart nor I could find any in which the affection was in an earlier stage, so that we might have compared it with that of which Heubner has given so complete a description, as occurring in the cerebral arteries. I think it is very likely that many cases, such as have hitherto been supposed to be examples of softening from syphilitic myelitis, may hereafter be traced to the defective blood supply consequent on a syphilitic affection of numerous vessels in the spinal pia mater; and it may be that the same lesion will be found to account for those other cases in which, as yet, no morbid change whatever has taken place."

Cases of ascending spinal paralysis (chiefly motor) at different stages of syphilis.—Dr. Buzzard in his Lectures adduces several cases in which there was a tendency to universal spinal paralysis in connection with syphilis. They occurred at very different periods of the disease.

In one (Wagerof's) the patient, under mercurial inunction, recovered from an acute and very threatening attack which occurred five years after the syphilis. It was motor paralysis only. In one, under Dr. Buzzard's own care, the intermediate period was no less than twenty-eight years. In this case, as might be expected, the symptoms had been somewhat more gradual in their development; motion had been chiefly affected. They disappeared to a large extent under treatment.

In another case (by M. Taffe) a young man became paralysed as regards motion six months after his syphilis, and died through failure of the respiratory muscles on the tenth day. Unfortunately there was no autopsy.

Cases diagnosed as acute multiple neuritis.—Under this heading it is wished to place certain cases, somewhat difficult of interpretation, in which the subjects of syphilis become affected with more or less general paralysis, but with symptoms which appear to exclude the supposition that the central organs are primarily involved. Cerebral symptoms may now and then be present, but the most plausible hypothesis in most of these cases seems to be that there is a condition of multiple neuritis. They may rank as simulations more or less close of Landry's paralysis, to which I have already referred.

In illustrating this subject I find recorded by Dr. Alexander W. Stein* the case of a man, aged forty-eight, who had passed through the usual stages of primary and secondary syphilis without specific treatment. When the eruption was fully out, and he had insomnia and elevations of temperature, he was, for the first time, treated by specifics. These he took but inefficiently. The chancre had been contracted in the end of January, the treatment was commenced in the middle of May, and in the end of August his nervous symptoms set in, at which time he still had the remains of his eruption. After suffering for three days from pain in his back, there was developed almost simultaneously impairment of sensation and of motion in all his extremities. In the course of two days he was unable to walk without assistance. There were insomnia, restlessness, some headache, and diplopia. The patellar reflexes were entirely absent. He was transferred to a hospital, at which the suggestion of syphilis was either unknown or ignored, and no specifics were used. He had hallucinations, and was very noisy. On September 12th, a fortnight after the beginning of

* *Journal of Cutaneous and Genito-urinary Diseases*, October, 1894, p. 443.

his severe illness, he began to complain of sensations of choking, and was unable to expectorate; and he died on September 15th. During the last few days his respirations were increased to 24 and even 44 in the minute, the heart's action being rapid and irregular. The temperature had not been higher than 100° till the day of his death, when it was 101°. Dr. Stein writes: "The bilateralism of the anæsthesia, separated by an area in which there remained normal sensitiveness, makes it more than probable that the patient suffered from a toxic polyneuritis rather than a disorder of the central nervous system." It is unfortunate that no record in this case is preserved of the state of the sphincters or of the condition of the skin of the trunk, and, yet more so, that there was no autopsy. The case may have been one of ascending myelitis.

Two cases which have occurred in my own practice are to a considerable extent parallel with the one just quoted. In one of these a man of about sixty, in whom the secondary stage of syphilis had been permitted to develop to a condition of great severity, and who had been with difficulty cured by the combined use of mercury and arsenic, developed subsequently a condition of general paresis. It was in the fourteenth month from the commencement of his syphilis. He was for some days confined to bed with general numbness and total inability to use his limbs. I believe he had no paralysis of the bladder or rectum. He was at this time at a great distance from town, and I was consulted only by letter. I urged the more vigorous use of specifics; and under these, in the course of a few weeks, he made a complete recovery.

My second case was a yet more severe one. Its subject was a young man for whom I had myself prescribed for secondary syphilis. From this he had almost wholly recovered, and the treatment had been suspended (in consequence of the prejudices of his homœopathic parents), when he began to lose strength and to become apathetic. Suddenly an acute illness

developed. He had ptosis, first on one side, then on the other. There was strabismus, almost complete loss of use of all the limbs, and paralysis of the sphincters. His mental condition was such that he would only answer in monosyllables, and at times could scarcely be got to put out his tongue. From this condition, under the very liberal use of mercury both internally and by inunction, he entirely recovered, and afterwards remained well. His nerve illness occurred eighteen months after his primary disease.

Many cases of neuritis of single nerves in the course of syphilis have been recorded, and in a few the affection occurred in early periods of the disease. Our knowledge of the subject, however, is as yet very indefinite. Dr. Fordyce, of New York, in an article on this topic well remarks that typical multiple neuritis resembling that which follows the acute infectious diseases, when met with in syphilis, ought to be in the early period of the disease. He has recorded a case of his own, in which a man in the third or fourth month after syphilis had such weakness of his legs that he was unable to stand. He was able, however, in bed to move his legs quite freely. His muscles were tender, and his feet more or less numb. The patellar reflexes were lost. The case was differentiated from paraplegia by the circumstance that the functions of the bladder and rectum were unimpaired. The attack occurred whilst the secondary eruption was still fully out. The recovery under specific treatment was complete.

Dr. Buzzard has recorded a somewhat similar case which was attended with double facial paralysis, and in which complete recovery ensued under treatment for syphilis. In this case all the extremities were affected, and even the muscles of respiration. Cutaneous anæsthesia was more or less general, but the sphincters retained their power.

The facts which I have mentioned make it abundantly evident that during the early periods of syphilis various parts of the nervous system are liable to be attacked by affections curable by the prompt use of mercury.

CHAPTER XXIX

HEMIPLEGIA IN SYPHILIS

Causes.—Amongst the more common conditions which may cause hemiplegia may be mentioned hæmorrhage and arterial obstruction. The arterial obstruction may be by embolus, by thrombosis, or by pressure from perivascular effusion. The symptoms which are induced by these several influences, and which usher in the resulting "paralytic stroke," present differences that much aid diagnosis, and the cases require very different treatment and suggest prognoses which are very dissimilar. To speak of "syphilitic apoplexy" or "syphilitic hemiplegia" would be to some extent a misuse of terms, and yet it is the fact that such names would convey concisely very important meanings. Hæmorrhagic apoplexy, with its sudden onset, liability to increase, and permanency of damage, is almost unknown in syphilis, and the same may be said of the very sudden seizures which characterise the plugging due to a moving embolus. It is with arterial obstruction, either from internal thrombosis or external pressure, that syphilis is almost exclusively concerned. In neither of these is the lesion which induces the attack of sudden development, and from this it follows that we may usually expect that premonitory symptoms will have preceded any "stroke" or "fit" which has had its origin in syphilis. Such is indeed the fact, and it is a very important one. In a great majority of cases in which a syphilitic patient experiences an attack resulting in hemiplegia there will have been as warnings, often for several days before, pains in the head, attacks of giddiness, or tingling or numbness in the limbs. Many attacks may, indeed, be averted by timely attention to such warnings.

Treatment.—It has often been pointed out that it is absurd to attempt, by active treatment, to remove the effects due to common hæmorrhagic apoplexy. No such plea for the neglect of active measures can, however, be alleged in cases of hemiplegia in connection with syphilis. In these the cause is often one which admits of treatment, and indeed urgently demands it. It is probable that in many there is, at any rate in the first instance, no destruction of cerebral substances, either by softening or other change, but only a local deprivation of blood supply. Periarteritis, approaching the nature of gumma, is probably an almost invariable condition, alike of those cases attended by internal thrombosis and those in which there is none. This is a condition which may be rapidly influenced by treatment. The local pressure on the arterial trunk may be removed, and with the re-established blood-stream the symptoms may wholly vanish. There is another pathological factor which gives an especial emphasis to the importance of specific treatment. It is that the local lesions mentioned are very frequently multiple, and that in other positions changes may be in progress tending to other attacks. To these considerations it may be added that the prognosis, if long-continued treatment be adopted, is usually good. In the cases which I shall quote will be found examples not only of satisfactory recovery, but of long-continued good health without recurrences.

The treatment which should be adopted in cases of hemiplegia from syphilitic arteritis is that of brain-syphilis in general. Mercury and iodide of potassium should be prescribed together, but not in combination. The mercury should be given in small, often-repeated doses; whilst the dose of iodide should be proportioned to the susceptibilities of the individual. It is probably wise to discontinue the iodide as soon as the symptoms have satisfactorily disappeared, but the mercury should be continued for many months. If in combination with tonics it agrees well, it may, with additional security to the patient, be continued for years.

Case of permanent recovery after hemiplegia from arterial disease.—I could mention a good many cases in which the recovery after brain symptoms supposed to be due to syphilitic disease of arteries has been complete and permanent. Amongst them the following may be of interest, as I knew the whole details of the case from the beginning. I attended a gentleman for primary and secondary symptoms, and treated him for four months with mercury. He got quite well, and, contrary to my advice, left off treatment. He married about fifteen months from the beginning of the disease. Within a few months of his marriage I was sent for to see him at his own house. He was hemiplegic on the right side, and aphasic. His attack had occurred while walking in the street. The iodide of potassium with mercury was freely administered, and in the course of a few months he recovered perfectly. During the next ten years he enjoyed good health, but was repeatedly treated for tertiary ulcerations on his lips, aggravated by smoking, and hydrocele in connection with an indurated testis. He had several healthy children, but it is probable that his eldest suffered from taint. She was born at seven months, and had an enlarged liver at the time. For some weeks she was so ill that she was not expected to live. She finally became fairly well developed and had good health.

This patient himself became, later on, the subject of very chronic tabes. He died nearly thirty years after his syphilis, of cancer of the bowel.

His wife, who had remained throughout in good health, and who knew nothing whatever of the nature of her husband's ailment, regarded her marriage, I believe, as a very happy one. The children grew up healthy.

I have before me the notes of a great many cases in which attacks of hemiplegia occurred to patients who had suffered from syphilis. My notes of many of my cases extend over a long series of years, and prove that such patients may recover perfectly and

retain good health. The opportunity of obtaining a *post-mortem* has but very rarely occurred to me. Although for this reason my cases are almost all incomplete, yet I think that some of them may prove of interest to my readers, and may afford hints as to diagnosis and treatment. In some I have been especially careful to give the details as to the preceding symptoms and the mode of attack, believing that much help in diagnosis may be obtained from such records.

In some cases, especially those occurring in senile patients and after a long interval since the original syphilis, there may be uncertainty as to whether the cerebral lesion was really due to specific disease. I do not think, however, that there are many in the following list respecting which much doubt could be entertained. I shall do my best to make each case explain itself, and so, without further preface, will proceed to their narration.

I will begin with a case which was one of the first to attract my attention to this form of hemiplegia. It occurred more than forty years ago, and at a time when cerebral syphilis had received much less attention than has been bestowed upon it of late years. I give it as written out soon after the patient's death.

Tertiary syphilis; cerebral attack, with defect of sight and partial hemiplegia; rapid recovery.—Mrs. G——, a widow of about forty, was under my treatment in 1861 for a very large and deep ulcer in one leg, which I had no doubt was of syphilitic origin. I treated her by full doses of iodide of potassium, and the sore healed. Six months later she came to me with a deep ulcer in the tongue, again clearly tertiary, and again cured satisfactorily by the iodide.

One Sunday in December, 1868, I received a message that Mrs. G—— had had "a fit." I found that since her leg and tongue had got well she had been in excellent health until the present attack, and had had no relapse of syphilitic symptoms. On the

Saturday night she went to bed feeling quite well. She awoke in the morning with a strange feeling in the head, and, looking at the window, supposed at first that snow had fallen, as everything seemed white. Her right arm and leg felt "curious and a little numb." When she stood up she felt as if she must fall over to the right side. When I saw her in the afternoon she could only read capital letters, although on the previous evening she had been able to read the newspaper quite easily. I could detect no loss of sensation, nor was her face drawn. She was up, and could stand and walk, but the right limbs were very weak, and she was aphasic. I again prescribed the iodide.

On Wednesday she was much better, and could again read with ease. I now used the ophthalmoscope, and found the fundus of the eye in a normal state. She still complained of the weakness of her right limbs. Her memory and all other faculties seemed perfect.

Mrs. G—— recovered perfectly from the attack above described. Two years later she died of cancer, but unfortunately I had no opportunity for a *post-mortem*.

My next case is one which I saw not long after the preceding.

Hemiplegia (right) in the third year after syphilis; recovery, with contractions; good health twenty years later.—A gentleman of about forty-three, who had suffered from syphilis some years before, became paralysed in his right limbs. The attack was preceded by several occurrences of tingling and numbness in the arm. Especially in the morning of the seizure he had repeatedly experienced inability to use the hand for some minutes at a time. The syphilis had occurred in 1871, and the attack of paralysis was in October, 1873. Within a year of the primary disease, however, he had been very ill with cerebral symptoms, and was for a time comatose and not expected to recover. He was at that stage seen independently by Mr. Hilton, Dr. Hughlings

Jackson, and Sir William Jenner, all of whom prescribed mercury. Under specific treatment, long continued, he recovered, but still remained liable to giddiness. In August, 1873, he went to Scotland in tolerably good health, but still taking bichloride. In October of the same year, as I have said, "the seizure" occurred. He lost the use of the right arm and leg, and became aphasic. He never wholly lost consciousness. I did not see him till four months after this attack. He had been continuously taking specifics, but there could be no doubt that the doses were too small. It was decided to continue them in much larger doses.

The subject of this case was still living, twenty-one years after the seizure. The hemiplegia had been followed by contractures, and his right limbs were to a considerable extent disabled; nor had he ever recovered perfect speech. He could write well with his left hand, and could walk a mile or two at a time. He had during the twenty years enjoyed fair health, but at one time he had several falls from giddiness. No symptoms of syphilis had developed since the seizure, and we appear to have a good example of permanent cure. The brain functions had been recovered so far as the local lesion had left recovery possible.

The case is, for purposes of prognosis, a very valuable one.

Syphilis as a predisposing cause of hemiplegia.—In not a few of the cases in which "seizures" or "strokes" occur to those who have at some former period suffered from syphilis, it is difficult to feel confident as to whether or not the attacks are in any association with the taint. We may, however, accept it as probable that in the majority of such cases the syphilis has acted as a predisposing cause. Most of them are probably due to arterial disease, either in its active form, inducing thrombosis or narrowing of vessels, or to later stages of degeneration. Thus we must expect considerable differences in the several stages of syphilis. We now know that the various forms of arteritis are most likely to happen in

the early stages, but that the results of the degeneration of the coats of the vessels may be realised at distant periods.

Speaking generally, the forms of hemiplegia which occur after syphilis may be expected to resemble more closely those of senile apoplexy from hæmorrhage when they result from degeneration changes long after the primary disease, than when they occur in its earlier periods. If a seizure or seizures should occur to a patient within the first two or three years of syphilis, we may expect them to be attended by a course of symptoms differing considerably from those which are most common in senile or hæmorrhagic apoplexy. Such attacks are due for the most part neither to hæmorrhage nor embolism, but to more or less complete occlusion of arterial trunks by external conditions which may undergo rapid changes. These are the cases in which the patients sometimes experience threatenings for some time before the fit actually occurs; in which the fit itself develops rather gradually; and in which a rapid recovery may quite possibly follow.

It is very important to remember, in cases of syphilis in which the nervous system is affected, that very different results may ensue from different forms of disease of the blood-vessels. We have probably been too much in the habit of thinking only of occlusion, especially in the case of the large vessels at the base of the brain; but very often it is not occlusion, but only partial obstruction, which is present. This partial obstruction may exist at many different places at the same time, and it may probably vary much at different times, and possibly with considerable suddenness. It may be, and often is, quite symmetrical. The character of the disease, in one and the same case, may also be multiform. Inflammation within the perivascular sheath is probably one of the most common, but the coats of the vessels themselves, more especially the intima, are often involved. It is further possible that, whilst impediment, such as has been suggested, may exist at various points in the

circle of Willis and in the larger trunks which join it, there may also be independent disease in the capillaries, and this independent disease may be either localised or general.

Keeping in mind these possibilities, it is not difficult to understand that the symptoms presented may be very complicated. There may be defective irrigation of the brain, now in one part, now in another, and the patient may complain of very various and anomalous kinds of disturbance. Thus he may easily have transitory tingling and numbness, first of one limb and then of another. He may be forgetful, temporarily aphasic, despondent or emotional and hysterical, by turns. It is by no means certain that any attack of hemiplegia will result, or that there will be any definite or persisting form of paralysis either of motion or sensation. There is, of course, constant danger that occlusion by thrombosis or pressure may occur, with resulting paralysis, but we may feel certain that attacks of hemiplegia are rare in proportion to the number of those who suffer from arterial disease in syphilis. Whatever the cerebral symptoms may be, it is impossible to be quite sure that arterial disease may not explain them; and as we now know that such disease is very common in the early stages of syphilis, it is more important that our treatment should invariably and efficiently be directed against it.

There is possibly one symptom by which arterial disease may be diagnosed from other forms of brain-syphilis, and that is the absence of severe pain. There is much brain-discomfort, giddiness, and, it may be, dull headache; but the cases in which the pain is very severe, and especially those in which it is nocturnal, have probably some other cause than arterial disease. When the pain is unusually severe we may suspect the existence of a meningeal gumma or of bone-disease. There are, of course, cases in which what are called the osteocopic pains of syphilis affect the skull at an early stage, but they constitute no exception to what has been said, since the pain is prob-

ably dependent upon transitory periostitis. Arterial disease is in itself painless, and it is not easy to see how the defective irrigation of the brain which results from it should be productive of the severe pain that attends other forms of brain-syphilis.

In all these cases the patient's narration as regards his feelings should be carefully listened to. Discomfort in the head, a fear of impending paralysis, with numbness and tingling in the limbs, will, I believe, be the usual conditions, and without any complaint of acute pain. We must not, however, be dogmatic on this point, but must wait for the accumulation of cases in which connection has been established between the symptoms during life and the conditions found at the autopsy.

A large collection of case-narratives in illustration of cerebral syphilis attended by hemiplegia will be found in my *Archives of Surgery* (vol. vi., p. 340). Lack of space compels me to omit their citation in this volume.

Cerebral syphilis twice recurring after inunction treatment; hemiplegia.—One of the most severe attacks of syphilitic otitis which I have seen occurred in Mr. ——, who had only been one month home from Aix-la-Chapelle, where he had gone through a full inunction treatment. He was in the second year of his syphilis, and had suffered from iritis. With the otitis he had diplopia and intense pain in the head. He recovered under a free use of mercury and iodides, but with permanent deafness in one ear. This patient, six months after his recovery, had threatenings of relapse, and went to Aix again and had a full treatment. Four months later, and two months after the disuse of all treatment, he had an attack of left hemiplegia.

It was a case in which, certainly, continuous and combined treatment was indicated.

Death in coma of a man who was under treatment for secondary syphilis.—The following details as to the development of an attack refer to the case of a man of sixty-two, who was at the time

under treatment for severe secondary syphilis. I saw him for the first time after his cerebral attack. He had been comatose, but there had been no incontinence of urine, nor had any spasmodic twitchings been observed. Under these circumstances it seemed important to take in detail the account of the seizure. His wife told us that on Saturday evening he had seemed better than usual, had seen some friends, and had sung a song. Excepting neuralgia in his right temple and around the right eye, he had not complained of headache. This neuralgia might be due solely to the iritis and inflammation of vitreous which were known to be present. On Saturday night, after getting to bed, he complained of being chilly, and wished to get up for more clothes. His wife persuaded him to be quiet, but some hours later he aroused her, complaining that his left arm and foot were numb. After this he suddenly became, as his wife said, unable to use his tongue, and could not articulate clearly. On Sunday morning and throughout the day he seemed better, and could speak. He was not then hemiplegic, for he got out of bed and washed himself, and intended to go downstairs. He was, however, dissuaded from this. It was not until the day on which—for the first time—I saw him (Monday) that he became unconscious and hemiplegic. Thus it was clear that the symptoms had come on gradually and with intermissions. The final lapse into insensibility had, however, occurred rather suddenly during the night. These facts seemed to favour the belief that the lesion was one of arterial thrombosis rather than of hæmorrhage. Our patient, as I have said, was a man of sixty-two years of age, who had, until the occurrence of the syphilis, enjoyed excellent health, and had never shown any indications of arterial disease.

A few days after the date to which these notes apply, Mr. L—— died, having never regained consciousness. Every effort was made to obtain an autopsy, but without success.

The case may have been one of ordinary hæmor-

rhagic apoplexy, occurring as a mere coincidence in a patient under treatment for syphilis. I incline, however, to think it more probable that it was one of obstructive arterial disease in direct connection with the syphilis. The history of the intermitting onset of the symptoms is exactly what we meet with in arterial thrombosis, and unlike the sudden, complete, and persisting coma which denotes a fatal hæmorrhage.

CHAPTER XXX

TABES AND GENERAL PARALYSIS OF THE INSANE

It has been decided, and probably with good grounds, to reinstate the old designation of **tabes** as applicable to the group of symptoms which were, for a time, known as "locomotor ataxy." This latter did not include the whole, and gave too great prominence to a single one. The several phenomena which make up the tabetic malady are now well recognised, and they are fairly common. It is generally accepted that they occur almost solely in those who have previously suffered from syphilis. The group which characterises what is known as *general paralysis of the insane* differs very conspicuously from that of tabes. The two may, however, be very frequently met with together, and the antecedents of the one are much the same as those of the other. General paralysis is yet more exclusively associated with antecedent syphilis than is tabes, and occurs probably in much closer relationship with the original disease and in an earlier stage.

Ophthalmoplegia interna.—In 1876, in a paper read before the Medico-Chirurgical Society, I described a condition to which I gave the name *ophthalmoplegia interna*. In it all the internal muscular structures of the eyeball are involved, and the patient loses the power of accommodation, and has a perfectly motionless pupil. Of the iris, both the radiating and the circular fibres are paralysed. Thus the condition differs from that known as the "Argyll-Robertson pupil," in which the pupil is insensible to light, but contracts upon convergence in the effort at accommodation, while the function of accommodation is not lost, and in many cases not even injured. This latter condition is now well known to depend upon central changes, and to be part of the disease which we recognise

as tabes. My reason for mentioning "ophthalmoplegia interna" here is because it has appeared to be connected in a majority of cases with syphilis. When I published the paper, although I was aware that it sometimes preceded locomotor ataxy, and that there were reasons for supposing that in some cases it was of central origin, yet I thought that the most probable explanation in the majority of cases was that it depended upon peripheral disease, that disease being located in the lenticular ganglion. This view was subsequently controverted in an able paper by Dr. Allen Sturge, who referred the condition exclusively to central disease. Some of my patients had obtained benefit from specific treatment, and although in several of the series I was not able to obtain any definite history of syphilis, I was yet strongly inclined to suspect it in all.

My experience of this curious combination of symptoms, since my paper was written, has not materially altered my views as to its cause, or its value for prognosis. Although in a certain number of cases it has been introductory to ataxy, in the majority, although the patients have remained long under observation, no such consequences have followed.

I will condense from my paper, and from other notes, a few illustrative cases.

A woman was under my care, in 1869, having experienced almost sudden loss of accommodation in both eyes. Her pupils were of medium size, and almost motionless. She had been under my own care four years previously for syphilis. The symmetry of the disease in this instance probably points to a central cause.

A clerk, aged thirty-four, was under my observation from 1865 to 1868, his ailment being progressive failure of the internal muscles of the eye. He had had mild syphilis some years before, and I treated his eye symptoms with specifics. I am not aware that he ever developed any other indications of ataxy. At the time of my last note, ophthalmoplegia interna was complete in one eye; but in the other, although

iridoplegia was complete, the function of accommodation was not lost.

In another case an unmarried servant girl, aged twenty-seven, was the patient. In her the disease had been in progress six months, and was advancing. The condition was complete in the left eye, but in the right a certain amount of accommodative power remained. She had no other symptoms of disorder of the nervous system. Although I did not obtain any history of specific disease, yet I treated her with the iodide of potassium, and during a three months' course of this drug she obtained some benefit.

A veterinary surgeon, aged thirty-six, in whom there was a clear history of syphilis eight years before, presented the disease in a symmetrical form, but it was not absolutely complete in either eye, since he could accommodate feebly. He had had stabbing pains in his limbs, and it appeared likely that his case would end in tabes.

The above cases are sufficient to afford fair illustration of the condition described. It is not improbable that had I been able to follow the patients to yet longer periods the sequel might have proved the development of ataxy in more than I at present suspect. Whether a history of syphilis be present or not, I have no hesitation in recommending an efficient course of mercury in all cases in which "ophthalmoplegia interna" is diagnosed. Especially is it important if the symptoms are of recent development.

Ophthalmoplegia externa.—The term *ophthalmoplegia externa* has, I believe, been used by many authorities, especially on the Continent, as applicable to all forms of paralysis of the external ocular muscles. It might, however, perhaps be convenient if it were restricted to cases which show a tendency to become generalised, and in which, at any rate, the muscles of more than one nerve are involved. The distinction is arbitrary, and simply for clinical convenience; but it is obviously quite easy to designate the failures of single nerves, as paralysis of the sixth, third,

PLATE 20.—BILATERAL PTOSIS IN INHERITED SYPHILIS (OPHTHALMOPLEGIA EXTERNA)

In this portrait the physiognomy of inherited syphilis in a young boy is fairly well shown. The bridge of the nose is much flattened, the forehead squared, and there are scars about the mouth. The chief interest of the case is, however, the presence of drooping of the upper lid on both sides. The notes of the case having been mislaid, I am unable to give the facts as to the other muscles of the eyeball, but no doubt the double ptosis was only a part of ophthalmoplegia externa.

The Atlas published by Dr. Byrom Bramwell contains an excellent portrait and full details of a similar case, with the important record and a second portrait showing complete recovery.

fourth, etc., as the case may be, leaving the larger term for use in the very peculiar group of cases in which many muscles are involved, and in which there is a tendency to symmetry. It was in this sense that I employed the term in a paper read before the Medico-Chirurgical Society many years ago. The symmetrical and generalised cases differ very much in their clinical course from those of single nerves. They are, as is well known, very often the precursors of locomotor ataxy. Although this form of ophthalmoplegia is difficult of treatment, and frequently aggressive in spite of remedies, yet there is good reason for believing that it is usually of syphilitic origin. Although not cured, it is almost always benefited by specific treatment, and there cannot be the slightest hesitation in saying that either the iodide or mercury, or both, ought to be used in efficient doses whenever it is threatened. The only case which I have ever been able to trace to its fatal conclusion resulted, after a course of six or seven years, in general tabetic paralysis.

In this instance specifics were not used continuously, because the man persistently denied all syphilitic history. In confirmation of his denial he brought to me two of his sons, who were in every respect well developed. It was only just before the man's death that an accident placed his eldest daughter under my observation, and gave me the opportunity of recognising in her, from both teeth and keratitis, most unquestionably the subject of inherited taint. This case is given in detail, with several others, in the paper to which I have referred. Since that paper was published, I have met with several other very remarkable examples of the disease, and with, I think, but two exceptions, all the patients had suffered from syphilis.

In one very interesting case the symptoms began within a few years of the attack of syphilis, drooping of one eyelid being the first. No diagnosis being made, and little or no treatment being adopted, the condition slowly advanced, almost wholly without complications,

during a period of twenty years. At the end of that time the patient still remained in good health, but his eyeballs were almost motionless, and the upper eyelids drooped so as nearly to cover them.

Tabes.—Tabes is, in my experience, the commonest of the nerve lesions connected with remote syphilis. It is, indeed, in one form or other, one of the commonest of all the late sequelæ of the disease. Its persistence through long periods and its comparative incurability may, however, tend to give us an exaggerated impression of its frequency. Fortunately, a large majority of the cases are not actively aggressive, and many become stationary. It is impossible to estimate the frequency with any degree of accuracy.

A medical friend related to me the following item of experience on this subject. When house-surgeon at the Lock Hospital, about twenty-five years previously, he treated three of his friends, all of them medical students, for syphilis. All took iodide of mercury, and got well. All three enjoyed a long period of good health, but at the date of our conversation all three were the subjects of tabes. In two, the first symptoms showed themselves about twenty years after the syphilis; but in the third, not till nearly twenty-four. None of these three gentlemen had married; all were believed to have lived fairly healthy lives, not having exposed themselves in any special manner to the exciting causes of the disease.

The late Dr. Mortimer Granville once mentioned to me a case in which a medical man was the subject of tabes many years after syphilis. The woman from whom he caught the chancre was also in the same stage of the same disease.

Case of syphilis in which ataxy was threatened. Note on the paralysis of single muscles of the eye as indicative of syphilis.—The following case may instructively illustrate the early stages of tabes in the tertiary stage of syphilis.

Mr. ——, aged forty-nine, had an ulcer in his palate. I saw him on Christmas Day, 1883. The bone was exposed, and a portion subsequently came

away. There could be no doubt that the ulcer was syphilitic, and under iodoform and iodides, after removal of the dead bone, sound healing took place. It was eighteen years since the attack of syphilis, and during this long interval Mr. —— had enjoyed excellent health.

Nearly two years later, Mr. —— noticed that his left eyelid drooped, and he came to London to see me about it. It gave him no inconvenience, and none of his eyeball-muscles were defective. His pupils acted fairly well, but the patellar reflex was absolutely lost. He could not walk well with his eyes shut. He had no characteristic pains. I again ordered mercury and iodides, and four months later the ptosis had almost disappeared, and he could walk much better. The knee-jerk was still absent.

It will be seen that the ataxic symptoms were irregular and incomplete. The fact that a gumma of the palate had occurred two years previously makes it certain that his tissues were still liable to suffer from late syphilitic changes. I cannot give the sequel, but the case is one of many.

Long before we were well familiar with ataxia, it was usual to suspect syphilis whenever the upper eyelid drooped, or any of the eye-muscles were paralysed. Usually in such cases specific treatment was successful. We now know that ptosis occurring under such circumstances is commonly a part of tabes, or a precursor of it, and the old creed as to its cause may fairly be quoted as an argument in favour of the belief that the latter is itself of syphilitic origin It is not a little remarkable that these attacks of ptosis, whether with paralysis of recti muscles or not, are usually curable. In a great majority of cases the patient gets well, and I think the symptoms seldom return. When many of the recti muscles are involved at once, and especially if the affection is bilateral, then the prognosis is more grave. The curability of ptosis, when it precedes ataxy, is in remarkable contrast with what we know of loss of sight from implication of the optic nerve in the same

disease. This almost always progresses, in spite of treatment, and results in permanent blindness.

We may note it as a curious clinical fact that, whilst ophthalmoplegia externa is almost invariably syphilitic, no one, so far as I know, has as yet connected either glosso-labio-pharyngeal paralysis, or any other of the various forms of progressive muscular atrophy, with that cause.

On the connection between locomotor ataxy, general paralysis of the insane, and other chronic and aggressive disorders of the nervous system, and syphilis.—If we inquire as to the bond of connection which exists between syphilis and these affections of the nervous system we shall probably have to reply that it predisposes to them rather than actually causes them. In some cases it may perhaps be the active and sole cause. In the majority, however, other exciting causes have intervened and taken a large share in the realisation of the malady. In such we must not expect much result from the antidotes for syphilis. The way in which syphilis predisposes is, perhaps, by causing damage to the tissues during the early or secondary stages of the disease. Although recovery from these may appear to be quite perfect, yet we may readily grant that it possibly never is so absolutely. The tissues which have been so affected remain ever afterwards more prone to take on low forms of chronic inflammatory disease, or even of primary degenerative changes, than they otherwise would have been. Thus, when the disease occurs, it may differ, in no appreciable manner, from other cases in which there were no syphilitic antecedents. There may also be the usual history as to ordinary exciting causes. In general paralysis of the insane, mental overwork, anxiety and trouble are the usual means of evoking the disease; whilst in locomotor ataxy, sexual excess, over-fatigue of the limbs in walking, etc., and exposure to cold and damp stand in a similar category.

I was once made acquainted with the facts of a case of general paralysis which seemed to well

illustrate the remarks just made. A married man, the father of healthy children, and who had for years enjoyed excellent health, engaged in speculation and became depressed in spirits on account of money losses. He was sent from home, got better, and then had a period of elation, and again involved himself in speculations. During the next year or two he was fairly well, but liable to sudden seizures, which chiefly affected his tongue, and deprived him for a few minutes of the power of speech. Next came a three weeks' attack of mild mania, which ceased when his gums were touched by mercury. After this he remained in a state of mental feebleness, and suffered for long from a most distressingly excessive flow of saliva. Another attack of mania consigned him to an asylum, and there he died, with all the usual symptoms, about five years after his first indications of mental disturbance. The pia mater was found adherent over large areas of both hemispheres. There was in this case the history of complete syphilis about a year before his marriage, and six or seven years before he began to be ill. There were, however, never any definite indications of taint during his long illness, and the course of his malady was, I believe, much according to the usual type. It was diagnosed without hesitation as general paralysis of the insane by all the specialists who saw him. The immediate benefit obtained on one occasion from mercury was most definite. Nothing would have been suspected as to the syphilis had he not, when delirious, frequently accused himself, and named the surgeon who treated him. The cure, which was by mercury, appeared to have been, in the ordinary sense of the word, complete, for he had never had a single reminder, and his children had never shown a suspicious symptom.

I have adduced the case because it is, I believe, a good example of what is very common. There are scores of patients in our lunatic asylums in whom there is a closely parallel history.

Just the same kind of argument is to be held, I think, in reference to the numerous cases of

locomotor ataxy which we meet with in men who have had syphilis. My own experience is, of course, open to fallacy; but, according to it, we scarcely ever see ataxy in those who have not. Yet in a large majority of these cases other well-known causes, such as sexual excesses, over-fatigue, exposure of the lower extremities to cold, have also been possibly influential. Nor does a syphilitic treatment, although often beneficial, really cure the disease. As a rule, too, there are present no other indications of lingering taint. The patients are ataxic, and the malady progresses usually just according to the type-form of that disease when occurring independently of syphilis. Almost invariably the patient has passed many years since his disease, and has often been during the interval in excellent health. We know well that syphilis may, after long periods of quiet or latency, cause meningeal or visceral inflammations, gummata, etc.; but they occur almost always in an irregular and unsymmetrical manner, develop more or less rapidly, and may be cured by specific treatment. It is somewhat contrary to rule, and to expectation, that it should in this late stage produce an orderly and slowly aggressive systemic and symmetrical malady such as tabes. Yet we may remember that it would appear to be almost the sole cause of ophthalmoplegia externa, a similar malady, and frequently a concomitant. The explanation of the difficulty is probably this, that the disease is really excited by other causes, but that it develops with greater ease, and, when once set going, proceeds to far greater lengths, in those whose tissues have been damaged by syphilis than in others. Nor must we forget the probably very important influence of bygone disease of the smaller arteries.

Dr. Buzzard has a well-reasoned chapter on the relation of syphilis to ataxy. He holds that specific treatment is valueless, or even hurtful. In this conclusion, however, he is not supported by Fournier or Charcot. My own experience would have led me to believe that mercury often does great good, but I

avoid the iodide of potassium as lowering tone. It is admitted that ataxy is very infrequent in women.

It is not suggested that in either tabes or general paralysis there is anything of the nature of gumma. In the latter, however, extensive adhesions between the pia mater and the subjacent convolutions are an almost invariable condition.

Ophthalmoplegia interna in the eighth year of syphilis, followed by other symptoms; arrest of symptoms after nearly three years' treatment; good health ten years later.—The following narrative appeared in my first edition, and I am not now able to add to it. It extends over fifteen years, and may afford encouragement to perseverance under similar circumstances. The patient took specifics for three years, and at first, in some respects, his malady continued to advance. It then became arrested, and subsequently no treatment has been needed, and although permanent results are still present, there has been no recent aggression. The case is that of Mr. ——, published at p. 6 of my paper on "Ophthalmoplegia Interna" in the *Medico-Chirurgical Transactions*. This gentleman, at the age of thirty-six, and eight years after his syphilis, came under my care with defective accommodation and motionless pupils. He had also stabbing pains in his limbs. Under mercury and iodides he regained his accommodation to a considerable extent. Subsequently, however, the pains in his limbs much increased, and he lost knee-jerk. I urged the continuance of treatment, and he got so well that at the age of forty-two (against my advice) he married. I saw him again, seven years after his marriage. He then walked as he had done for ten years previously, with the ataxic gait very marked, but he could walk seven or eight miles without resting, and was accustomed often to mount young horses in the course of his business. His pupils were motionless on exposure, and almost so in accommodation. There was not the slightest trace of patellar reflex. The stabbing pains in his limbs, from which he had used to suffer so severely that morphia injections

were needed, had not troubled him for five years or more. He averred that he still possessed moderate sexual vigour.

It is to be observed that in this instance the arrest of the disease had been brought about under conditions which might be considered unfavourable. The patient had married a young wife, and had continued in the active practice of a laborious occupation.

I have seen a good many similar cases in which ataxy has seemed to be arrested by treatment, but not many in which I could verify the result after so long a period.

Relationship between tabes and general paralysis.—The conclusions arrived at by different observers as to the relationship between the two may be expected to receive a strong bias from the sphere of observation. The cases which find their way into lunatic asylums by no means offer a complete picture of the maladies which they represent. They are mostly advanced in stage and severe in character, and are precisely those in which the two are most likely to complicate each other. The observer engaged in general consultation practice, on the other hand, sees a great number of early and comparatively mild cases, and is naturally led to regard the maladies not only as very distinct, but as much more amenable to treatment and less uniformly aggressive than does his *confrère* at the asylum. These remarks are made in reference to a recent suggestion that the two should be regarded as being the same disease, or, at any rate, as differing only in the part of the nervous system affected. That both are to be regarded as almost exclusively the remote results of syphilis is true, and that the one chiefly affects the spinal cord and the other the brain itself is also true; but their differences are still so marked that it would be attended by clinical confusion rather than otherwise to attempt to merge them in too close association.* There may be forms of

* Dr. Mott stated in the *Polyclinic Journal*, 1902: "The two diseases—tabes and general paralysis—are, in my opinion, the same morbid process attacking different parts of the nervous system, and I

subacute tabes which have pathological changes very similar to those of general paralysis, but the large majority of tabes cases are probably far more purely degenerative or atrophic than are those of paralysis of the insane. The latter has stages which are inflammatory, or at any rate congestive—conditions which are almost wholly wanting in tabes. That it is important to keep the two maladies for the most part distinct will probably find its illustration not only in what concerns prognosis, but in the yet more important question as to measures of treatment. There are stages of general paralysis in which active mercurial treatment is urgently required, and none perhaps in which it ought not to be continued; whilst in tabes, although that drug is often useful, it must be employed with caution.

On the supposition that the changes in tabes are from the first degenerative and due to defective blood supply, there is but little for specifics to do, and the influence of such drugs as the iodide of potassium may be depressing and prejudicial. On the other hand, cases in which general paralysis is threatened are often, I feel sure, greatly benefited both by mercury and the iodide. Those drugs are, I think, definitely called for when the symptoms are of recent development, attended with excitement, and have come on within a few years of the primary disease. The longer the interval the greater the probability that degeneration, unattended by congestion, is present. I can accept Dr. Mott's estimate of fifteen years as the average interval antecedent to tabes, but my experience as to general paralysis of the insane is that it usually sets in much earlier.*

base this statement upon clinical and pathological observations of eighty cases of tabes and sixty cases of the tabetic form of general paralysis. Etiologically the most important by far, if not the essential factor, is the syphilitic poison. Both diseases affect males more than females; both diseases occur on an average fifteen years after infection, though the limits vary between four and twenty-five years; both diseases are unknown where syphilis is unknown; both diseases occur especially in the fourth and fifth decades."

* Dr. Ferrier, in his recent able lectures on tabes, inclines to the opinion that "tabetic degeneration is due to the action of a toxin of

Amaurosis from primary atrophy; its usual association with a history of bygone syphilis and with early symptoms of ataxy; its incurability.—When white atrophy of the optic nerves occurs in the early stage of ataxy after syphilis, I fear there is seldom much good done by the use of specifics. I have known a few cases in which the progress of the disease appeared to be arrested, but more in which it steadily advanced. Yet it appears to be a duty always to give the patient the advantage of a full mercurial treatment. Probably in some of those in which we do not succeed in averting final blindness the progress of the disease is yet delayed. The question of the direct relationship of this form of amaurosis with syphilis is difficult to solve. Unquestionably a majority of patients who suffer from it have, at some former time, passed through syphilis. It is never, however, an early symptom, and usually a period of some years has been passed during which there was absolute immunity. Not infrequently a number of healthy children have been born; then, without any other manifestation of relapse of syphilis, the patient begins to lose the sight of one eye, and within a few months or a year the other follows. The discs become pale, and the condition advances till complete blindness results. In some cases no other

syphilitic origin." He adds: "The tabetic degeneration is, as we have seen, a parenchymatous dystrophy and has none of the features usually considered characteristic of tertiary syphilitic lesions." If tabes occurred frequently with other lesions (of the skin, bones, etc.) the hypothesis of a present toxin would seem, to my mind, more probable. It is, however, in almost all cases isolated or attended only by other forms of degenerative nerve affection. I am inclined to dispense with the toxin and to believe that the changes are consequent on local damage to the smaller blood-vessels, received in the secondary stage. From such damage the results are realised in connection with definite exciting causes. Of these causes, sexual intercourse is, in my experience, by far the principal. Ferrier is inclined to think that this factor has been overestimated. He quotes, however, from Raymond: "An interesting narrative of two brothers similarly constituted by inheritance, who both became infected by syphilis about the same age. The one, who lived a fast life and indulged in sexual excess, became a tabetic; the other, who exhausted his brain in the struggle for existence, became a general paralytic." Ferrier's comment is: "Facts like these are of eloquent significance." They would be yet more eloquent if it were made probable that the second brother had not also erred in the sexual direction.

symptoms of tabes are present and none of the ocular muscles are affected. The patient may appear to be in perfect health, and may even remain so for several years after he has become blind. In the tendency to progress in spite of treatment, this disease differs much from the other forms of nerve paralysis which occur in connection with syphilis. If the fifth nerve, for instance, is attacked, although both its motor and sensory functions are lost, yet we predict with confidence a considerable degree of restoration under specific measures. It is not so, however, with the optic nerve.

I will quote a single case as an example of many. Señor ——, a Spanish gentleman, aged thirty-nine, came under my observation in October, 1885. With his right eye he could not see $\frac{20}{200}$, but with his left he made out $\frac{2}{7}$. His right eye had begun to fail two years ago, and his left about a year. He had passed through syphilis in 1869, that is, sixteen years previously. Since then he had married, and his wife had borne him three children, all of whom remained in excellent health. He had had no symptoms of syphilis since the first disease. I found that his knee-jump was entirely lost, and that he had suffered occasionally from lightning pains in the leg and the right arm. But he could walk well with his eyes shut, and there had been no interference with his sleep. His pupils were very small, and the Argyll-Robertson phenomena were present. Thus there could be no doubt that ataxy was setting in. There had, however, been no paralysis of any ocular muscles, and he had never experienced gastric crises. Six months later I saw Señor —— in consultation with Prof. Galezowski, of Paris. He had in the interval had the advantage of treatment in Paris under that gentleman and Dr. Alfred Fournier. All who had seen him had agreed that it was desirable to try the influence of mercury and the iodide. No benefit had, however, resulted. During the six months his right eye had failed until he could not see anything, and the left had passed from $\frac{20}{70}$ to $\frac{20}{200}$. His other symptoms were still just

as before. I subsequently lost sight of my patient, but it is to be feared that his condition advanced to absolute blindness.

It is, after all, perhaps possible that the cases of obscure neuritis leading to blindness from what is known as white atrophy of the optic nerves has but very seldom any real connection with syphilis. Examples of it are not numerous, and their parallels may be found in cases in which the clinical evidence appears to exclude specific taint.

Whilst fully admitting that it is probable that both tabes and general paralysis of the insane are almost invariably the outcome of syphilis, I am yet inclined to suspect that professional opinion exaggerates rather than otherwise the influence of that disease as a cause of nerve maladies.

An annual report of the National Hospital for the Paralysed and Epileptic, Queen Square, gives under the head of syphilitic diseases a total of 32 cases, of which 26 were in men and 6 in women. Locomotor ataxia (= tabes) has 75 cases, of which 60 were in men and 15 in women. General paralysis, 9, of which 8 were in men and only one in a woman. Several other headings, notably that of hemiplegia, may have included syphilitic cases. These are necessarily omitted as not identified, but they probably do not make any large addition. Leaving them aside, it may be said that out of a total of 925 cases only 116 were traced to syphilis. This total for a large national hospital, receiving the class of disease more likely than any other to be recruited from syphilitics, is not large, and the proportion to other affections of the nervous system is probably less than might have been anticipated.

CHAPTER XXXI

JAUNDICE AND DISEASE OF THE LIVER IN THE COURSE OF SYPHILIS

In all stages of constitutional syphilis, and in both the acquired and inherited forms, the viscera are liable to suffer. Conspicuous examples of visceral syphilis are, however, proportionately more common in the inherited than the acquired form. By this it is meant that the swelling of the affected organs is often greater, and that if gumma-tumours form they are often larger.

The liver is, of all the viscera, the one most prone to be affected. Concerning all visceral affections it is true that they are often very insidious, and that in their earlier stages the changes are so ill marked that they may even be overlooked at an autopsy. Gummata are, as a rule, remarkably amenable to specific treatment, but when cured often leave behind them characteristic traces in the form of fibrous thickening and puckered cicatrices.

Jaundice is sometimes observed during the early phenomena of syphilis. Its pathology is not well ascertained, but it is probably of the same nature as the attacks of temporary jaundice usually termed catarrhal. It disappears under specific treatment, or possibly without it. It is sometimes attended by tenderness on pressure, and certain facts seem to imply that it may be followed by yellow atrophy. A fact which makes it improbable that it is caused by the pressure of gummata on the excretory ducts is that it is very rarely observed in the later stages of syphilis, when these growths are much more common. In congenital syphilis, in which the liver is often affected, jaundice

Dr. Coupland's narrative is illustrated by several woodcuts. The following is an abstract of the case :—

The subject was a female child, which died at the age of three months. At birth it had appeared to be quite healthy, and it maintained all appearances of health until within three hours of its death. Shortly before death it began to suffer from shortness of breath, and its mother carried it to the Middlesex Hospital, where it was admitted in a moribund condition. The body was plump and well nourished. There were traces of a scanty eczematous eruption on the nates and backs of thighs, but no indications of syphilis. The body weighed more than seven pounds and a half. The liver was of large size, its right lobe reaching to the iliac crest. On its convex surface was a yellowish-coloured prominence. Several nodules of orange-yellow colour were present. On section the new material was of potato-like consistency and semi-translucent. It was nowhere opaque, and showed no evidences of retrogressive change. The liver capsule was nowhere thickened. The other parts of the liver were of a dark mahogany-red tint and full of blood. The organ weighed eleven ounces. No definite gummata were recognised in other organs, with the exception of one small nodule in one lung. On microscopic examination the tumours of the liver presented the characters of young growing gummata. There was a fine network of fibrils enclosing small round cells.

The substance of the heart was unduly firm, and the wall of both right and left ventricle showed in all parts extensive infiltration of small round cells embedded in a structureless matrix. This infiltration was most abundant around the smaller arteries, but it was by no means limited to their vicinity; for even individual muscular fibres were here and there separated by rows of round cells. Essentially the same changes occurred in the kidneys, which to the naked eye presented a normal appearance. The child's death had no doubt been caused by the condition of the heart—an infiltrating myocarditis. It remains to state the history of the parents. The mother was twenty-six years of age, and had been married five years. Her first-born child had survived, and was still quite healthy. Subsequently two had been born dead at full term, and an abortion had preceded the conception of the child which was the subject of the case. The mother presented no signs of syphilitic taint, and no evidence as to the existence of syphilis in either parent was obtained. On the supposition that the father acquired syphilis subsequently to the birth of his first-born, it may be conjectured that four children derived their taint from him. It is clearly proved that a woman apparently in good health could produce an infant which, without presenting any of the ordinary secondary symptoms, suffered from those usually of a later stage with exceptional severity.

Disease of liver, with jaundice, in the secondary period of syphilis, followed by death in coma.—In the *Pathological Transactions* for 1867, Wilks has recorded the case of a young woman who died in coma whilst still the subject of a secondary syphilitic eruption. The eruption had been out six months. She had been jaundiced. The liver weighed 46 ounces, had an opaque bright yellow colour, and dense consistence; it was infiltrated by a nucleated fibroid material, closely resembling that which has been described by Gubler and others as occurring in infantile syphilis.

In commenting upon this case, Wilks gives much interesting information in reference to the occurrence of jaundice in connection with syphilis, and mentions the case of a young man, under Dr. Rees' care, in whom it came on amongst the early secondary symptoms. In this instance it was followed by albuminuria and a very severe skin eruption. Recovery ultimately resulted, after five months' treatment.

Large syphilitic tumours in the liver; rapid disappearance under iodides; no recurrence.—The following is an extract from a lecture delivered by myself at the Polyclinic in April, 1900. It describes a very noteworthy case which was then under our observation :—

> It is only a month since I brought before you a young man who had been sent to me by Dr. S——, and who had two large tumours in his liver. He attended again two weeks later, and the unanimous opinion was that the tumours were both smaller and softer. He had during the fortnight been taking iodide of potassium. Now what were the items of evidence upon which we had on the first occasion based a diagnosis of gummata in connection with inherited taint? You will remember that the tumours projected so as to be easily visible, and that they felt much like two small oranges placed side by side, one in the left lobe of the liver, and the other adjoining it to the right of the epigastrium. No one doubted that the tumours were in the liver, for its contour could be felt, and the only question was as to their nature. They were quite painless, and you were all in succession allowed to examine them freely. They were tense and smoothly rounded, with the exception that a smaller knot, about the size of a marble, could be made out on the

is almost unknown. It is, indeed, infrequent in all stages and all forms of syphilis, but its occasional occurrence has been fully established.

Portal is said to have first described jaundice in connection with syphilis; and Reeport published two cases. In 1853 Gubler wrote on the same subject. He believed that the liver became the seat of general congestion. Lancereaux, who referred to twenty-one such cases, and published three, adopted the theory of general congestion as the usual explanation. The liver has in many cases been noticed to be obviously enlarged. Dr. Hilton Fagge especially drew attention to the fact that the jaundice in these cases is not due to the administration of mercury, stating that in several cases in which it occurred no mercury had been given.

Sir Samuel Wilks, in the *Pathological Transactions* (vol. xvi.), described the first example of syphilitic disease of the liver in an infant, which he had met with. It was also the first which had come before the Pathological Society. He wrote: "Having dissected the bodies of several infants who have died of congenital syphilis, I have found fatty livers and an inflammation of the capsule, but in only two have I discovered adventitious products of a fibrous character. The present example, however, corresponds in every particular with the disease described by Gubler. It must be distinguished (at least as far as the naked-eye appearance reaches) from the syphilitic disease of adults, of which many specimens have been before the Society. In these the organ is cicatrised on the surface, and contains distinct nodules of fibrous tissue; whilst in the disease of children, as in the present specimen, the whole organ is infiltrated by a new material, and it consequently becomes, as described by Gubler, hypertrophied, globular, and hard, resistant to pressure, and even when torn by the fingers its surface receives no indentation from them; it is also elastic, and when cut creaks slightly under the scalpel. This was the form of disease in the present specimen. It came from a syphilitic child, a month

old, in whom the liver could be felt enlarged during life, and when removed weighed a pound and a half. On microscopic examination the whole organ was found to be infiltrated with fibrous tissue, but without any material destruction of its proper structure."

In a previous volume, Wilks, to whom we owe so much in respect to our early knowledge of visceral syphilis, had described one of the first cases, noticed in this country, of disease of the liver in connection with *acquired* syphilis. In this instance a man of thirty-nine, who had long suffered from the disease, died with very extensive affection of the cranial bones. His liver was puckered with cicatrices, and contained about fifty scattered nodules, the size of peas, which were round, hard, and white. The disease was a form of cirrhosis, in which the new fibrous tissue, instead of being diffused through the liver in the course of its vessels, was deposited in distinct nodules. Both testes were found much wasted, their glandular structure being replaced by dense fibrous tissue, which, in some places, was collected into nodules resembling those in the liver. It was a case of old disease, but the dates are not given.*

It is important to remember, respecting some of the differences above pointed out, that they may pertain merely to different stages of the same process.

Visceral disease in connection with syphilis in an infant.—A very important case in illustration of visceral disease in connection with inherited syphilis was placed on record by Dr. Coupland in the *Transactions* of the Pathological Society (vol. xxvii., p. 303, Pl. 13). The infant had died almost suddenly, not having appeared otherwise than quite healthy until a few hours before its death. Yet the liver, kidneys, and heart were all found to be infiltrated. The state of the heart was of especial interest, and was, no doubt, the cause of the fatal event. The syphilis was probably in the secondary stage, but with partial latency as regards external phenomena.

* *Path. Trans.*, vol. viii. p. 241.

surface of one of them. I had examined the patient at my own house before I produced him for demonstration, but I did not announce my diagnosis, preferring to allow all to form their own impressions. I believe that the general opinion was that they were hydatids, and this, I may confess, was my own opinion in the first instance. It is true that they did not definitely fluctuate, but then hydatid tumours are often so tense that it is difficult to feel certain upon this point, and it was impossible to be sure in this instance that fluctuation was absent. Our patient was a young man of twenty-two, in good health, who had not complained of any special symptoms. He had discovered the lumps himself about three months ago, and had consulted Dr. S—— about them a week or two before he was sent to me.

I have told you that my first diagnosis was hydatid cysts, and this opinion I entertained without reservation until, having noticed that the man spoke as if he had a cleft palate, I asked him to let me look into his throat. This at once disclosed the fact that his uvula and soft palate had been destroyed by ulceration, and that the latter was represented by a tight scar, which crossed about half an inch behind the margin of the hard palate. Further examination showed that there was a large perforation of the nasal septum, and that in both eyes the corneæ were slightly hazy, and the irides defective in lustre and with adhesions at their margins. Here, then, we had a group of symptoms in themselves almost conclusive, and they were clenched by finding an osseous node on one tibia, which had a scar on its surface, and from which I was told fragments of bone had been exfoliated some years ago. The young man, who was inclined to make light of his ailments, and would scarcely admit that he had ever had either inflamed eyes or sore throat, attributed this node to a kick at football. When pressed he did admit having been under treatment both for his eyes and his throat some years ago; but we may take note, as an instance of the difficulty which sometimes attends the extraction of evidence, that he would very willingly have denied both. Some patients have, as we all know, a sort of pride in ignoring and denying all past illnesses, and he appeared to be one of this class. It is needless to say that there was nothing in his physiognomy which had attracted my attention, and it may now be added that on looking at his first-born, it may be conjectured that four children derived with a node on one tibia, iritic adhesions, corneal haze, a large scar in the soft palate, and a perforation of the septum —was clear, and at once helped us to the opinion that the tumours in the liver were really gummata in connection with inherited taint.

On the second occasion Dr. S—— was kind enough, at my request, to send, with the patient, his elder sister. She was two years older than her brother, and was the eldest living in the family. As you saw, she was a tall, well-grown woman,

PLATE 21.—GUMMA-TUMOURS OF THE LIVER

This illustration shows the liver much enlarged by the presence of large tumour-like gummata. Although, fortunately, no opportunity has occurred for verification of diagnosis in the case narrated at page 323, this plate may be taken as a good illustration of the conditions which were present. In that case the tumours were easily recognised by the eye when the patient was on his back. They were as large as oranges. They disappeared rapidly under iodide treatment, and never recurred. There was no trace of them for years afterwards, nor had the patient experienced any other symptoms. The diagnosis of inherited syphilis was sustained, in spite of the absence of anything characteristic in the teeth or physiognomy, by the history of keratitis, and a perforation of the palate. Such tumours may occur in either acquired or inherited syphilis, but are probably commoner in the latter.

who showed not the slightest peculiarity of physiognomy. Her face was very florid, and covered with acne spots, a condition very unusual in heredito-syphilitics. Her upper incisor teeth were broken by caries, so that they showed nothing definite, and the others were not peculiar. The revelation of her taint was, however, in her eyes. Her sight was very defective, especially so in the left eye, and in both there were iritic adhesions and clouds of haze in the corneæ. She gave the history of a severe attack of keratitis at the age of twelve. There were reported to be in the family four other children, all, of course, younger than the two with whom we are concerned, and none of whom had suffered anything.*

Now, as I think you will all admit that I have established my diagnosis of inherited syphilis in these two patients, many and very interesting questions suggest themselves for our consideration. In the first place let me say that it is very probable that neither of them presented any symptoms in infancy which were suspected—very likely none at all. Neither of them showed in their teeth any proof of having taken mercury, neither of them showed the physiognomy or the damaged skin which so frequently reveals the taint. In both the bridge of the nose was good. It is, perhaps, not very uncommon for syphilitic infants to show no symptoms of taint, just as many of those who have had true chancres never show any eruption or sore throat. It is a mistake to suppose that in syphilis the full *rôle* of phenomena is always completed. Very often it is not so. Let us bear in mind how very easily in such cases as these the diagnosis might be wholly missed. It is under such circumstances often cruelly inconsiderate to ask direct questions of parents, and even if it were not so the result would seldom help us much. In the present case we carefully avoided it, but I have Dr. S——'s assurance that neither of the parents has, so far as they have been under his observation, shown any evidence of taint. We have been informed also that four other brothers and sisters are all free from suspicion.

I have to add as a postscript to this lecture that, seven years after it was given, the young man who was its subject attended at the Polyclinic at my request, which had been kindly made effectual by Dr. ——. He came with his wife, for he had married in the interval.

* The following details as to the family have been supplied to me by Dr. S——: Father, not seen, reported healthy. Mother, in good health. First child (boy, 7 months), dead at birth. Second (girl), died 3 months old, bronchitis. Third (girl), 27 years; H.S. Fourth, our patient (male), 25 years; H.S. Fifth (male), 24 years; no trace of H.S. Sixth (girl), 21 years; no trace of H.S. Seventh (boy), 19 years; no trace of H.S. Eighth (boy), 16 years; no trace of H.S.

He appeared to be in very good health, and had experienced no relapse since his course of iodide. No trace of the liver tumours could be distinguished. Their entire removal had been effected in the course of about two months by the iodide alone, and there had been no recurrence.*

The important lessons of the above narrative are obvious: that tumour-gummata, if very large, may grow rapidly in connection with inherited taint; and that iodide of potassium can cause them as rapidly to shrivel and disappear, and, further, that their disappearance is permanent. Amongst several parallel cases I may mention one in which a young woman, the subject of inherited syphilis, had a large tumour-gumma form rapidly in her tongue. It melted away quickly under the iodide, and I had opportunities for establishing the fact, many years afterwards, that it had never relapsed.

* See *Polyclinic Journal*, vol. ii. for 1900, p. 287.

CHAPTER XXXII

DISEASES OF THE SPLEEN, KIDNEYS, ETC., IN SYPHILIS

I HAVE nothing from my own observation to say respecting affections of the spleen, and must be content to refer to work done by others.

Supposed acute inflammation of the spleen in connection with syphilis.—In the *Pathological Transactions* of 1871, Dr. Moxon records the case of a woman, aged twenty-nine, in whose liver were found "large tracts of potato-like syphilomatous growth, having all the qualities of these growths in perfection." The spleen was in a remarkable state. It weighed 17 ozs., and its capsule was irregularly thickened. A considerable part of it lying irregularly under the capsule was blackish, as if from effusion of blood, the central part being soft and pulpy. Dr. Moxon compares it to the red hepatisation of the lungs, and suggests that we may have an acute syphilitic pneumonia and an acute syphilitic splenitis.

The spleen in hereditary syphilis.—In syphilitic infants born dead, or dying soon after birth, the spleen is very frequently found enlarged. The increase in size and weight is due to general hyperplasia, the stroma being thickened, and the sheaths of the arteries infiltrated. Birsch Hirschfeld states, as the result of his examinations, that the spleen of such infants is usually twice its normal weight in relation to that of the body.

That the spleen is frequently enlarged in syphilitic infants who survive, is an observation which has been enforced by Sir Thomas Barlow, as the result of his inquiries at the Hospital for Sick Children.*

* *See* Barlow, *Path. Trans.*, 1877.

That enlargement of the spleen is a common feature in cases of congenital syphilis was pointed out by Dr. Gee in 1867. He found that in about half his cases of congenital syphilis the enlargement was such that the organ could be felt during life, whilst in about a quarter it was of very considerable size. The degree of enlargement might be taken as an index of the severity of the cachexia, and when it was great death usually followed. In the cases in which recovery took place and the cachexia disappeared, the spleen often remained enlarged. It might be so for years. In some instances the enlarged spleen was the only indication of an active syphilitic cachexia.

Sir Thomas Barlow, working in the same field as his predecessor, Dr. Gee, found that the latter had understated the case rather than otherwise. Out of twenty-eight infants under twelve months old who had definite signs of congenital syphilis, he found splenic enlargement in twenty-two. He did not lay so much stress as Dr. Gee had done on the persistency of the enlargement. Dr. Gee had had two *post-mortems*, and Sir Thomas Barlow one. They neither of them found any trace of gummata, but simply enlargement with induration, and in one instance with thickening of the capsule.

Dr. G. F. Still brought before the Pathological Society in 1897 some cases of syphilitic disease of the spleen in children. In one instance a boy of eleven, in whom there was no history of parental syphilis, had suffered from enlargement of the glands and enlarged spleen for several years. He died from diarrhœa. At the autopsy there were found cicatricial masses in the spleen, well-marked endarteritis, and increase of fibrous tissue in the liver and kidneys. The diagnosis rested between Hodgkin's disease and syphilis. There was extensive lardaceous degeneration of the organs. The spleen weighed nearly 12 ozs. In a second case, a boy, aged six, with a definite history of congenital syphilis, had enlargement of the spleen. After death there were found gummatous deposit in the liver, interstitial nephritis, and, moreover, numerous

yellowish fibrous masses, varying in size from a pin's head to a horse-bean, in the spleen.

The rarity of diseases of the spleen in syphilis is adverted to by many authors. It is agreed that what are called gummata are extremely infrequent, and that when they do occur the growths are usually very small, what are termed by some "miliary gummata." Dr. Coutts, in his lectures on "Infantile Syphilis," states that "any condition allied to gummata I have never seen in the spleen." Haslund, who has recorded one hundred and fifty-four autopsies in children affected with congenital syphilis and with splenic enlargement, found not a single case of gumma.

In Diday's book on "Congenital Syphilis" we find no mention of disease of the spleen.

Dr. Sharkey has given us an account of syphilomata which he observed in the spleen of a middle-aged man. There were four large masses, three in the substance of the organ, and one apparently growing inwards from the capsule. There were clear indications of concentric growth and of growth from several centres. The substance of the masses was firm and opaque yellow-looking.

Disease of the suprarenals.—We do not as yet possess many facts as to syphilitic disease of the suprarenal bodies. In Dr. Greenhow's able and elaborate report on Addison's disease, no mention is made of syphilitic disease of these organs. In the *Pathological Transactions* for 1884, Dr. Charlwood Turner has published the case of a man, aged thirty-four, who died in the London Hospital ten years after syphilis. He had acute pneumonia and advanced lardaceous disease of liver and kidneys. The right suprarenal body was much enlarged, and its conditions were characteristic of syphilis. In connection with the case, Dr. Turner collects a few items of information from other authors on the same subject. Conditions of induration and fatty degeneration have been met with.

Thyroid gland.—I have had no personal experience of syphilitic affections of the thyroid gland.

Cases have been described by several authors, and in connection with both inherited and acquired disease. They may occur either in the early or late stages, and are curable by the appropriate specific. An abstract of a report by Dr. Hüth will be found in the *Medical Review* (vol. ii., p. 749).

Mucous membranes.—The disease known amongst French surgeons as esthiomène, a chronic, hypertrophic, and ulcerative affection of the external genitals in women, appears to occupy much the same position in reference to syphilis as that which I have ventured to claim for disease of the rectum. Most of those who are its subjects have had syphilis, yet it is not usually curable by specifics. Like the corresponding diseases of the rectum and tongue, there is reason to believe that it sometimes ends by becoming cancerous.

Not much is, I think, known as regards affections of the other mucous tissues in the tertiary stage of syphilis. We do not recognise any form of tertiary syphilitic disease of the bladder or of the small intestines. Nor is there much more clinical evidence respecting affections of the œsophagus or stomach. My late colleague Dr. Fenwick, who was an authority on that subject, told me that he thought he had seen *post-mortem* evidences of syphilitic sclerosis of the coats of the stomach, and that he was accustomed to diagnose a syphilitic form of dyspepsia in probable association with such a condition. I do not know of any museum specimens nor of any published observations, but I have witnessed, in a single case, most distressing stomach-pain after food in association with extensive syphilitic induration of the tongue.

Can gummata in the viscera suppurate?—It is well known that suppuration but seldom occurs in internal gummata. Those which occur in the cellular tissue, and in connection with bones, not infrequently soften and break down, and the final condition is often that of an abscess containing both pus and débris of tissue. Respecting the rarity of this event in the viscera, I may, however, quote the authority

of Dr. Moxon, who writes: "The resistance to suppuration which syphilitic matter generally shows is one of its main characters, and is seen in the whole course of the disease, from the callous induration of the glands in the groin to the common syphilitic deposits in the liver, brain, or testis. Softening of the matter is so rare that it may be assumed generally that syphilitic disease will not soften."

My own impression is that in these remarks Dr. Moxon somewhat overstates the case, and that inflammation in or around gummata is more common than he would have us believe. His remarks are made in connection with a case in which many large masses, which resembled sarcomatous tumours softening in the centre, were found in the liver. They were enclosed in what appeared to be fibrous cysts, and were much like brain matter in consistence. In their centre was some pus-like fluid. In the largest of them there was a quantity of bile in its centre, a biliary duct having been opened. One testis showed very characteristic (gummatous) syphilitic orchitis.

Ulcers in the small intestines from syphilis.—Very few facts have been recorded in illustration of syphilitic affections of the intestines, if we except the immediate vicinity of the outlet. Dr. Norman Moore has published a case in which, in a woman, aged forty-six, in addition to other unquestionable syphilitic lesions, there were numerous thickened patches in the small intestines, some ulcerated and some showing scar-tissue and contraction. The contraction was sufficient to have caused some amount of obstruction.

Cases are recorded in which all the usual symptoms of ulcer of the stomach were present with a history of long-past syphilis, and in which recovery resulted from specific treatment.

It is a wise rule that in all examples of obscure abdominal disease, in those known to have suffered from syphilis, specifics should be tried.

Diseases of the rectum in connection with syphilis.—Amongst the local diseases which appear to

be, in some indirect way, connected with tertiary syphilis we have non-malignant strictures of the rectum. This form of stricture is much more common in women than in men, and it is the general testimony of observers that a large majority of those who suffer from it have, at some former period, had syphilis. On this latter point Mr. Allingham, in his valuable work on Diseases of the Rectum, has supplied us with a considerable collection of clinical facts. Two difficulties present themselves: first, in a certain number of cases there is no reason to suspect syphilis, and yet the disease is, for the most part, of the same character; and secondly, in the cases in which there is a conclusive history we can seldom do any good by constitutional treatment. Probably we shall not be far from the truth if we hold that those who have had syphilis are, when certain exciting causes come into action, liable more than others to chronic inflammation of the coats of the lower bowel. In women the chief exciting cause is probably the contusion of the bowel in child-birth, and hence the preponderance of this disease in females. In others, the irritation of fæcal accumulations may be sufficient, and in a few, possibly, the disease is spontaneous, so far as the absence of any assignable local influence is concerned. In this respect disease of the rectum occupies much the same position as that held by psoriasis palmaris, sclerotic hypertrophy of the tongue, and many other affections, which occur chiefly in those who have had syphilis, but which are yet very much influenced by local irritation. My impression is that in proportion to the extent of the disease, and especially to the thickening present, may we more or less confidently diagnose syphilitic antecedents. When once disease has been set up in the rectum it is perpetuated and aggravated by the normal functions of the part, in this respect supplying a further parallel to what we observe in the case of the tongue.

It is not often that we witness any disease of the rectum which can be definitely diagnosed as syphilitic, and which proves amenable to specific treatment.

Occasionally such disease is, however, met with in association with undoubted syphilitic disease in other parts, as, for instance, in the tongue, throat, or larynx. I possess several drawings illustrating this association, and have had under treatment several very distressing and intractable cases.

CHAPTER XXXIII

DISEASES OF THE AIR-PASSAGES AND LUNGS IN SYPHILIS

It is but seldom that the **larynx** suffers seriously during the secondary stage of syphilis. Attacks of congestion attended by hoarseness may occur in neglected cases, but they usually pass off quickly under treatment. Some of them may not improbably be herpetic in their nature. At later periods, however, ulcerations may occur which may become chronic and prove very troublesome. The **epiglottis** may be destroyed, and, when the cords are involved, cicatricial contraction of the glottis may be attended by much difficulty of breathing, and may necessitate a precautionary tracheotomy. This necessity ought, however, to occur but very rarely, but it is of the utmost importance that it be not delayed too long. It may indeed be sometimes regarded as a measure of treatment in giving rest to the parts. In some cases, however, a tube must be worn for the rest of life. The diagnosis by the laryngoscope is easily made, and even without its aid the symptoms are usually sufficient to guide the treatment. Insufflations of iodoform should be freely used, and the combined treatment by mercury and iodides zealously carried out. If necessary the gums should be touched.

Syphilitic affections of the **trachea** or larger bronchial tubes are rarely diagnosed during life, but evidences of their occurrence are now and then recognised after death. Several pathologists have described and figured strictures presumably of this causation.

A few cases of narrowing of the trachea itself are on record. Mr. Pugin Thornton has recorded, in

the *Pathological Transactions* for 1874, the case of a man who had complete syphilis in 1871, and in whom the larynx was affected ten months later. During the next year he was repeatedly under care, with difficulty of breathing, which was not wholly relieved by tracheotomy. This operation was performed during an attack of extreme dyspnœa, which had occurred whilst walking in the street. He died within three years of the primary disease, and the *post-mortem* showed not only laryngitis, but the results of ulceration of the trachea, extending as far down as its bifurcation. About the fifth ring of the trachea a cicatricial web was stretched across, with an opening through it sufficient only to admit of a No. 8 œsophageal bougie.

Dr. Gulliver has also published a case of unquestionable syphilis (seven years before), in which an annular stricture of the trachea was found just above its bifurcation. There were also scars of old ulcers in the lower part of the trachea and in both bronchi.

Sir Morell Mackenzie, in 1871, brought before the Pathological Society a specimen of contraction of the trachea in its upper part, consequent on syphilitic ulceration. It was so much reduced that it would admit only an ordinary goose-quill. The dyspnœa which had preceded death had been very severe, but of a paroxysmal character. The larynx was quite healthy. The history of syphilis was denied, but there were deposits in the liver and kidney, about the nature of which there could be no doubt, and there were nodes on the tibiæ.

Although much has been written as to the simulation of **pulmonary phthisis** by syphilitic affections of the lungs, there seems good reason for believing that examples of it are very infrequent. My own experience of such cases is only small.* I have known patients who had been treated for syphilis subsequently develop phthisis, but I do not call to mind more than one or two in which there was reason to believe that syphilis was an important complication, or in which

* Several of my own cases will be found mentioned in the chapter on the Testis (Chapter XX.).

specific treatment benefited the lung condition. So infrequent, indeed, have cases resembling phthisis been in those whom I have known to have had syphilis (not a few of phthisical families and obviously delicate) that the impression has been forced on me that the small-dose mercurial treatment is positively advantageous as regards threatened tuberculosis. We may remember that mercury was largely used by some of the older physicians with this object in view, notably by Dr. Wilson Philip.

There can, however, be no doubt that various forms of lung disease are met with as the direct result of syphilis, both in its acquired and inherited forms. It will be best to illustrate these by the citation of cases.

In some instances isolated gummata may be present, but more usually the process is one of infiltration. The middle lobe is more commonly the seat of the disease than other parts, and it is seldom that both lungs are affected together These facts give valuable help in diagnosis. As compared with tubercular phthisis, the processes of syphilis are more rapid, but, if the disease be allowed to advance, very similar changes may accrue, and the symptoms may be such that diagnosis is exceedingly difficult. It will be wise in all cases in which local and unusual lung changes show themselves in those who are known to have suffered from syphilis within a few years, or who have inherited it, to give mercury. Such treatment, if conducted with caution, can seldom do harm, and in some cases very triumphant results have been recorded (Fournier and others). The final results of syphilitic disease of the lung probably approach most frequently those known as fibroid phthisis; but in some cases excavations are formed which resemble those of tubercle. The search for bacilli should, of course, never be omitted.

Fibroid phthisis.—Dr. Goodhart has mentioned several cases of fibroid phthisis, in which he believed that the cause was syphilis, and has given a beautiful portrait showing small scattered gummata in the lung.

In this and some other instances tubercular processes were present in close juxtaposition with the gummata, and possibly secondary to them.

Cases of syphilitic lung disease from inherited and acquired disease.—Dr. Green has recorded the case of a child who died at six years old with extensive disease of one lung. There was great fibroid thickening, not only of the pleura, but of the walls of a large excavation in the upper lobe. This thickening was so peculiar that, without knowing the history, Dr. Green formed and expressed the opinion that the child must have been syphilitic. This opinion was confirmed, in so far that the upper central incisors were found to be "small and markedly peg-shaped." The other lung was almost healthy, but showed a few minute tracts of fibroid induration. The spleen was much enlarged, and presented typical syphilitic thickening and puckering. The capsule of the liver was also thickened.

This case is of much interest, as showing the value attached by this distinguished pathologist to these conditions of fibroid induration as consequent on syphilis. It also shows strongly the value of the condition of the teeth, as furnishing confirmatory evidence, for no facts as to syphilis could be obtained from the parents.

Dr. Goodhart has published a case in which, in a woman of fifty-nine, cavities had formed in the lung, which had thick fibroid walls. The fibroid changes extended irregularly, and in one patch a mass of tissue was sloughing. Dr. Goodhart raises the question as to whether such changes may not be regarded as indicative of syphilis, even in the absence of confirmatory evidence. In this instance there was no history, but the patient had scars on the legs, thickening of the capsules of both spleen and liver, and a softening gumma in the latter.*

Syphilitic pleurisy with fibroid pneumonia; Dr. Moxon's views as to syphilitic simulation of phthisis.—Dr. Moxon has described a very peculiar

* *Path. Trans.*, 1874, vol. xxv.

case, in which the conditions of pleurisy with pneumonia were sufficient, together with the state of the liver, to lead him to diagnose syphilis, although no history whatever was forthcoming. The man, indeed, had died from a crush of his spinal cord whilst engaged in heavy labour, and the case shows, in a remarkable manner, what may be undertaken in spite of extensive organic disease. None of the man's fellow-workmen knew that he ailed anything. The *post-mortem* showed the lower half of the left pleura coated with recent firm lymph. The left lung, beneath this, showed a state of grey fibroid change. There were thick masses of fibroid puckering extending deeply into the lung substance. For the detailed description of the changes the reader must refer to Dr. Moxon's description of them in the *Pathological Transactions* of 1871. The interest of the case for my present purpose is in connection with the belief that the changes were of syphilitic origin. The evidence on that point is the following: The liver was very large, highly lardaceous, and marked by cicatricial patches like those on the lung. The spleen, suprarenal capsules, and kidneys were lardaceous. "Both testes showed excellent specimens of syphilitic fibrous orchitis."

In reference to the name "fibroid phthisis," Dr. Moxon insists that the disease did not bear any resemblance to common phthisis, since there were no tubercles, nor any caseous pneumonia; and the disease extended from below upwards continuously, and not in discrete patches. He states that he has repeatedly seen ordinary tubercular phthisis in syphilitic subjects without any fibroid character being assumed. He holds that gummata in the lung are of rare occurrence, and seldom large, and that the common condition in the lungs of syphilitic subjects is a chronic white hepatisation, with more or less induration spreading usually from above downwards. This hepatisation is liable to gangrene, and cavities may be thus produced much like those of tubercular phthisis.

A very instructive case from my own practice will be found in my chapter on "Syphilitic Affections of

the Testis." In it the patient had symptoms of phthisis, followed by a very large gumma in one testis, and he was cured of both by specifics.

It is remarkable that when gummata of considerable size are found in the lung, they are often in association with similar affection either of the testis or the liver. They occur, in common with other gummata, usually in a late stage of the disease, and not infrequently after a long period of good health.

I possess an excellent drawing from a case of inherited syphilis, in which gummata of considerable size were found in one lung and one testicle.

Extensive gummatous lesions of the liver, diaphragm, lung, and spleen.—The following case is recorded by Dr. Sheridan Délépine and Dr. Richard Sisley in *Pathological Transactions*, vol. xlii. p. 141, 1891 :—

M——, *æt.* forty-three. In 1861 (twenty-five years before death) he suffered from gonorrhœa. Some months afterwards he had a chancre, followed by a bubo in the left groin. This was opened. Later the man had sore throat. In 1864 a swelling formed over his right tibia; this gradually increased in size. In 1871 and 1876 he had attacks of hemiplegia. From the latter he never quite recovered. His wife had had four miscarriages, and had borne no living child. The man died on March 20th, 1886. There was much thickening of the left tibia in its upper third. There was considerable fibrosis with caseous degeneration in the lungs. A detailed description is given. Stress is laid on *the similarity between the lesions and those found in the pneumonia of inherited syphilis*, as follows:—

"In this case, to doubt the nature of the pulmonary changes is practically impossible. We have not only a distinct syphilitic history and lesions of an unusual nature, but in addition we find that there is a continuity between the typical hepatic lesions and those of the lung. One thing, however, is evident, namely, that though this is a case in which the inflammatory changes had a great tendency to the production of gummata, yet only those parts of the right lung which have come in contact with the liver, through adhesions, have become gummatous, and that, only, after having been first entirely replaced by fibrous tissues. From this it seems evident that, in searching for evidences of syphilis in the lung, one must be careful not to attach too much importance to the presence of gummata having characters similar to those found in solid organs, and that one should rather look for lesions such as those which, in our case, were present in the left lung; that is to say, lymphangitis, interstitial and catarrhal pneumonia, bronchial

stenosis, and bronchitis, and the usual complications of these states.

"The lesions of the *diaphragm* can be readily summed up under the title of *gummatous interstitial myositis.*

"*The liver.*—A sketch is given of a section through right lung, liver, and diaphragm, showing a large fibro-gummatous mass replacing the greater part of the liver, a portion of the diaphragm, and invading the lower parts of the lung. Detailed descriptions are given, and the literature of the subject discussed.

"*The spleen* was considerably enlarged, and weighed 2 lbs. 6 ozs. The upper half was adherent to the diaphragm. Surface nodulated, puckered, and covered by a thick capsule (dense fibrous). Nearly the whole upper third was replaced by a large gummatous, caseous mass. A sketch of the section of the spleen showing this is given. Small gummata were found in the thickened capsule. Microscopically: (1) General increase of fibrous tissue; (2) distension of vessels; (3) small accumulations of proliferated cells originating in the pulp stroma, and also of small lymphoid cells similar to those found in the lungs and liver; (4) thrombosis of many small vessels. Although the determining cause of the cheesy degeneration of certain tracts of tissue may have been due to thrombosis or deliteration of vessels brought about by some secondary changes in the vessels, there is a distinct evidence of a previous interstitial granulomatous inflammation, similar to that found in the lung and the liver."

Diffuse syphilitic fibrosis of the lungs.—F. C. Perry (*Path. Trans.*, vol. xlii. p. 53, 1891).—M——, *æt.* fifty-four. There was no history of syphilis. The testes were fibroid, the liver was scarred, and the kidneys were lardaceous.

Gumma of the lung.—H. D. Rollaston.—A fibrosed portion of lung containing a caseous mass as big as a marble; it was somewhat loose. Dr. Délépine gives details of histology. The patient was a man aged twenty-eight, who died August 31st, 1890. In 1884 (six years previously) he had contracted syphilis. In May, 1886, he was under care with disease of the testes and sores on the right elbow. He was able to work till June, 1890.—(*Path. Trans.*, vol. xlii. p. 50, 1891.)

CHAPTER XXXIV

THE IMITATION BY SYPHILIS OF OTHER MALADIES

In a lecture, published in 1879, I attempted to draw attention to the remarkable fact that all the various phenomena of disease due to syphilis are imitations of other, non-specific, type-forms. Further experience and thought have confirmed me in the impression that this way of regarding the subject is one which is very helpful, not only for classification and nomenclature, but also as assisting towards a true insight as to syphilitic processes. We may thus use all the substantive names already employed for non-specific diseases, and simply add the adjective "syphilitic." Thus we have a syphilitic psoriasis, a syphilitic lichen, a syphilitic pemphigus, syphilitic keloid, syphilitic lupus, syphilitic ataxy, syphilitic ophthalmoplegia, and a host of others.

We have absolutely no single malady which is peculiar to syphilis. The closeness of the imitation is often very remarkable. The syphilitic varioloid is perhaps the most striking example of this; the eruption which goes under this name is so exactly like ordinary variola that it has many times deceived the most skilled observers. I have repeatedly known cases of this kind admitted into small-pox hospitals, or else treated in the closest isolation at their own homes, under a mistaken diagnosis. Nor are the resemblances to measles, roseola, or scarlet fever less accurate. Rubeolous and roseolous eruptions are very common in syphilis, whilst that resembling scarlet fever is as rare as that simulating variola. I have, however, often known patients treated for scarlet fever who really had nothing but syphilis.

A full recognition of this general fact will, I think, help us much in diagnosis. We are always to be on

the alert and prepared to encounter maladies due to syphilis which resemble non-specific prototypes in the closest possible manner. Nearly always on careful inspection and inquiry some features will be disclosed which discriminate the syphilitic counterfeit from the type malady. In the case of the simulation of the exanthemata, the duration of the eruption will usually decide the question. The syphilitic eruption does not go through its stages so quickly as the others, but lingers on long after they would in due course have disappeared. This discrepancy as to progress will usually decide the diagnosis. Other features will, however, in most cases help the decision. The febrile disturbance and sense of illness are comparatively absent in the syphilitic imitation. Certain minor features of peculiarity will also be commonly observable in the syphilitic maladies; thus they are often developed in a more irregular manner, and often two or more types of disease are mixed together in the same case. We must not, however, trust too much to this feature of polymorphism as distinctive of syphilitic eruptions; it is often absent in them, and it may be present in other diseases.

Not only are we justified in certain cases, however exact may be the resemblance to a common and non-specific disease, in suspecting syphilis, but we must be on our guard as to the reverse phenomena. There are some few maladies of rare occurrence of which the syphilitic imitation is far more common than the original type. In such we may easily make the mistake of diagnosing syphilis with much confidence in cases where it is not present. The heaped conical crust of syphilitic rupia is, for instance, well known to all. It is not so widely known that there is a non-specific eruption which produces limpet-shell crusts exactly like those of syphilis, and most surgeons encountering for the first time a good example of the "psoriasis rupoides" (of M'Call Anderson) would confidently pronounce it to be specific.

The malady known as **ophthalmoplegia externa** —in which all the ocular nerves on both sides are

affected, the upper lids droop, and the eyes are almost fixed—is in nearly all cases a sequel to syphilis. Some years ago I should have been inclined to say that I had never known the malady in any other connection. I have, however, recently seen two cases, one the result of injury, and the other not in association with any discoverable cause, which exactly, in every feature, resembled the syphilitic cases. A converse statement is true of another disorder of the nervous system apparently belonging to the same category as ophthalmoplegia. I refer to **glosso-labio-laryngeal paralysis.** In it, as in ophthalmoplegia, certain muscles become paralysed in groups; yet, whilst the one is almost always syphilitic, we very rarely, if ever, meet with any close simulations of the other by syphilis.

Respecting some of the more common phenomena of syphilis, I feel sure that mistakes in diagnosis are very frequently made through not sufficiently recognising the closeness with which not only may syphilis resemble other maladies, but these in turn may resemble syphilis. There are cases in which after the fullest investigation of the facts the candid diagnostician will have to confess himself at fault. In the case of the **tongue,** when superficial ulcerations with filmy, greyish-white edges form along its sides we, as a rule, diagnose syphilis. There are, however, cases exactly like the syphilitic ones in which I am sure that no syphilis is present.

As to the **throat,** again, if the conditions are well pronounced—if, for instance, there be deep kidney-shaped ulcers in the tonsils with snail tracks near their borders and on the pillars of the fauces—we, as a rule, feel justified in confidently pronouncing the disease to be syphilitic. If the sore throat persists in this condition for some weeks or months our confidence is increased. No forms of sore throat presenting these features have as yet been described in connection with any other cause. I have, however, at long intervals seen several examples of chronic sore throat exactly like those of secondary syphilis, in which the

history was wholly absent, and in which no other phenomena ever occurred to support such a diagnosis. Two cases especially have stamped themselves on my memory, one of them in a young man, and the other in an unmarried lady of good family, concerning which what I have said is true. In both, in the first instance, I was inclined to join in the diagnosis previously given with great confidence by very competent observers, that the throat was syphilitic; but in both, after a time, I had to abandon that suspicion.

In the paper to which I have referred I have quoted cases of syphilitic simulations of **rodent ulcer.** Of this form of cancer of the face, the rolled sinuous edge, of even height and semi-transparent aspect, is the peculiar feature. Now this edge may be produced in great perfection in ulcers which are really syphilitic. When this is done it is a most remarkable fact that it occurs only on those parts where the true rodent ulcer is met with, that is, on the face. I have seen several syphilitic rodents which I could not diagnose with any confidence until the result of specific treatment cleared away all doubt. Of one of these I had a portrait taken in order to illustrate this special point.

The statement just made, that the syphilitic imitations occur only in the parts capable of producing the true rodent, may serve as affording a suggestion, or explanation, of syphilitic simulation in general. It is probably due to the fact that precisely the same anatomical structures are involved in both. The inflammation or new growth, having once begun, and having taken its peculiarities from the structure in which it started, keeps to its type afterwards. Thus, "syphilitic varioloid" no doubt affects the identical gland structures which are involved in true variola, and hence the identity of appearance in the umbilicated pustule produced. In measles we must suppose a vasomotor paralysis of certain leashes of capillaries, and hence the crescentic patches of dusky erythema. These leashes exist ready to receive a like injury from other morbid causes, and such a cause syphilis, in its turn, supplies. We well know that copaiba and other drugs

may produce the same effect. Possibly those patients who show "syphilitic rubeola," or "syphilitic variola," are precisely those in whom, if the true exanthem were to occur, the eruption would be displayed in great perfection and abundance. Thus the syphilitic poison may be regarded as bringing to light latent peculiarities of structure. This explanation may fit well with the cases of syphilitic psoriasis and rupia. Those who get a scaly syphilitic rash are possibly those who, if brought under the influence of suitable causes, might have developed common psoriasis; and those who get rupia may be those who were predisposed to pemphigus. Perhaps in the treatment of syphilitic rupia (as certainly in syphilitic pemphigus) we ought always to combine arsenic with our better-accredited specifics for syphilis.

Since the assertion is that syphilis may imitate almost every possible type-form of morbid change due to other causes, it would be obviously a lengthy and tedious matter to attempt to describe all its varieties, and to discriminate them from others due to non-specific causes. It must suffice to impress upon the reader's mind that when a patient is known to have had syphilis it is wise to suspect a taint of that disease in all anomalous maladies from which he may afterwards suffer. It will be very seldom indeed that any harm is done by a mild course of mercury, and very often the suspicion will be confirmed, and at the same time a cure effected.

It is especially in the case of the syphilitic **skin eruptions** that I am reluctant to attempt any enumeration of their various forms. Their modifications are almost endless, and it must suffice to say that no single form has been described by dermatologists which may not be very closely simulated by syphilis. This, however, is now tolerably well recognised, and it is not in this department of our subject that mistakes in this direction are likely to occur. It is more common, in the case of skin diseases, for those which are not syphilitic to be regarded as such, both by the patient and surgeon, than is the converse error.

In certain other forms of disease not affecting the skin, the diagnosis of syphilis may easily be overlooked. Thus it may, especially in middle-aged or elderly patients, closely simulate generalised rheumatism of the subacute type, or it may be treated as fever, or as the results of blood-poisoning from defective drainage. Dr. Thomas Reade, to whom we owe so much for the earliest observations on syphilitic affections of the nervous system, asserts that occasionally the fever of syphilis may assume the type of a quotidian ague. The case which he quotes from his own practice is one in which the malarious poison was at work during the secondary stage of syphilis, and, no doubt, caused the ague. The remarkable feature was that the ague did not yield to quinine or arsenic, but was cured at once when mercury was used. It does not prove that syphilis alone can produce ague. Cases have, however, been recorded by M. Zambaco* (and quoted by Dr. Reade), in which the ague was apparently due to the syphilis only, the patient having never been exposed in any way to the influence of malaria. In these cases, the lesson of which is very important, quinine wholly failed to cure, and mercury promptly succeeded.

It is common enough for violent neuralgia to be simulated, or, perhaps I ought to say, produced by syphilis.

Dr. Hughlings Jackson has given us very valuable data by which to distinguish the **epilepsy** which is due to peripheral irritation, as that of syphilis usually is, from that of the more typical kind. In Jacksonian epilepsy the spasms usually begin in one limb only, and there is an interval observed before the patient loses consciousness. Although, however, the epilepsy which is due to syphilis usually presents peculiarities which permit of its recognition, yet it will be wise, in all cases in which epilepsy is developed in those who are the subjects of syphilitic taint, to employ specifics. It is very possible that, in many such, a syphilitic lesion takes only a half-share in the production of

* "Des Affections Nerveuses Syphilitiques." Paris, 1862.

the disease, there being at the same time the usual personal proclivity.

The remarks just made apply strongly to all varieties of paraplegic affection which occur in those who have suffered from syphilis. Paraplegia from syphilis is very common, and may occur at very different stages of the disease. I have already quoted numerous cases illustrating its varieties, and it must be sufficient here to remark that in all suspicious cases the patient must be allowed the advantage of full and prompt mercurial treatment.

A very remarkable simulation of syphilis resulting in death.—A very unusual case will be found given in full detail in *Archives of Surgery* for July, 1892 (pp. 1 to 5), that of a young midshipman, aged twenty, who died after a four months' illness. Nodes on the head and facial paralysis had been amongst the earliest symptoms. These had been followed by an eruption and very great swelling of the tonsils and cervical glands. There was no history of chancre, and although the symptoms were very suspicious, the order of their development had been most unusual. Fœtid abscesses in the lungs preceded death. Neither tubercle nor gummata were found at the autopsy. In spite of its close simulation, I did not think that the illness was really syphilis. The following were amongst my reasons for doubt:—

Nodes were the first symptom, and for some time the only one.

The swelling of the tonsils and cervical glands was much in excess of what is usual in syphilis.

The eruption might have been caused by the iodide which had been given.

There were no indications of syphilis when I saw the patient.

In spite of apparent benefit from specifics, the case ended fatally.

There was nothing in the cause of death indicative of syphilis.

There had never been any chancre.

The case may be instructively compared with the

Leeds case of doubtful vaccinal syphilis in which nodes occurred.

Caution against over-confidence in diagnosis.—It is impossible to warn the young practitioner too strongly against over-confidence in the diagnosis of syphilis. If we regard the more common phenomena of the disease (eruptions on the skin, sore throat, sores on the tongue, nodes, etc.) it is quite safe to assert of them all that no peculiarities are ever presented which, taken alone, and in opposition to the rest of the clinical evidence, justify a positive opinion. As regards eruptions, the colour, whether dusky or coppery, the polymorphism, the arrangement, and the initial lesion, etc., may each be most closely simulated by eruptions which are not specific. It is only by the history and the concomitant phenomena that a confident diagnosis can be justified. In saying this I do not wish to imply that the diagnosis of syphilitic eruptions is in a general way difficult, but rather that there are rare cases in which it is impossible. In most instances the ordinary and well-known signs suffice to justify a strong opinion, but if under such circumstances we encounter strong negative evidence we must be willing to admit a doubt. Much unhappiness may be caused by too great confidence, and great discredit may subsequently accrue to the surgeon. I will recapitulate a few of the conditions which, occurring in connection with non-specific causes, yet often present a most deceptive similarity to syphilis.

The eruptions which I have claimed as "vest rashes" are often of a dull copper tint, and so exactly like syphilis that no one, however skilled, would be able to diagnose them except in connection with the history.

There is an eruption known as psoriasis rupoides, well described by Sir T. M'Call Anderson—in which limpet-shell crusts are formed over dull-red, copper-tinted areas—which exactly resembles the aspect of a syphilide.

The affections described by authors under the names of lichen ruber and lichen planus often look most deceptively like syphilis.

On the tongue, filmy white sores may form on the borders, with œdema and indentations, exactly like syphilis. Although superficial sclerosis, with its leucomata of various kinds, is in the majority of cases a sequel of syphilis, yet there are cases in which it is not so, and they are indistinguishable from the others. The white patches in the linings of the cheeks, and at the oral commissures, which formerly were by many thought to be almost pathognomonic of syphilis, are now recognised as being, in the majority of cases, due chiefly to smoking.

The chronic forms of psoriasis palmaris are often not syphilitic, while they look almost exactly like those which are so.

There is a peculiar form of multiple ulceration of the mucous membrane of the lips, cheeks, palate, and gums which occurs to middle-aged and elderly men, which suggests syphilis to all observers at first sight, but which is certainly not in that connection. It is curable by opium, and is made worse by iodides and mercury. To make the diagnosis still more difficult, it is often attended by eruptions on the hands and feet, and by disease of the nails.

Most surgeons of experience will believe themselves fully able to recognise the sore throat of secondary syphilis, with its symmetrical ulcers in the tonsils, its snail tracks, and abrasions on the fauces and palate, etc. There are, however, as I have already asserted, throats which have no relation to syphilis, in which all these features are produced with great accuracy. I have seen two or three such during the last few years, in which surgeons, equally well qualified to judge, differed in opinion, some pronouncing with the utmost confidence that the throat was syphilitic, whilst others took a different view.

It is well known that there are malformations of teeth, both of the temporary and permanent sets, in which a very close resemblance to the central notch in the upper central incisors is produced, and which yet are not indicative of syphilis. I have never seen the resemblance exact, but often sufficiently so to make

diagnosis impossible without the aid of the concomitant phenomena.

There are conditions of choroiditis, both of the serpiginous and disseminate form, which are not specific, but respecting which I know of no features which enable us to distinguish them. I do not know of any cases of close simulation of interstitial keratitis (that is, affecting both eyes, producing a marked ground-glass condition, running a slow course, and finally clearing completely) which were not really syphilitic. Acting, however, on the general rule that syphilis has no lesions or type-forms of disease which are peculiar to itself, I am quite prepared to expect cases of non-syphilitic, diffuse, symmetrical keratitis.

Bazin's malady.—At the date of my first edition some of us had not in England advanced to the recognition of the tubercular nature of the conditions now known by the name of "Bazin's malady," and which was described by him as "indurated erythema of the scrofulous." To this group I now unhesitatingly assign the two cases which I recorded in my last edition under the heading "*On cases of multiple ulcers on the legs, etc., which assume the features of syphilis, but are possibly not specific.*" They had probably nothing to do with syphilis. Yet the narrations may, perhaps, prove interesting not only in their clinical aspects but as illustrating the progress of our knowledge. The cases were under my treatment in 1885 and 1886; they were remarkably alike, and in each the patient was a married lady. The condition presented in each was that of numerous small ulcers occurring chiefly on the legs. These ulcers, which began as little boils, or in some instances as subcutaneous indurations, spread slowly at their edges, and assumed appearances which would, I am sure, have led anyone, at first sight, to diagnose syphilis. Yet in neither case was there any strongly suspicious history, and in neither did the ulcerations respond definitely to syphilitic treatment. They were certainly not like any condition of skin disease which has as yet received recognition in our nosological lists. A remarkable

feature of each case was that the disease was symmetrical, although if syphilitic it was probably a very late phenomenon.

Want of space on the present occasion compels the omission of these two important cases, both of which I now confidently consider to have been tuberculous and not syphilitic. Their omission here is the less to be regretted because their nature has been well discussed by other observers (notably by Dr. Colcott Fox), and there is general acceptance of M. Bazin's views. I have myself written repeatedly, and at considerable length, respecting them in my *Archives of Surgery* (*see* vol. v. p. 32 *et seq.*). We have collected in the Clinical Museum a considerable series of drawings in illustration of their close similarity in aspect to syphilitic lesions. As such they were until recently universally accepted. In one of the cases which has been under my observation tubercle bacilli were detected, but as a rule their presence has not been proved. Other evidence, however, makes it tolerably certain that they are of tuberculous causation. Although M. Bazin somewhat unfortunately used the term "erythema," ulceration is, in English practice, their almost invariable feature, and the ulcers have the undermined or ragged borders so often seen in syphilis.

CHAPTER XXXV

OF TERTIARY SYMPTOMS IN GENERAL

The division of syphilis into stages is to some extent arbitrary, but for the most part it accords well with clinical observation, and no one can doubt that it is practically convenient. The specification of the **primary symptoms** is easy, and all will admit that they, as a rule, do not recur after disappearance, nor do they mix themselves up with the later stages. So also of the secondary symptoms. Everyone recognises a copious, symmetrical, copper-tinted eruption, with symmetrical superficial ulcers in the tonsils, as characteristic of an early period, and not in the least likely, if once they have completely vanished, ever to reappear in the same form and grouping. If treatment has been prematurely suspended, relapses are common, but if a good interval of immunity has occurred they will certainly not reappear.* Although in the present day, with the all but universal employment of mercury, we seldom have the opportunity of witnessing spontaneous disappearance, yet we may feel certain that, like the primary stage, the secondary one has its limits of duration, and vanishes, after a time, spontaneously. In the stage which we are now about to consider, no such tendency to spontaneous cure is observed, and unless the physician intervenes with his remedies, the morbid processes, once initiated, continue to progress. Certainly we have here a very important and quite natural feature of difference between the

* It may perhaps seem that the recurring eruptions already described constitute an exception to the above statements. They are, however, peculiar in certain features. For the most part they are erythematous only, often very transitory, and never attended by sore throat. They probably occur only in cases in which the evolution of the malady has been interfered with by the use of mercury.

secondary and tertiary forms of disease. When we add that the tertiary forms are, when multiple, as a rule, ranged without symmetry, that they are often few in number, or even solitary, and that we frequently observe them after an interval of immunity which has extended over many years, it will be yet more clear that they constitute a separate group. We make no distinction as to the tissues affected, asserting that all the tissues, or any single tissue, may suffer in either stage. It is not a question of the tissue attacked, but of the peculiar types assumed by the morbid process, which constitutes the difference.

As regards the stage which I have ventured to name **intermediate,** it is impossible to separate it definitely on the one hand from the secondary, and on the other from the tertiary. As its name implies, it stands between the two, and it partakes of the nature of both. Its phenomena are sometimes symmetrical, at other times not so; some of them disappear without specific treatment, though most of them probably do not. This stage may begin before the secondary one is well over, and may be prolonged until that which is definitely tertiary begins. If it were practicable to use inoculation as a test of stage we might, perhaps, be able to distinguish them more definitely. In the earliest stage the local lesion is alone capable of conveying the contagion to another person; in the secondary stage the blood and all tissue elements contain the virus, whilst in the tertiary stage contagion is, as a rule, not possible. The precise date at which the blood ceases to be the vehicle of contagion might be claimed as the end of the secondary stage. In most persons probably it occurs between the end of the first year and that of the second. In some it may be much later. Thus, then, I think, we have clear rational data for the division of the stages. In the primary stage syphilis is for a very short time a local disease; then in the secondary it is a universal one, affecting both blood and tissues; and finally, in the tertiary, it is a disease of tissues but not of the blood, and its manifestations are irregular. In most cases all manifestations are absent, and when

they do occur they are, in a strong if not an absolute sense of the words, local only.

The statements just made must be accepted in a general sense and not too literally. We cannot limit the stages of syphilis with definiteness. It is perhaps probable that the perishing of the spirillum from the system, whether under the influence of specific treatment or by the mere lapse of time, is accomplished not suddenly but by degrees, and that great diminution in numbers and activity long precedes its extinction. It is, further, possible that it may linger in certain tissues or certain organs long after it has died out in most. That it has its periods of rest and recrudescence is also very probable. As regards the primary symptoms, it had long been held by some that induration in the chancre should be regarded as the first of the secondary or humoral group. Experiments on apes have confirmed this, and have proved that blood-infection occurs earlier than had been suspected, and is well advanced at the time that specific induration first becomes obvious.

We must again, and always, be on our guard against observations which are made fallacious by the fact that we now chiefly study syphilis as modified by mercury, not in its spontaneous development. I do not believe that there is any reason to think that any of the stages or symptoms of syphilis are made more severe by mercury. It is, however, quite possible that by inefficient and interrupted measures the stages may be much protracted. The persistence of symptoms, however, the liability to recurrence, and, above all, the frequency of tertiary phenomena, would probably all be greater if the disease were left to itself.

The conditions which have been mentioned as those which are most frequent in the intermediate stage are obviously, some of them, the same in name as those which we witness in the secondary period, whilst others are those which might have been expected later on. They are, however, usually different in certain features from their homologues in the other stages. The erythematous ringed eruption, for instance, is seldom exactly

repeated in any other period. The peeling patches in the palms are more superficial, much fewer in number, and slower in development than the psoriasis which sometimes in the secondary stage affects the same parts. Everything in this stage is feebler in type, less acute than in the secondary, whilst there is much greater proneness to wide diffusion and multiplicity than in the tertiary.

A few words must here be said respecting certain cases in which the secondary and tertiary stages are reputed to run into one another, or in which the disease develops itself so rapidly that they are not to be distinguished. Rightly classified, these are, probably, simply cases in which the specific has not been successfully used, and the secondary stage is, therefore, persistent and severe. The disease remains generalised throughout, and it never assumes the more distinctive local peculiarities of the tertiary stage. We must not count severity of local processes, that is, tendency to suppurate or to ulcerate deeply, as being a peculiarity of any one stage. It may occur at any period if the treatment fails to curtail the malady. The treatment which is almost always successful in these cases confirms this view as to their nature. If we enable the patient to bear mercury by sending him to the country or to the sea, we usually succeed in curing the disease, but the liability to true tertiary symptoms after a long interval of immunity may come, just as in other cases. (*See* "Malignant Syphilis," Chapter XII.)

True tertiary symptoms.—What are, then, let us now ask, the true tertiary symptoms? Our inquiry is as to those to which a syphilitic patient may become liable five or ten, or even twenty, years after his disease, and after, it may be, a long period of good health. We may put aside for the present some of the affections which Fournier has taught us to call "parasyphilitic," and which are mainly degenerations resulting from arterial disease. We shall find concerning the rest that they are mostly of the nature of *gummata*, and that they all possess the peculiar feature of tendency to local spreading to which, when it shows itself

in the skin or mucous surfaces, the term *serpiginous* is given. All of them, when they recede, leave a state of atrophy, or, in a few instances, of sclerotic hypertrophy, of the part involved. In almost all we see good reason to believe that in addition to the syphilitic taint some localising influence takes an important share in evoking the local changes. If we attempt to enumerate some of the chief affections, they are the following :—

Chronic and relapsing periostitis, leading to osseous nodes or sclerotic hypertrophy of bone, or, in some instances, to suppuration and necrosis.

Muscular nodes, or gummata in the substance of muscles, which often, by their absence of inflammation and comparatively slow growth, simulate neoplasms.

Gummata in viscera—liver, testis, lung, etc.—slow in progress, as just noted in the case of muscles.

Gummata in fibrous structures and in cellular tissues. The meninges of the brain and spinal cord, the capsules of joints, and the subcutaneous cellular tissue generally, are the parts most likely to be affected.

Diseases of the skin of a lupoid type, *i.e.* serpiginous, and leaving scars.

Diseases of the tongue of a gummatous or simply inflammatory form; in either case leading to sclerosis. These affections are so much influenced by the habit of smoking that it is often quite impossible to say how much is due to the one and how much to the other cause. Superficial sclerotic hypertrophy is a not infrequent result; but as regards this condition and several others formerly supposed to be due to syphilis only, it is unquestionable that precisely similar ones may result from smoking only.

Aggressive structural disorders of the ganglionic, conductive, or central parts of the nervous system, leading to such affections as—

Tabes and its complications.

Ophthalmoplegia externa.

Ophthalmoplegia interna.

General paralysis of the insane.

Amaurosis from optic atrophy, with various complications.

Paralysis of special nerves (the fifth, the facial, etc.).

Conditions implying general tendency to tissue degeneration, such as amyloid disease.

Chronic inflammations of mucous membranes in certain regions, attended by thickening and ulceration. These occur especially in the mouth, pharynx, rectum, and female genitals (esthiomène).

In most of these there is not at any stage much evidence of active inflammation, nor is there any proof of deposit or growth which might deserve the name of gumma. No doubt a very chronic and slightly effusive form of inflammation is at first present in most, but it gives place quickly to atrophic changes. It is possible that in some—tabes, for example—the first stage is atrophic rather than inflammatory, and due to preceding changes in the smaller blood-vessels. There is every reason to believe that the initial process is serpiginous, or locally infectious, for we find it slowly spreading to adjacent parts unless arrested by treatment. Excepting in their early stages, some of these affections are not very definitely influenced by specific treatment.

The influence of **specifics in the treatment of tertiary affections** is variable and uncertain. Sometimes, as in the case of large gummata of the tongue or of muscle, their power is shown very quickly, and a cure is easy. This, however, is by no means the case in many of the other tertiary affections. Some of them progress steadily in spite of treatment, or relapse very speedily when it is suspended. In many, a distinctly beneficial influence is secured whilst nothing like a cure can be obtained. Especially is the last statement true concerning many affections of the nervous system which are remotely connected with syphilitic taint. Thus the non-success of treatment can by no means be accepted as conclusive in regard to diagnosis.

Many disorders are in real association with a distant taint of syphilis, which yet do not respond definitely either to iodide of potassium or mercury. In nearly all cases, however, these remedies do some good, and it may easily be the fact that they are often laid aside

just when definite benefit was about to accrue. A careful study of the therapeutics of those lupoid affections of the skin which are due to syphilis will probably much help our conceptions of what takes place in structures which are hidden from our view. Syphilitic lupus very often does not get well under iodide of potassium, but vanishes at once when mercury is pushed. Very often, indeed, it gets almost well under one or the other of these drugs, and the patient, satisfied with the result, leaves off treatment before the cure is absolute. If the least portion of lupous-granuloma-tissue be left, from that the process will again spread. On the other hand, if the patch be quite sound, and nothing but healthy scar remain, then it is very rare to witness any relapse. In proof of the resistance of this malady to specifics, the fact may be adduced that many cases, in spite of treatment under different surgeons, last half a patient's lifetime. We have but to apply to the nervous system this experience of the power of resistance of syphilitic cell-growths in the skin, and we shall understand why such maladies as ataxy and general paralysis so often prove intractable. Iodide of potassium, given in sufficient doses, is usually very efficient in the cure of tertiary affections of all kinds. In some respects and in some cases it seems even more useful than mercury. In many instances, however, it depresses so much that its use must be abandoned, and, in all such, mercury usually succeeds. Whenever a case resists the iodide, and whenever it is important to obtain a rapid result, the two should be combined, or mercury in combination with tonics should be preferred.

The **prognosis of tertiary disease** depends wholly upon the success or non-success of our treatment. In their own nature, all affections of this class are progressive, and show no tendency to spontaneous amelioration. Even when much helped by specifics, there is a great risk of relapse. In many cases, however, when once a complete local cure is obtained, no relapse whatever occurs, and the patient will remain well for the rest of life. In former times, before the introduction of the iodide of potassium, and when we knew less as

regards the best methods of using mercury, many cases of tertiary disease ended fatally.

It will be understood, from what has been advanced, that the diagnosis of tertiary syphilis is beset with difficulties. In many cases it is very easy, but in not a few the sources of fallacy are such that they cannot be wholly overcome. As in the earlier stages, we still find the disease playing the part of an imitator. The form of tabes which occurs to the syphilitic, and which is in part at least due to their former taint, is usually closely similar to tabes when due to other causes. Many cases of syphilitic lupus are exactly like common lupus, and so are most of the other affections. The imitation is, however, very frequently at fault in some details. Without here going into any detail as regards the diagnosis of special affections, it may be said in general that suspicion should be aroused whenever a chronic malady is irregular in its development and course. The syphilitic simulations are seldom quite perfect, and they often develop in a more rapid manner than do their prototypes. In all such cases the history must be carefully inquired into, and upon it the diagnosis must, in many cases, rest in the first instance, to be confirmed or otherwise by the results of treatment.

The following sentences to some extent summarise or further develop what has just been said :—

That tertiary symptoms of all kinds are most prone to occur when the early treatment has been delayed, interrupted, or inadequate.

That inasmuch as they are often single, very rarely indeed general, and frequently restricted to one organ or one tissue, there is but little reason to regard them as of blood origin, whether toxin or other.

That they may conveniently be classed as (1) inflammatory, (2) degenerative, or (3) gummatous.

That for all forms of gummatous growth the iodide of potassium internally and the use locally of such preparations as iodoform, iodol, chinosol, etc., may be regarded as specific, and that cures effected solely by them are often permanent.

That all conditions attended by inflammatory changes, such, for instance, as general paralysis of the insane, should be treated without intermission by small doses of mercury, which should be continued almost permanently (life-long courses).

That in its early stages general paralysis may be arrested by the use of mercury.

On certain results of experimental investigation.—Allusion has been briefly made at p. 354 to the relation between the induration of a chancre and infection of the blood. In former years we assumed that the virus of syphilis went through a period of incubation at the site of inoculation which preceded its multiplication and diffusion in the blood. Experiments in animals appear to have proved that this was an erroneous assumption, and that the blood may contain the spirillum in abundance before any specific changes can be recognised locally. Thus the chancre becomes much less important than it was formerly thought to be, and cases in which it is wholly absent are more easily explained. There can be no doubt, however, that the processes which occur *in loco* are both peculiar and important; but it must be admitted that the risks of constitutional phenomena (as well tertiary as secondary) are encountered independently of the behaviour of the chancre. Although we regard tertiaries as being invariably the result of what has occurred in the solid structures during the secondary period, we are prepared to admit that they may occur when no secondaries have been observed. It has even been suggested that they are sometimes more severe than usual under such circumstances. If this is a sequence which is frequently observed, it may be explained by remembering that very commonly such cases escape treatment by mercury, either wholly or in part.

CHAPTER XXXVI

ON SYPHILITIC SIMULATIONS OF MALIGNANT GROWTHS

There are many conditions under which the diagnosis between syphilis and true neoplasms becomes a matter of great importance, and it may be of extreme difficulty. Instead of entering into detail upon this subject in connection with each special organ and part, it may be convenient to introduce here a few general statements.

In the first place, it is to be clearly understood that, even if the previous occurrence of syphilis does not to some extent predispose to cancer, it most certainly in no degree prevents it; and thus it comes to be the fact that a clear history of syphilitic antecedents, so far from giving any help in the diagnosis, may easily, unless great care be taken, become the means of leading us into error. Both patient and surgeon when cognisant of this history may be only too willing to believe that the existing malady is solely of a syphilitic nature. Mistakes of this kind are of almost daily occurrence in connection with chronic diseases of the tongue. The statistics are wholly wanting as yet which would enable us to give any confident opinion as to whether the damages the tissues receive from a syphilitic infection make them more prone than before to take on the erratic modes of growth which characterise neoplasms and sometimes constitute cancer. In the case of the tongue, the association of the two is so common that it is difficult to avoid an impression that syphilis must exercise some degree of predisposing influence; nor are there wanting a certain class of facts which might incline the clinical observer to suspect that the progress of cancer receives some modification

when it occurs in persons who have recently had syphilis.

The cases to which I refer, in making this statement, are chiefly examples of cancer of the tongue, of cancer occurring in cicatrices left by syphilitic ulcers, or even in the ulcers themselves; and, lastly, of malignant disease of the various viscera. I have known a patient attacked by symmetrical sarcoma of the testes, whilst he was still not free from the phenomena of secondary syphilis. In him, as in some others of the class to which I allude, the progress was unusually rapid. Without, however, venturing to assert that such cases are more than coincidences, and fully admitting that they are rare, I must yet emphasise the statement already made, that the diagnosis between cancer and syphilis, when the new growth occurs in a patient who has at some former time suffered from the latter, often presents extreme difficulty. It will clearly be the duty of the surgeon in almost all cases in which the appearances are suggestive of cancer, and yet there is a clear history of syphilis, to allow the patient what is called "the benefit of the doubt," and let him have specific treatment.

The utmost care must be taken, however, lest, in doing this, invaluable time be lost and the patient's interests sacrificed. The measures adopted should be of a thoroughly efficient kind, and, unless their efficacy is promptly proved, the only way of giving the patient "the benefit of the doubt" may be to treat the disease as cancer. In saying this I am assuming that all other methods of diagnosis, including microscopic examination, have been exhausted, and that doubt still remains. As regards the microscope, it is, I fear, but seldom that it will give us much help in cases of real difficulty. The verdict of the histologist is as a rule clear and conclusive in cases which are well pronounced, whilst in those which are not so it is often only negative. This, at any rate, has been my experience in cases of cancer of the tongue; in which, more than once, I have known a much-needed operation injuriously deferred because the microscopic appearances were inconclusive.

In cases in which it is desired to use **mercury as a means of diagnosis,** the best plan will usually be to give small doses at very short intervals (say every two hours) or to rub it in freely, and give iodide of potassium by the mouth at the same time. Under this plan any growth, or ulcer, of syphilitic origin ought, within a week or ten days, to change its features in an unmistakable manner. We must not be content with a slight amelioration, for it is common enough for such remedies to make even a cancerous growth less painful for a time, or to cause its surface to clean. The patient will be only too eager to believe himself benefited, and the surgeon, unless aware of the fallacy, may allow himself to be deceived. I repeat, then, that ten days' treatment, of the kind alluded to, ought to make any disease of a wholly syphilitic nature assume such a change of appearance that it would be impossible to doubt. If at the end of that time there is still room for question, it will, in nine cases out of ten, be best to operate. In attempting to lay down rules for the differential diagnosis between cancer and syphilis, I am most anxious to insist, as already done, on its extreme difficulty. The surgeon who trusts to rules, or who ventures to rely, with confidence, on his own powers of observation as regards minute differences of appearance between cancerous and syphilitic ulcers, will often make most serious mistakes. Cancerous processes may be simulated by syphilis in the closest possible manner.

It is necessary to advert to the difficulties which are sometimes presented by enlargement of the testis or of bones, and by gummata in muscles or viscera or cellular tissue. All of these in turn present occasionally great difficulty. Many a bone has been excised with the diagnosis of sarcoma when the disease was only syphilis. The simulation of new growths by gummata developed in muscles is also often extremely close, and has led to many mistakes. In a well-known case which occurred about forty years ago in one of our London hospitals, the scapula was excised on account of a tumour which the microscope subsequently declared to be only gummatous infiltration in the supraspinatus

muscle. The patient recovered, and the subsequent development of a node on one clavicle, which yielded to iodide of potassium, confirmed the diagnosis of the histologist. Gummata are also occasionally met with in the masseter and temporal muscles, or in fact in any muscle of the body, which, from their slow growth and entire freedom from any inflammation, may easily be mistaken for tumours. They usually melt away very quickly under specific treatment.

Growth a marked distinction.—As a general rule, it may be said that we distinguish between a cancerous ulcer and one that is syphilitic by observing that in the former a process of growth precedes that of ulceration, whereas in syphilis the process is at best only one of chronic inflammation. Without doubt this is a most important distinction. In syphilis the edges of an ulcer may be greatly indurated, and its base may be firm, but there are seldom any sprouting masses on the surface, or any well-defined margins to the induration, such as we encounter in cancer. Exceptions, however, occur even to this statement, and now and then a syphilitic sore may be covered with bossy masses of firm granulation structure which closely resemble epithelioma. I have seen on the penis a sore of this character which I was quite unable to feel confident about, until under the effect of the treatment suggested it immediately began to heal. I might make the same statement concerning several cases of chronic ulceration of the lower lip, attended with thickening and with a certain amount of papillary new growth. I possess more than one drawing in which the ordinary features of rodent ulcer, its clean surface, and its sinuous rolled edge of induration, were so exactly imitated by tertiary syphilitic sores that we had to appeal to the results of treatment for the diagnosis.

For the most part it will be in cases of tertiary syphilis that the diagnosis in question becomes important. But difficulties are not wholly absent in the case of primary chancres, especially when they occur in erratic positions. To mistake a primary chancre for cancer is, however, a far less serious blunder than

to mistake cancer for syphilis. It is not likely to lead to anything worse than the excision of an unimportant portion of tissue, or to a delay (to be regretted, but still not a matter of extreme importance) in the adoption of specific measures. I have, however, known more than one case in whieh indurated primary sores were actually excised under an erroneous diagnosis. Erratic ehancres differ very greatly in the eonditions whieh they ereate; it may, however, I think, be asserted that they almost never become papillary, and that as compared with cancer they almost always present a smooth surfaee and but little secretion. There are eases, however, in which the most eareful attention to these points will not help us.

Implication of the lymphatics.—I have not attached much importance for diagnostic purposes, between syphilis and cancer, to the presence or absence of implieation of the lymphatie glands. Nothing can be more illusory than to teach that enlargement of the lymphatic glands is one of the features by whieh cancer can be distinguished from other local diseases. If we wait till the existenee of gland disease gives us the diagnosis, we have in many cases waited until the case is beyond the reaeh of treatment. There is no doubt, however, that in any case whieh eomes under observation late, and with enlargement of glands already existing, we may take this fact as important evidence in support of the diagnosis of caneer. Neither in secondary nor tertiary syphilitic lesions is it at all eommon for there to be any implieation of the lymphaties.

Syphilitic sarcocele and cancer of the testicle.—In a general way it is not in the least difficult to diagnose between syphilitic sareocele and malignant disease of the testicle. In the latter the growth is rapid and steadily progressive, its rate of progress indeed always inereasing with its size. There is almost always in some parts of it pseudo-fluctuation, and it is usually more or less nodulated. To the above symptoms we may add that the serotum soon beeomes adherent and shows a dusky tint with enlargement of superfieial veins, and

lastly that the cord itself is often thickened. In all these features malignant tumours of the testis differ from what we find to be the usual conditions of syphilitic disease. In the latter the enlargement is usually smooth and free from nodulation, firm in all parts, not prone to acquire adhesion to the scrotum, and not tending to increase beyond a certain moderate size. It is far more common to find both testes implicated at once in syphilis than in cancer, whilst the cord almost invariably remains free.

It would be tedious and probably but little profitable to attempt to lay down diagnostic rules in respect to enlargements of other viscera, the liver, spleen, etc. It must suffice to insist that the surgeon must never forget how close the simulation may be, and that in cases of suspected new growth in those who have, at some former time, had syphilis, it is wise to try specifics.

Deeply-placed gummata.—In what has just been said as to the diagnosis between syphilis and cancer, we have been chiefly concerned with open ulcers, and the difficulties suggested were in reference to epithelial cancer. I have alluded, however, to other very important examples of bulky gummata, deeply placed, in which the simulation concerns growths of the sarcomatous type. These often develop very rapidly, and attain a large size. Nor is their resemblance to malignant neoplasms confined to their more obvious characters. They appear to possess the power of growing into adjacent structures and of infecting other and distant parts. They almost always become multiple. When they are so it is difficult to believe that they have formed independently one of another, or that they are due to blood causation. The infective element must be something very different from that of the secondary stage, for it produces peripheral growth which is seldom or never present in the latter, and, besides, the fluids of the patients in whom they occur never cause syphilis in other persons. They generally appear late in the disease, and not infrequently in those who have enjoyed a long period of good health, and who may possibly have many healthy children. The way in which

PLATE 22.—ULCERATED AND SLOUGHING GUMMA

The drawing represents the knee of a woman in the tertiary stage of syphilis. From the middle of an ulcer with sharply-cut borders is seen depending a wash-leather slough of cellular tissue. The base of the sore is occupied with sodden tissue of a similar kind which is undergoing detachment but is not yet loose. This is the condition in which the iodide of potassium internally with the local use of iodoform is usually promptly beneficial.

they usually yield at once to mercury and iodides is almost the only feature which distinguishes them from sarcomata.

I have mentioned elsewhere (p. 323) a case in which a young adult had two tumours in his liver, so large that they projected visibly, and which were at first taken for hydatids. Yet they disappeared quickly under iodide of potassium, and seven years later the man had not had any return.

In another case an adult woman, known to be the subject of inherited taint, had a lump in the substance of her tongue as large as a big marble, and almost as hard. It melted away under the iodide, and ten years later she had had no return.

In cases which I have quoted, gummata occurred almost simultaneously in liver, testis, lung, and spleen repeatedly, and in several of each of these organs there were more than one. In one instance the lung and liver on the same side were involved, and the intervening part of the diaphragm was implicated just as if by malignant incursion. It seems evident that the cell-elements in these growths may become infective on their own account, and also that they can be conveyed in the blood-stream.

What is a gumma?—It is very necessary in order to a clear understanding of tertiary syphilis that we should know what we mean by a gumma. This word, which has come down to us from ancient times, was, I believe, originally applied solely to soft, indolent swellings occurring in association with a syphilitic taint. More recently its meaning has been somewhat extended, and it has been recognised that a gummatous process may be present although little or nothing that can be called a tumour is ever produced. It would perhaps assist our comprehension of the matter if we were to speak rather of "the gummatous process" than of "a gumma." Under that term we should include all forms of inflammation attended by chronic swelling, and tending to break down, which occur in connection with a syphilitic taint. I do not know that we gain much by calling a gumma a "granulation tumour"; it is rather

a somewhat peculiar form of chronic inflammation. Its peculiarities consist in an indolent character, a tendency to produce swelling, and but little liability to suppurate. A gumma may break down and soften, or it may slough, but it does not as a rule form an abscess containing pus. We must not, however, push these distinctions too far. Between syphilitic inflammations in which the swelling is from the first attended by considerable increase in vascularity and in which there is a decided tendency to suppurative ulceration, if not to the formation of a circumscribed abscess, and the more characteristic gummata, we have all gradations. As a rule, however, gummata resemble new growths, rather than inflammations, in that they are not very vascular, are not very painful, and are in all stages slow and indolent. The cellular tissue is probably the invariable site of the gummatous process. An indurated chancre is an example of one form of gumma. The lumps which sometimes form in the substance of the tongue or in other muscles, and which in some cases are very hard and closely resemble new growths, are our best examples of tertiary gummata.

Just as definitely as primary indurations melt away under the influence of mercury, so do these muscular gummata under that of the iodide of potassium. It is, indeed, this easy amenability to specifics which chiefly distinguishes these "tumour-gummas" from independent new growths. When a gumma breaks down there is often disclosed a sloughy mass of cellular tissue; and when this separates, which it does very slowly if specifics have not been efficiently used, an unhealthy base will be exposed, and there will be a tendency to peripheral spreading, with induration of the walls which may constitute a very close resemblance to a cancer-process.

Something of the gummatous process probably attends many forms of syphilitic inflammation which yet do not earn the name of gumma. Such, for instance, are many examples of syphilitic lupus and of the ulcerative destruction of the soft palate and adjacent parts which occur in the tertiary stage. In these

the tissues inflame and ulcerate before any appreciable tumour has formed. The chronic infective inflammations of the subcutaneous cellular tissue, which ulcerate to a slight extent whilst they undermine widely, are also gummata. These are often seen about the knee in women. Some of these subcutaneous gummata are often very like sarcomatous growths. A very remarkable illustration of this is recorded in my *Archives* (vol. viii., p. 221). In this instance a tumour-gumma, which had been once cured by iodides, relapsed, and was (by another surgeon) excised as a new growth. It relapsed again, and was again cured by iodides.

The gummatous process is certainly attended by the development of cell-elements which are auto-infective. When of large size a peculiar condition of concentric or exogenous increase in bulk is observed. Whether ulcerated or not, gummata tend to spread by "the contagion of continuity," although but very rarely requiring excision. They need to be destroyed just as do cancers. The least bit of gummatous tissue left living will reproduce the whole thing. On the other hand, if once a sound scar has replaced the gumma in every part, there is but very slight risk of relapse.

Gummata in the secondary stage.—Gummata are very rare in the secondary stage of syphilis, and the longer the lapse of time since the primary disease the greater is the probability that, if recurrence takes place, the peculiar features of a gumma will be shown. Under these conditions they are to be regarded as local, just in the same sense as a cancer is local. They differ, however, from cancer in having but little power of infection, either to the lymphatic system or the blood. Their infection is, like that of the rodent ulcer, limited to the tissues in continuity with them. In these, however, it is often very strong, and repeated recurrences after partially successful treatment will be witnessed.

Treatment of gummata.—The treatment of gummata should be based, as just hinted, upon the same principle as that of malignant new growths. They should be utterly destroyed. Fortunately it is not needful to excise them. Their vitality is low and is

easily influenced by several different remedies. The local use of iodoform will often remove those which are sufficiently superficial to give it adequate access. Iodide of potassium reaching them through the blood will have the same effect. An attack of acute adventitious inflammation artificially induced, as, for instance, by a free application of nitric acid, will often succeed, and that even when the internal use of the iodide has partially failed.

The important point to bear in mind is that every particle of the morbid tissue must have been brought under effective influence, or the process will be re-initiated. There is no more tendency to the spontaneous cure of tertiary gummata than of cancer.

Recurred chancre.—One of perhaps the very best illustrations of the gummatous process is to be met with in the "recurred chancre." Here we may have, after the lapse of many years—during which the part has appeared to be in a state of perfect health—a new induration form, of large size and exactly like a primary Hunterian sore. The chief difference is, that whilst the one begins by an ulcer which indurates, the other begins as an induration which ulcerates. These gummata are almost always exactly in the site of the original sore. They are not contagious to other persons, nor do they infect the lymphatic glands or the blood of the patient himself.

Size of gummata in relation to the period of the disease.—There certainly appears to be some relation between the size of a gumma (its tumour-like tendencies) and the period of the disease. Big gummata (which are mostly either single or few in number and well localised) are usually met with in the late stages of the disease; that is, they are very distinctly tertiary. On the other hand, when gummata are very numerous and widely scattered, they usually remain small, and they generally occur in a comparatively early stage of the disease. This is well illustrated in the case of the scattered deposits in the choroid.

We have already commented on the fact that gummatous infiltrations of the skin sometimes assume

cancer-like proportions. This was illustrated in a case given in detail below, in which a thickened mass was excised under an erroneous diagnosis. In another instance recently under my observation an indurated growth had ulcerated, and was freely excised (not by myself), but when, a year later, a precisely similar one developed on the opposite side of the face, it was cured by specific treatment.

Sir S. Wilks long ago asked our attention to the fact that, although syphilitic gummata of the viscera do not suppurate, but as a rule undergo caseation and contraction, yet they sometimes liquefy. We are familiar with the fact that gummata in the cellular tissue, in the periosteum, and in the testis very frequently break down. Sir S. Wilks states that he has met with a gumma in the brain which had liquefied into a thick fluid resembling cream, and he suggests that some cases of rapid disorganisation of the lung in syphilitic patients may have been due to disintegration of gummatous material. He mentions the case of a man suffering from syphilis who had a tumour containing fluid in connection with his liver. It was tapped, and several ounces of a curdy fluid were drawn off, which did not contain a particle of pus. In another case a woman, who had suffered from liver disease and jaundice for eighteen months, finally died of peritonitis. A tumour, the size of a cricket-ball, was found in her liver, filled with a bright yellow liquid containing flocculent masses. It was surrounded by gummatous material.

Large indurated gumma of skin thirty years after primary disease; cure by iodides; relapse; diagnosis of sarcoma and excision; relapse with ulceration of scar; second cure by iodides. —A tall, spare man, aged fifty-three, consulted me in June, 1893, for a hard, knotty, cake-like mass in the skin and subcutaneous cellular tissue of his left thigh. It was placed a little above the great trochanter, and was almost as large as an outspread hand. It gave him no pain unless exposed to pressure. He was sure that it had been present at least two years, and said that it

was slowly increasing. He thought that it had followed a bruise received in a fall. I wrote in my notes, "It is either a gumma or a sarcoma, possibly a periphlebitic gumma." The patient acknowledged having had in his youthful days a chancre for which he took mercury; but as far as he could remember no secondaries followed, and he had had good health ever since. He was married, and had a healthy daughter and a granddaughter. It was, he said, certainly more than thirty years since the chancre. I prescribed the three iodides, and three months later was able to record, "Under the iodides the mass quickly melted away. Only some knots like hazel-nuts now remain. He has been in excellent health."

After this I saw nothing of the patient for two years and a half, when he came with a very large scar on his buttock, around which was much thickening of exactly the same character as that which I had seen before. His history was, that about a year after the iodides had cured him the induration relapsed, and he put himself under the care of a surgeon, who confidently pronounced it malignant and persuaded him to have it excised. To this, in spite of the fact that drugs had cured him before, he submitted. A microscopic examination of the supposed growth was made, but with a negative result. The wound healed fairly well, but with the subsequent result above noted, that renewed growth and infiltration took place and several ulcers formed.

I again prescribed the iodides, and with a yet more rapid result than before. In the course of about a month the ulcers had healed and all traces of the gumma had disappeared, the scar and its surroundings being sound. The patient has, I believe, subsequently remained without relapse.

The two cures by iodides, and the relapse when this treatment was abandoned, may be allowed to be conclusive evidence as to the real nature of the malady. The case affords an interesting example, not alone of the difficulties of diagnosis, but of the nature of the more typical forms of tertiary gumma. It was a quite local infection of adjacent tissues, steadily aggressive, show-

ing no tendency to spontaneous cure, but yielding most readily to the specific. The interval which had been passed since the primary disease was unusually long, and during the whole of it there had never been the slightest indication of taint.

Whilst, as has been already said, these growths in several remarkable respects resemble neoplasms, they at the same time retain their alliance with inflammatory products. Although they very rarely suppurate, they often cause plastic effusion on the surface of the organ implicated. Thus the liver or the spleen may become firmly adherent to the diaphragm, and a layer of lymph has been observed on the surface of the heart when affected with syphilitic infiltration. Although these tumours do not form abscesses in the proper sense of the word, they often break down and liquefy. This is precisely what occurs not unfrequently in malignant growths. The large gland-masses which frequently result from epithelial cancer will break down and form a thin gruel-like liquid. Like the carcinomata the syphiloma grows peripherally, and may branch out. It also produces satellites, and, in very rare instances, may apparently affect distant organs. It never, however, causes implication of lymphatic glands, and the prompt response to specific treatment is a very remarkable and distinctive feature. It is quite possible that when gummata are multiple at a distance from each other they are independent. It would appear probable that, although certainly locally infective, the area of possible infection, other than in continuity, is very limited.

The very remarkable efficacy of iodide of potassium in the removal of gummata, and its superiority to mercury, is such as almost to constitute a characteristic feature. My theory as to the causation of all gummata is that they are developed in the sites of former (secondary) disease.

CHAPTER XXXVII

DISEASES OF BONES AND JOINTS

Sclerosis of bones.—Nearly all our pathological museums contain specimens of thick, heavy bones, much enlarged in almost their entire length, much increased in density, and having their surfaces roughened. The enlargement is usually fusiform, and, although involving a large extent of the shaft, preponderates towards one or the other end. There is often no local bulging in the ordinary form of a node. These bones are probably almost always those of syphilitic subjects. In some cases they may represent the results of osteitis from *inherited* syphilis; but more usually they are from those who have suffered from the *acquired* form. Concerning the specimens themselves, there is often no history to be obtained, and I cannot say that I have ever had the opportunity of securing such a bone from a case in which the history was previously known. I have, however, treated several patients in late stages of syphilis for long-persisting aching in bones, attended with fusiform enlargement. The process is usually very chronic, difficult to influence by treatment, and very prone to relapse after apparent cure. The femur is the bone most often affected. The disease is a chronic osteitis producing sclerosis, and not exclusively a periostitis.

I may quote one case as being probably an example of the disease to which I refer. The patient was a robust man, who had suffered from syphilis many years before I saw him. He was under my treatment for a long period on account of relapses of pain in his femora. Sometimes one bone would be affected, sometimes another, and they would ache intolerably. He was often kept awake a whole night, and had got

into the habit of taking opiates. Iodide of potassium did but little for his relief, and we were usually obliged to give mercury. The left femur was very decidedly thickened, the thickening involving chiefly the lower part, but extending above the middle. On several occasions I pushed mercury to ptyalism, with the result that the pain for a time left him, but it usually soon returned. It was bad both day and night, but worse during the night. In addition to the osteitis of his femora, he had much pain in the dorsal and cervical vertebræ. Spondylitis deformans appeared to be in progress. He had suffered from gonorrhœa as well as syphilis, and it was after the gonorrhœa that the pain in the back began.

About two years after I first saw this patient, and after he had been repeatedly relieved of the pain in the bone by treatment, he was suddenly attacked by intense pain in his head. The pain was never absent day or night, but was worse between midnight and four in the morning. These hours were usually spent in walking up and down stairs; about four o'clock he could get to sleep. Neither iodide of potassium nor mercury did anything for the relief of this pain; and after it had lasted for about a fortnight he became hemiplegic, passed into coma, and so died. I did not see him during this illness, the particulars of which were subsequently supplied to me. No node of the skull was perceptible externally. I did my best to obtain a *post-mortem* (hoping, amongst other points of interest, to secure the femora), but was not successful. It is not improbable that inflammatory effusion between the skull and dura mater occurred, and that conditions resulted very similar to those exhibited in Pl. xxxv. of my *Clinical Illustrations*. The intolerable severity of the headache was very similar in the two cases.

The relation of osteitis deformans to inherited syphilis. —The disease known as osteitis deformans, which has been so ably described by Sir James Paget, has probably in its most typical forms no connection with syphilis. In these cases the bones soften, enlarge,

and bend; and the patient, usually an adult, or past middle life, loses very considerably in his stature. The close simulation of this malady in connection with acquired syphilis is considered at a subsequent page. But cases which may easily mislead are not at all uncommon as consequences of inherited taint. Children from the age of six to ten or fourteen appear to be the most prone to suffer from bone-disease of a syphilitic nature. At this period of life multiple periostitis of a very extensive kind is not uncommon. The disease is very chronic, lasting for years, and leading to overgrowth in length, as well as to enlargement. The tibia is the bone most frequently and most severely affected, and it may bend forwards until it closely resembles the conditions both of osteitis deformans and of rickets. In former days such cases were very frequently treated as rickets. Not only do the bones bend in reality, but the appearance of bending may be exaggerated by the formation of a series of long smooth nodes on their front surfaces. There is almost always present also overgrowth in length, and sometimes one tibia may be an inch and a half or two inches longer than its fellow. The diagnosis from rickets is usually made easy by attention to the history of the case, and also by observation of the irregularity with which the affected bone is thickened. In rickets there is no lengthening; while lengthening is often a prominent feature in this syphilitic form of osteitis deformans. I have seen many good examples of the latter disease, and have often had occasion to discuss the question of diagnosis. Although the malformations of the teeth are often present, they are not infrequently absent, and if the history chance to be denied, or be unobtainable, the diagnosis may become subject to some doubt. My conviction, from the observation of a good many cases, is that the disease itself makes the diagnosis; and that the multiple chronic periostitis of childhood and adolescence, attended with overgrowth and thickening, is always syphilitic.

One of the most remarkable examples of this disease that I have seen was under the care of Mr. Machin in

St. Thomas's Hospital, and was exhibited by him at a meeting of the Clinical Society. In this case—the subject of which was a lad of about fifteen—almost all the long bones were affected. The teeth were well formed, and the family history was, I believe, negative. There were, however, large nodes on the lad's skull, some of which had softened. A node on one tibia had also ulcerated. The general conditions were such that I confess that I could not have doubted the diagnosis of inherited syphilis, whatever the facts of the history might have been.

The case of a young man whose photograph I possess afforded a good illustration of what has been said. In him the physiognomy and the teeth were well marked, his nose being more than usually sunken. His septum was partly destroyed, and so also was his uvula, and his soft palate had, as a consequence of ulceration, contracted adhesions to the pharynx. His irides were of steel-grey hue, and his pupils small. He had been through an attack of keratitis. I cannot say anything about his family history, but the evidence will probably be deemed conclusive without it. Now, the affection for which he was sent to me was a somewhat unusual one in connection with inherited taint. Both his femora, but especially the right, were much enlarged by chronic periostitis in their lower halves. The condition was that of general fusiform enlargement, coming down very nearly to the knee-joint, and shading off gradually above the middle of the bone. There was present also some slight thickening of the tibiæ, and here again it was chiefly on the right side. Now, periostitis, with the result of osseous nodes, is common enough in the childhood of those who suffer from inherited taint, but the tendency to it usually ceases about puberty; whereas our patient was twenty-eight, and it appeared to be aggressive.

Some French authorities have gone the length of attributing Paget's disease, in all forms, to inherited taint. My own experience does not support this view. I have seen many instances of typical osteitis deformans in adults, and do not recollect in any

single case having recognised the physiognomy of inherited syphilis, nor have I in any instance in which I recognised the latter malady seen any more close simulation of osteitis deformans than in the cases I have recorded. The cases of chronic osteitis which occur in connection with inherited disease usually come to an end as age advances, and, although many bones may be involved, there is not the wide and symmetrical distribution which occurs in Paget's malady. Above all, there is not the increase in the size of the skull which is such a conspicuous feature of the latter. In reference to the acquired disease, I think it highly probable that characteristic examples of osteitis deformans sometimes take their origin from it. At any rate, it has repeatedly happened that I have had to note a history of syphilis in early life in those who, in early senile periods, began to display the symptoms of osteitis deformans. In some of these, however, there were minor features of difference of type—such, for instance, as the omission of any marked enlargement of the cranium. Sometimes there would be more than usual liability to nocturnal pains, which would be relieved by iodides more definitely than in the non-specific cases. My impression respecting the essential pathogeny of Paget's malady is that an inherited tendency to malignant neoplasms is often present, and that a bruise or other injury to some single bone is usually its exciting cause. The injured bone sheds into the blood-stream elements which prove infective to other bones. A precisely similar order of causation may occur when syphilis is the predisponent, with the difference that the changes are much more amenable to specific treatment.

Dactylitis syphilitica. — Under this term, Dr. Taylor, of New York, has proposed to recognise the chronic forms of periostitis and osteitis which are occasionally met with in the phalanges in connection with syphilitic taint. They may occur both from acquired and inherited disease, and are always very chronic.

The swelling is usually greatest on the dorsal aspect, but may surround the bone. The first phalanx is most

Plate 23.—Ravages of Syphilitic Periostitis

These figures illustrate the ravages of tertiary syphilis in the days when iodide of potassium was unknown. Such specimens will be of great value in the pathological museums of the future, for they will soon be no longer obtainable.

It is difficult (and hardly needful) to describe the specimens from which the photographs were taken. Extensive exfoliation of bone in various directions had occurred, and this had been caused by periostitis of the bones concerned, and necrosis after the development of periosteal gummata. In some instances the bone implicated was influenced on one surface only, and in others on both. The worm-eaten surface of the right-hand figure well illustrates the former.

PLATE 23.

often affected, but the metacarpal bone, or any of the distal phalanges, may be its seat. The adjacent joints may be involved. The swelling is sometimes globular, and may assimilate a cartilaginous tumour, but its comparative softness will generally suffice for diagnosis. Many authors have recorded cases: Chassaignac, Nélaton, Volkman, Berg, Dr. Perry, of Philadelphia, and Dr. Morgan, of Dublin.

The affection, however, is not a common one. It may lead after interstitial absorption to much shortening of the affected digit.

Ulcerated nodes and exfoliation of bone in connection with inherited syphilis. — It is but rarely at the present time that we see cases of ulcerated nodes in connection with acquired syphilis. The extensive disease of the cranium with which our forefathers were so familiar, and specimens of which abound in our museums, is now pretty much a matter of history. This result is due chiefly, no doubt, to the introduction of iodide of potassium into practice. In cases of periostitis from inherited syphilis, the diagnosis is unfortunately sometimes at fault, and the iodide is either not given at all or not given with sufficient perseverance. It is true that in the periostitis of inherited syphilis the iodide does not act so promptly as in that which is due to acquired taint; but still it remains the remedy in which we must put our confidence. The periostitis of inherited syphilis which leads to suppuration but seldom occurs in infancy. It is a little under or about the age of puberty that there is the most danger that periosteal nodes will become large, break down, and lead to exfoliation. The case which first drew my attention strongly to the subject of inherited syphilis at adolescent periods, and to the importance of its diagnosis from struma, was one of this kind. The patient was a boy of twelve, the eldest son of a clergyman who had married a widow lady who had had syphilis. This poor boy had his skull laid bare at many places by suppurating nodes, and in the end died of lardaceous disease.

More recently I saw under the care of Mr. Bryant,

at Guy's Hospital, a case in which the pulsation of the brain beneath was visible under a large scar in the left parietal region. The history was that a suppurating node had followed a blow on the head, and that a large portion of bone had exfoliated. The patient was a lad of fifteen, whose physiognomy was characteristic and teeth malformed, and whose eyes had suffered very severely indeed from interstitial keratitis. The repair under specific treatment, so far as the bone was concerned, had been most satisfactory.

Hereditary syphilis; enlargement and partial displacement backwards of the head of each radius.—D. ——, aged twenty-eight, was sent by Mr. Waren Tay, on September 8th, 1875. He had been in the London Hospital for some trivial ailment. There was considerable haze of both corneæ from severe old interstitial keratitis. The pupils were sluggish, and the left more so than the right. There were slight dots of whitish deposit on each lens-capsule, but no synechiæ were observed. The refraction was highly myopic in both eyes, and there was a considerable posterior staphyloma. The retinal veins and arteries were normal. There was abundant evidence of old peripheral choroiditis. Most of the patches showed accumulations of black pigment. There were, however, a few patches of atrophy of the choroid without any pigment. The irides were of a blue colour, whilst the hair was of a darkish-brown shade. There were a few dense, circumscribed, floating bodies in each vitreous. The teeth were screwdriver-shaped. The patient could hear well. The physiognomy was not by any means characteristic. There was slight enlargement of the inner part of the right patella, the result of a small wound into, or close to, the knee-joint some years previously, and the joint was much swollen. The left outer malleolus was considerably larger than the right. There were not, however, any nodes on the tibiæ. He was said to be an only child. There had been one miscarriage after he was born. So far as he was aware, he had never had any inflammation of the elbows or ankles. The enlargements at the elbows had existed just

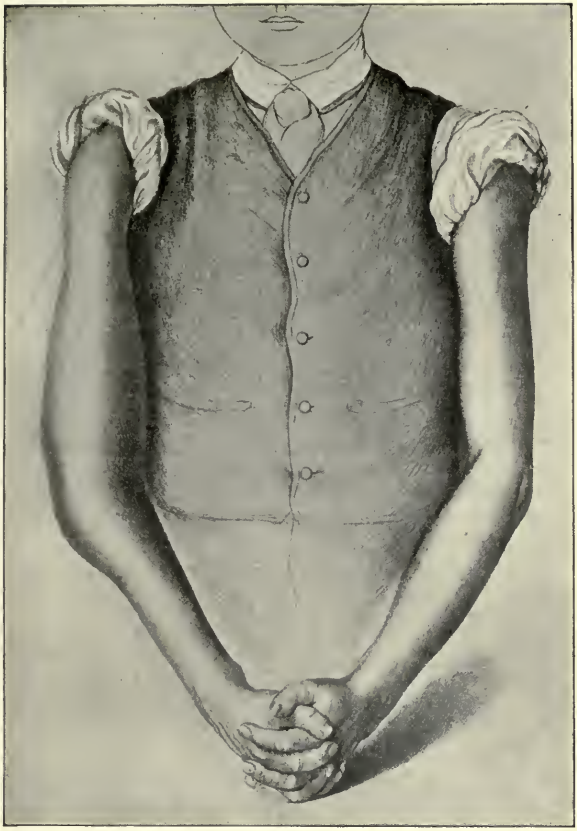

PLATE 24.—OSSIFYING PERIOSTITIS IN INHERITED SYPHILIS

The subject of this portrait was an adolescent lad who had suffered from inherited syphilis and in whom many of the long bones had been affected with periostitis. The contour of the right arm, enlarged by fusiform hypertrophy of several bones but especially of the humerus, is well shown. There is usually overgrowth in length as well as in girth. In the early stage the periostitis is amenable to treatment by the iodides, but after a certain duration ossific solidification ensues and is permanent. Even in this later stage the use of mercury may be beneficial, and may relieve the troublesome aching.

(From Hutchinson's "Clinical Illustrations," Plate ix.)

as when we saw him as long as he could recollect. At each elbow the head of the radius was very considerably enlarged and projected backwards. That of the right radius was the larger of the two.

Synovitis in association with inherited syphilis and interstitial keratitis.—Although I do not find in my work on "Syphilitic Diseases of the Eye and Ear," published in 1863, any special mention of affections of the knee-joints in association with keratitis, I feel confident that I had observed it long before that date. Very soon after the original observation that the form of keratitis known as "interstitial" was due to inherited taint, there came the additional one that symmetrical synovitis of the knee-joints not infrequently attended it. I at first thought that it was always secondary to the keratitis, and due probably to infective elements derived from the cornea. Several observers, however—Mr. Clutton, Dr. Melville Dunlop, Dr. Sutherland, and others—have established the fact that the synovitis sometimes precedes the keratitis, and sometimes even stands alone. These facts were acknowledged in my first edition. This form of synovitis has now assumed an importance of its own, and Dr. Sutherland goes so far as to say that he would regard the presence of painless synovitis of both knees in a boy of twelve, and scarring of the nose and lips, as sufficient to establish the diagnosis of syphilis. As a rule, this form of synovitis is as definitely transitory and as constantly bilateral as is the keratitis itself. In the great majority of cases it begins in the knee-joints, and is confined to them, but sometimes the wrists or some other of the large joints are affected. A free effusion of fluid with comparatively little pain is the characteristic symptom. If I were to speak from my own experience—and I find nothing recorded by others which would negative it—I should say that there is almost always the history of inherited tendency to arthritic maladies. The treatment should probably take cognisance of this fact. In addition to iodide of potassium, quinine and aspirin should be given. I doubt whether it is judicious to insist on rest if movement does not

cause pain. An iodide of potassium lotion used as a water dressing, or as an addition to the Droitwich salt pack, is most useful. All observers agree, however, that, like keratitis, the synovitis tends to spontaneous recovery. As a rule it does not relapse, but a few cases have been recorded in which recurrence took place after an interval of several years. I have had no experience of intractable or protracted cases, and am inclined to deprecate over-activity in treatment, such as tapping or drainage. Affections of single joints only are probably as infrequent as are those of one eye only in keratitis.

Examples of synovitis in young persons of arthritic ancestry are common enough quite independently of syphilis. The knees are the joints usually affected, and treatment by the salt pack, with quinine, etc., internally, usually results in satisfactory relief. I have never in any such case found it necessary to resort to tapping, and not often to the use of blisters. Reluctance to recognise a mixed causation in the cases attributed to syphilis is much to be regretted. It does not appear, in any of the published narratives of such, that any inquiry was made as to the family history in reference to rheumatism and gout.

Syphilitic disease or gout?—In reference to syphilitic disease of joints the case of a military officer is of interest. He is now (1909) sixty-two years of age, and in excellent general health. At his left elbow the ulna is ankylosed to the humerus at right angles, but the rotation of the head of the radius is free, with much crackling on motion. There is not the slightest swelling or thickening of parts. His right knee has been for the last fifteen years considerably swollen, with distension of the supper synovial pouch and much melon-seed-like crackling on motion. The question is whether his arthritis is of syphilitic origin or not. Forty years ago, when his elbow was first inflamed, it was diagnosed by the leading surgeon of the day as syphilitic, and much treatment was adopted on that hypothesis. Subsequently, however, the diagnosis was abandoned, and advice was given to let the joints

PLATE 25.—HYPERTROPHY WITH ELONGATION CONSEQUENT ON PERIOSTITIS

This photograph illustrates the now well-known fact that periostitis in a growing bone may cause not only thickening but actual increase in length. This is, as might be expected, seen almost exclusively in the periostitis of inherited syphilis. In the subjects of this taint it is not uncommon. Its most frequent site is the tibia, and the term "sabre-shaped" has been given to the form not infrequently resulting from overgrowth and bending. The condition used formerly to be mistaken for rickets. The illustration shows the tibia alone involved, both as regards thickening and elongation.

(The photograph was given to the Author by Dr. Edmonds, of St. Thomas's Hospital.)

PLATE 25.

stiffen. Ankylosis followed, and there was never any relapse.

There is abundant history of gout in the patient's family, and it is by no means certain that he ever had syphilis. He had in early life a troublesome chancre and open bubo, but never any secondary symptoms. I have known him for more than twenty years, and have never seen anything suggestive of tertiary symptoms.

My belief is that the arthritis in this case never had any connection with syphilis, but was of the nature of rheumatic gout throughout. The sound, bony ankylosis, without tendency to relapse, which has occurred in the elbow is exactly like what is often witnessed after subacute attacks of gout, and the present state of the knee is equally characteristic of another phase of that disease. Even on the hypothesis that syphilis has had some share, it must, I think, be granted that the inherited diathesis of gout has preponderated. The case is a good specimen of others which I have seen, in which friends of mine have diagnosed syphilitic disease of joints. In all there has been a family history of arthritis, and there has been little or nothing to distinguish the case from one of the arthritic group.

Suppuration in joints in inherited syphilis.—Mr. Arbuthnot Lane brought before the Pathological Society, in 1885, a case of a child, aged eight weeks, who had suffered from a severe syphilitic eruption for two weeks. Acute suppuration was found in many of the large joints, but without any disease of the epiphyses. It may be questioned whether the synovitis was syphilitic or pyæmic.

CHAPTER XXXVIII

INHERITED SYPHILIS IN YOUNG INFANTS

Evolution of hereditary syphilis.—A very usual course when syphilis is inherited is for the fœtus to remain quite healthy during its intra-uterine life. At the time of birth it has most frequently a clear skin, and appears to be in perfect health. At the end of three weeks or a month, symptoms of coryza, as shown by what is named "snuffles," usually begin, and are quickly followed by some eruption on the skin, attended by wasting and fretfulness. During the second, third, and fourth months, unless cured by treatment, all the symptoms will be at their height. Except in the addition of "snuffles," these secondary symptoms are much the same as those observed in the acquired disease. The precise type of the skin eruption may vary in the same way; it may be papular, scaly, pustular, or bullous. Polymorphism is often noticed, and most of the various phenomena which are seen in constitutional syphilis in its early stage, such as loss of hair, iritis, condylomata, and rheumatoid pains, are also apt to occur. All these secondary symptoms are symmetrical in arrangement and transitory in duration, just as they are in the acquired disease.

If the child should survive, whether treated or not, before the end of a year all the symptoms will probably have disappeared. The influence of mercury as a specific is just as definite as in the acquired disease. All the symptoms, as if under the power of a spell, vanish when it is used. Certain peculiarities are, however, stamped upon all the symptoms, and are probably due to the very tender age of the patient, and the incomplete development of its tissues. Thus

the general health suffers much more than in the acquired form, and death, an event almost unknown in the latter, is a not unfrequent consequence. Periostitis of a definite character occurs in connection with the rheumatoid pains, and, in the case of the epiphyses of long bones, may result in abscess, whilst in the case of the skull bones it often causes simultaneous thinning in some parts and deposit of new bone in others.

In consequence of the fatness of many young infants, the eruptions are prone to assume the form of intertrigo; and, owing to the irritation of the buttocks and groins by urine and fæces, all syphilitic eruptions are very prone to affect these parts by preference. The diagnostic recognition of secondary syphilis in infants is usually easy, but in a certain proportion of cases it may call for the utmost care and skill in observation. The character of the eruption, its colour (like the lean of ham), its location and symmetry of arrangement, its coincidence with snuffles, wasting, and withered aspect generally, make up a picture which it is often impossible to mistake. The very widest allowance for variations in severity must, however, be made, and it must be remembered that eczema and other infantile eruptions often closely simulate those of syphilis. It is not uncommon for the *rôle* to be exceedingly imperfect; thus there may be snuffles and mucous patches only, the general rash being quite omitted, or there may be no snuffles and the rash may be ill-marked. Instead of the "old-mannish aspect" which is considered characteristic, the child may continue throughout in apparently excellent health. Lastly, it is certain that an infant may pass through the secondary stage of inherited syphilis without ever presenting any symptoms which attract the attention of its nurse. Such cases are common, and they have their exact parallels in the case of the acquired disease. Those who have shown no symptoms in infancy may yet suffer in later life. It is clearly to be understood, however, that when this happens to adolescents they suffer from a class of symptoms wholly different from those of infancy. It is not that the secondary stage has

been delayed, but simply that it has been passed through without ostensible disturbance. If secondary symptoms of the kind described are to occur at all, they will show themselves in infancy, and in a vast majority of cases within the first three months of life. This is a very important fact. Many syphilitic infants perish during the outbreak of the secondary stage, and, were it not for the specific influence of mercury, no doubt many more would do so.

Subsequent progress.—If a syphilitic child survive the first outbreak, in the course of from six months to a year the symptoms common to this stage (the rash, snuffles, mucous patches, etc.) will wholly disappear, and there will follow a period of some years during which no active symptoms occur. After this period of latency there will, in many cases, come a group of very peculiar affections. Amongst these we must mention chiefly inflammations of certain parts of the sense-organs, the eye and ear. The affection of the ear may be attended by noises, etc., but usually neither by otorrhœa nor by pain. It affects both ears, and may induce almost total deafness in the course of two months. Many cases in the early stage recover, but if once the deafness is complete it appears to be incurable. This affection rarely occurs before puberty, and may be delayed till the twentieth year. About the same period of life, but with wider limits still, since it may occur yet earlier or much later, there is a remarkable liability to a very peculiar inflammation of the cornea. Interstitial keratitis, in its typical form, is always a consequence of syphilis, and it is in itself sufficient for the diagnosis. It must, however, be carefully diagnosed. It usually begins by cloudiness of the substance of the cornea, with ciliary congestion and irritability. The clouds increase and coalesce until the whole cornea looks like ground glass. The affection begins in one eye, but in the course of a few weeks attacks the other also. It is always, in the end, symmetrical, although in rare cases the interval between the attacks in the two eyes may extend to several years. When at its height, interstitial keratitis may for a few

weeks almost entirely abolish sight; but one of the most remarkable features of its clinical history is its invariable tendency to recovery. In the end the cornea usually clears completely.

At the same time as the keratitis, the patient often suffers from chronic synovitis of one or more of the large joints. The knees are those most frequently affected. There may be free effusion lasting for some weeks, but it is not often attended by much pain. Almost invariably the effusion disappears, and the joint is perfectly restored. These joint affections may occur either before or after the keratitis, and sometimes to those who never suffer from the latter.

Periosteal affections of the long bones are at this stage not uncommon, and sometimes very severe. They may occur in any part of the skeleton, and often produce numerous and large nodes. If near to joints, these nodes may cause much crippling of movement. If situate on the shaft, they may produce an appearance of curving, which, in former times, used to be mistaken for rickets. Overgrowth of the bone in length as well as in thickness is an almost constant result of this form of periostitis, since it often persists for years. This overgrowth, if one tibia only be affected, may produce an increase of length, in relation to the other limb, of an inch, or an inch and a half, and constitutes, with the bending, one form of the malady known as osteitis deformans. Sometimes almost all the long bones in the body are simultaneously affected by these ossifying nodes. The skull, however, at this stage of the malady, but rarely suffers. Occasionally suppuration attends the periostitis, and a surface of diseased bone, roughened and much thickened, is exposed. The condition produced may usually be diagnosed from other forms of suppurative periostitis with necrosis, by the circumstances that the exposed bone is not enclosed by any shell of new bone, and that it is extremely slow to separate, often remaining visible, but firmly fixed, for a year or more. The periosteum and cellular tissue overlying it are usually destroyed.

At the stage of the disease of which we are speaking,

nothing is less common than for any special affections of the skin to occur. Almost the only exception which can happen is a form of rapidly destructive lupus. No scaly or papular eruptions, and nothing in the least resembling common lupus, or the serpiginous ulcerations so frequent in the acquired disease, are, with the very rarest exceptions, observed. Nor are any forms of disease of the mucous surfaces or of the tongue or the palate at all frequently seen. It may be asserted also that affections of the viscera are very exceptional, and diseases of the nervous system scarcely less so.

The subject of such taint, having passed through the attack of keratitis, attended, it may be, by periostitis or loss of hearing, usually afterwards regains fair health, and continues through the rest of his life free from symptoms. No diseases likely to shorten life have been associated with the diathesis; above all, we may assert that there is no special proneness to diseases of the tuberculous class. Year by year usually the physiognomical and other characters of the diathesis become less and less obvious, and in advanced life it may be very difficult to recognise them.

Diagnosis during early infancy.—In many cases the recognition of inherited syphilis at the age of six weeks or two months is exceedingly easy. The stuffed and expanded nose, the snuffles, the pallor, the patches of peeling erythema about the face, neck, and nates, constitute a picture which can scarcely be mistaken, but which is often heightened by such symptoms as sores at the angles of the mouth and at the anus, a peculiar odour, and periosteal tenderness of various bones. In many cases, however, one or several of these symptoms may be omitted or ill-marked, and in some they are all of them absent. In certain cases, therefore, it is to be admitted that the diagnosis may become very difficult or even impossible. In such cases help must be sought from the parents' history, and from facts, if there are any, as to previous births. In doubtful cases each one of the symptoms must be scrutinised with suspicion. Infants who are not syphilitic often have a certain kind of snuffles, and common eczema of the nates may assume

Plate 26.—Condyloma at Anus of Child

This sketch represents a broad condyloma patch on one side of the anus. The patient was a child aged nearly two years. She had been under treatment in early infancy for iritis with implication of the deeper structures of the eyeballs, and was quite blind, with detachment of retina in both eyes. The left globe was softened. She was well grown but somewhat backward in mental development. She had lost her eyebrows and eyelashes, and her gums were inflamed. Treatment had been irregular.

The whitish border of unorganised lymph is very characteristic of this form of condyloma, and the occurrence of the latter at a somewhat late stage in secondaries is according to rule.

Ricord has written of the condyloma that it is the most characteristic of all the symptoms of secondary syphilis.

PLATE 26.

exactly the same tint as that which is specific. Sores, in connection with diarrhœa, may occur at the anus, which may be mistaken for condylomata. It is seldom safe to trust to any one symptom unless it is very well characterised. A typical condyloma is conclusive, and so also are certain types of skin eruption and certain forms of bone-disease.

For a knowledge of the conditions of periostitis which denote syphilis in the infant, we are indebted to modern observations. When M. Diday, in 1856, wrote his work on this disease, he stated that the records of medicine comprised scarcely any instances of bone-disease in connection with inherited taint. At the date of my own work (1863) I had fully recognised the frequency of nodes in children, and the occasional occurrence of periostitis in infants. It was reserved, however, for Dr. Taylor, of New York, Dr. Wagner, of Berlin, and Professor Parrot, of Paris, to show that bone lesions are really very frequent in the early periods. They had been overlooked because they were usually, like the other phenomena of this stage, transitory, and because they rarely led to suppuration. The careful re-investigation, in this country, by Sir Thomas Barlow and Dr. Lees, of the facts expounded by Parrot, have confirmed the correctness of these in the main, whilst they have corrected certain errors of inference. The chief difficulty consists in the similarity which some of the infantile bone lesions of syphilis present to those of rickets. As a rule, however, the syphilitic lesions occur at an earlier age, are attended by more definite signs of inflammation, and are not accompanied by the other phenomena of rickets, such as profuse sweating of the head, and buttons on the costal cartilages. Congenital syphilis and rickets very often coexist; but there is no reason for believing that the one is in any sense the cause of the other. For purposes of diagnosis of syphilis it may be sufficient to state that, in infants suffering from it, it is very common to find certain areas on the skull tender and slightly swollen, and that the regions of the epiphyses of long bones often suffer in a like manner. These lesions are

often multiple, and may make all movements of the limbs so painful that paralysis may be suspected. Careful examination will always detect tender swellings of periosteum near to the junctions of the epiphyses, and sometimes on the shafts. These swellings are often of considerable size, much larger, and, at the same time, more inflamed than those of rickets. Suppuration is not common, but it does occasionally occur. If this form of multiple periostitis is seen within six months of birth, it is almost certainly due to syphilis.

The state of nutrition is no safe guide in cases of doubtful diagnosis. In those cases which are self-evident it is often very characteristic. The infant is puny, emaciated, and shrivelled, and has features which resemble those of an old man. It is not uncommon, however, as already stated, for syphilitic infants to remain throughout plump and healthy-looking.

In doubtful cases reference may be made to the state of the palms and soles, which often show peeling patches, and to that of the nails, which sometimes become malformed and look as if they had been pinched laterally.

Importance of care in the diagnosis of inherited syphilis.—It is necessary, as has been already hinted, to be exceedingly careful in the diagnosis of syphilis in infants, for both the facts stated as history and the appearances assumed by the disease are often very difficult of appreciation. It is not every case of thrush that "goes through the child," and causes a sore anus, which is syphilitic. Nor must we feel too confident respecting erythematous eczema of the nates and genitals, however coppery or "ham-like" its tint may be. Nothing is easier than to pronounce the diagnosis of syphilis, but the confidence of the practitioner in his own diagnostic skill does not alter the nature of the disease. I have seen many infants with eruptions on the nates concerning which I never could come to any confident diagnosis. Nor does the method of cure by any means always help us. For syphilitic eruptions will often disappear under

simple treatment, and it is needless to say that common rashes often get well under mercury. In a large majority of cases the diagnosis is easy. My wish is simply to guard against too confident a reliance on individual symptoms or statements.

The following case may serve as an illustration of what has just been said. A lady brought me her infant, aged two months, whose nates and genitals were covered with erythematous eczema. The colour of the patches was exactly that of the lean of ham. There was another large patch at the root of the neck, but few or none on the scalp. The mother stated that the eczema had begun with thrush, using the expressions: "The thrush went through it, as the nurses say, and made it very sore below"; "At first I thought that the rash was only part of the thrush." It will be seen that these expressions were exactly such as would suit a case of syphilis. There was, however, a good deal of evidence on the other side. The child had had no snuffles, slept well, and appeared to be in excellent health. The thrush had begun as early as the second week, and appeared to have been very definite. The mother had borne only two children, and I had treated her eldest when nine months old for eczema, and quickly cured it by forbidding the use of milk and sugar, and bathing with a weak tar and lead lotion. This elder child had never suffered from snuffles, and was now in excellent health. That thrush, as a purely cryptogamic disease, may occur in infancy, and may cause great soreness of both the mouth and anus, is, I believe, beyond question; and although the expression often used, that "the thrush went through the child and caused soreness of the bowel," may not seldom imply that the child suffered from syphilitic stomatitis and condyloma at the anus, yet I am sure that we shall make great mistakes if we consider such statements as being anything like conclusive.

Treatment of infantile syphilis.—The inunction of mercury is by far the easiest and most efficient. If that remedy be given by the mouth it is very apt to purge; and, besides, it is a troublesome method, and

often attended by uncertainty as to whether the child gets the full dose. Inunction is attended by but little inconvenience, and is always effectual. Ten grains of the strong mercurial ointment, well diluted with lard, may be rubbed into the palms and soles every morning and night, and the quantity and frequency may be varied according to the effect produced. There may occur circumstances under which the surgeon may desire to avoid this plan in fear of exciting suspicion, and in such cases the internal use of the bichloride or of grey powder, in small but frequent doses, may be resorted to. It is marvellous how rapidly under a mild inunction all the symptoms will disappear. I am not in the habit of continuing the treatment much longer than the persistence of the symptoms. The secondary symptoms of the inherited form are far less prone to relapse than are those of the acquired disease, and it is very uncertain whether the prolonged use of mercury does much in preventing those of the later group. On the other hand, I regard it as certain that mercury employed in infancy is attended by serious danger to the development of the child's permanent teeth. For this reason I am always wishful to use as little as may be, and not to prolong the course unnecessarily.* With this motive I have even tried the treatment by iodide of potassium to the exclusion of mercury. This drug is, however, not unfrequently depressing to infants, sometimes really dangerous, and it is uncertain, and often inefficient as regards the syphilis. Mercury, on the contrary, almost always does the general health good.

If there are local symptoms, such as condylomata and ulcerated skin eruptions, these must be treated by the use of mercurial ointments or powders.

Prognosis in infantile syphilis.—In hospital practice and amongst the poor the mortality from syphilis in infants is large. This, however, is to be explained by the disadvantageous conditions, as regards

* In thus sanctioning the disuse of mercury in syphilitic infants as soon as health is apparently restored, I am aware that I am open to very reasonable criticism. It may be that to persevere for one or two years would be a security against keratitis. It may be doubted, however, whether on the whole it would be to the child's advantage.

feeding and treatment, under which the infants are placed, rather than by the severity of the disease itself. Amongst the richer classes the malady is, I think, rarely fatal. I have known families in which a succession of children have suffered, and have not only all survived, but have gained a condition of health apparently very good. Should death occur, it usually happens soon after birth, and before treatment has had time to exert its influence. If the rare condition known as infantile pemphigus shows itself, it is usually in the first week, and it is very commonly followed by death. Except in connection with this malady, I do not recollect to have lost in private practice, during many years, more than one or two syphilitic infants. In one excepted case the death was caused by arterial hæmorrhage from the nostril, probably due to phagedænic ulceration. It is possible, of course, that some may have died of whom I had lost sight.

If an infantile eruption, due to inherited syphilis, has once disappeared under treatment, it but seldom, in my experience, shows any tendency to recur. The relapses so frequently seen in adults who have acquired the disease find no place in infants, nor do we meet with the troublesome affections of the mucous membranes, sore throat, sores on the tongue, etc., which so often happen in them. Exceptional cases do occur, but, as a rule, a child who may have suffered rather severely during the first six months of life, is quite cured before it is a year old, and remains for five or ten years absolutely free from symptoms. At the end of a period of years, varying from four to fifty, we encounter liability to affections of the eye and ear, to chronic periostitis, visceral gummata, and to phagedænic forms of lupus. These having in turn been cured, the patient usually remains through life without any further evidences of taint. He may, however, have been left quite deaf, and his eyes may have been damaged by keratitis, choroiditis, or optic neuritis. In a small minority of cases obscure affections of the nervous system, such as ophthalmoplegia externa, epilepsy, or paralytic dementia, may ensue, but they

are very rare. So far as my knowledge extends, with the exception of certain rare forms of lupus, no skin diseases which occur after the infantile periods are to be attributed to inherited syphilis. It is a most remarkable feature of the periostitis, keratitis, and other conditions so frequently seen at adolescent periods, that they, like the infantile symptoms, clear completely off, and very rarely relapse, and that the remote affections, now and then fatal in the acquired form of the disease, are almost unknown in that which is inherited.

It is a question of much interest and importance how long a syphilitic infant continues to be capable of conveying contagion to others. Such facts as I am acquainted with have almost invariably concerned the first six months of life, but very probably a certain amount of gradually diminishing risk may last much longer. Much will depend upon the treatment pursued.

Sufferings of survivors.—It has been suggested (*Lancet*, February, 1907) that the estimate of the evils resulting from inherited syphilis should be formed not on the death-rate but on the sufferings of those who survive. On this point it may be of interest to quote the experience obtained by a medical inspection of school children in Liverpool. As a resort of a sailor-population it may be supposed that the prevalence of syphilis is at least the average, and very probably much above it. Dr. Arkle, who conducted an inquiry on a large scale, reported: "I was much struck with the fact that very few of the children showed any definite traces of constitutional diseases. I had set apart a space on the cards for noting such indications —expecting to have to note many cases—but I found nothing to enter in it with the exception of a few cases of tuberculous glands. I was so struck with this result that I went to ask Dr. Hope, our Medical Officer of Health, if he could explain, and he told me that he had been much struck with the same fact when engaged in another investigation. He visited the families in a thousand consecutive cases of infantile mortality, and told me that, broadly speaking, in no case was there

any constitutional taint traceable in the family to account for it, even in many cases where the mother had lost child after child. As he put it, the children of the poor die from sheer inability to live."

Independent testimony of this kind is very valuable. It accords with my own observations.

Popular estimate of prevalence grossly exaggerated.—The opinions prevalent amongst certain social reformers, both lay and medical, are probably gross exaggerations. Amongst our country population inherited syphilis is almost unknown, and although not unfrequent in large towns, and especially seaports, it is probably much less so, even there, than many think. Mistakes in diagnosis are common, and they are all on one side. Amongst the better classes it is an extremely insignificant cause of mortality, and there is good reason to believe that during the last quarter of a century its prevalence in all classes has considerably declined.

A statistical table prepared by the Registration Office of Ireland for the use of the Vaccination Commission showed that the number of deaths from inherited syphilis had steadily diminished in that country. In 1865 the deaths registered from that disease were no fewer than 141, whilst in 1888 they were only 47. It is true that in the year preceding 1865 the number had been only 107, and that in the following year (1866) it fell suddenly to 75. But it rose again to 88 in 1867, whilst from that year onwards, with some irregularities, it had been declining. In 1887 it was only 31. It must be remembered that, during the period concerned, the population of Ireland had declined one-fifth. This decline in the mortality from infantile syphilis may be explained by reference to three considerations: (1) Improved treatment of infants affected; (2) improved treatment of syphilis in the parents; and (3) far greater caution on the part of surgeons in permitting marriage during the early years after an attack of syphilis.

In England there appeared to have been a slight increase in deaths from inherited syphilis during the period in which in Ireland there had been a reduction.

Thus, in the years 1863-7, the annual deaths from the disease per million births was 1,509; in 1873–7, 1,749; and in 1883–7, 1,884.*

Possibly the real explanation of these variations in both countries, and of the apparent discrepancy, is that in Ireland the population of towns had decreased, whilst in England that of rural districts had diminished in relation to that of cities.

Subsequently to the dates quoted the mortality declined in England also. In 1894, as compared with 1874, making allowance for increase of population, it ought to have been 1,888, whereas it was only 1,229.

* I am indebted for these figures to the kindness of Dr. William Ogle.

CHAPTER XXXIX

INTRA-UTERINE SYPHILIS

Exceptions to rule.—In the preceding chapter I have endeavoured to present a general picture of the course and final results of inherited syphilis. It now remains to notice certain facts which are more or less exceptional to what has been said. Although it is true that for the most part the taint does not appear to affect the infant until some time after it has commenced its independent existence, yet there are numerous instances in which it causes intra-uterine death. Thus, abortions and miscarriages at various periods of pregnancy are not uncommon in syphilitic mothers. It is quite possible, however, that the influence of syphilis in this direction has been exaggerated. It is also possible that the cause of what happens to the fœtus is, in such cases, set up rather by disease in the mother, and perhaps of the placenta, than by the breeding of the syphilitic virus in the fluids of the fœtus itself. If this be not so, it is exceedingly difficult to explain why a large number of syphilitic infants should be born plump and well nourished, and remain for a month or so without symptoms, whilst others, on the contrary, perish at, it may be, an early period of intra-uterine life. Enough of pathological evidence has, however, been recorded to compel us to admit that the fœtus may itself suffer from syphilis, and may exhibit lesions of the viscera, bones, or skin which conclusively denote it. Such lesions are, however, rare. It is a most noteworthy fact that, if syphilis develops in the fœtus, it usually causes its death, for nothing is less common than for an infant to be born alive with extant signs of taint. Three weeks or a month almost invariably intervene before the eruption, snuffles, etc., appear. A

very perplexing exception to this occurs in the case of what is known as infantile pemphigus. In this disease the eruption may appear, in an apparently healthy child, within a day or two of birth, and the illness may end in death within a week. These cases need further investigation, and it is difficult, in our present state of knowledge, to attempt to explain them.

It is often far too hastily assumed that if a dead fœtus presents a peeling skin, and is shrivelled, it has probably died from syphilis. Such conditions are common whenever death has occurred long before expulsion. So also, as has been already hinted, the belief that miscarriages imply syphilis is held probably far more widely than facts warrant. Miscarriages are common from many other causes; and, conversely, it is quite certain that many mothers, suffering severely from syphilis, carry their infants easily to full term, and produce them in a viable condition. The recognition of syphilis in a dead and possibly decomposing fœtus is a matter of great difficulty and uncertainty. As to the existence of signs of syphilis in living infants born at full time, we must receive the published testimony of the older surgeons with caution. Not having the importance of this special point in mind, they often assumed, on seeing a syphilitic infant, that it had been born with the symptoms. Obstetricians would probably give evidence of a different kind. Thus, whilst Diday, who had enjoyed very extensive opportunities of special observation, had never once seen signs of syphilis present at birth, we find Sir Astley Cooper stating that he had seen several children born with copper-coloured eruptions on the palms, soles, and buttocks. Probably all that he meant is that the infants were young when first seen by him. I have very seldom myself seen an infant born with a syphilitic eruption, or one in whom the evidence was clear that such an eruption was present at birth. Rodelet, Doublet, Gilbert, Guérard, and Landman are all quoted by Diday as having published single cases in which infants were born with characteristic eruptions. He mentions them, however, as examples of what was very infrequent. Visceral

disease has also been encountered under conditions implying that the poison had been actively at work in the fœtal organism during intra-uterine life.

So far as I am aware, no explanation has been afforded as to why, in most instances, children inheriting syphilis should be born apparently in good health. It would appear probable that the fœtus may suffer at any period of intra-uterine life. In many cases miscarriages at early periods occur, and they are possible at any period, as are also premature births in the later months. When the latter occur the fœtus usually shows some evidence (in peeling of the skin) of the disease from which it has suffered. Probably disease of the placenta is influential in arresting the growth of the fœtus, and we may presume that this structure is healthy in the numerous cases in which the child is born plump and well nourished. In the very exceptional cases in which a child is born alive, but exhibiting at the time of birth signs of syphilis, the conditions present are, I think, usually those of pemphigus—understanding by that term a generalised bullous eruption. It may be noted also that in the rare cases in which what is called pemphigus neonatorum occurs, the eruption shows itself within a few days of birth, and as a rule death quickly follows. What may be the difference between these cases and those which obey the general rule that the outbreak of phenomena is delayed until the infant is three weeks or a month old, it is very difficult to say. It may well be that the earlier in the child's life the symptoms commence, the more severe will be the disease. Possibly no case has been recorded in which an infant, born with symptoms actually present, has ever been reared; and of those who manifest pemphigus of the palms and soles within a few days of birth, very few survive. Those in whom the symptoms are long delayed may retain apparently good health, and it is highly probable that more than a few never show any symptoms at all. In many patients who suffer ultimately from keratitis or who show notched teeth, no history of infantile symptoms is obtainable, and they are often strong and well grown.

It is not uncommon in syphilitic families to find one child apparently exempt, while one or more of those older or younger have suffered.

One of the most definite examples of almost total escape occurred in the vaccinifer in one of the two series of vaccination-syphilis cases which I have published. This infant was supplied from a vaccination station as being in exceptionally good health. That it communicated syphilis to those vaccinated from it there could not be the slightest doubt, but the only evidence which was ever obtainable in proof that it was itself syphilitic was the existence of a small condyloma at the anus. Two weeks later no trace even of this remained, and the child, then eight months old, still appeared to be in excellent health. Almost similar statements are true of the vaccinifer in another series. The records of twins born to syphilitic parents are of great interest, but fortunately there are but very few of them. It is certain, however, that one twin may suffer and the other remain apparently free. In this department, as in all others in which syphilis is concerned, it is impossible to make too much allowance for irregularities which it is equally impossible to explain.

Twin children born to a syphilitic mother who had suffered recently and severely from syphilis. Death of one, and apparent escape of the other.—Sir Herman Weber has published an interesting narrative in which twin children were born to a syphilitic mother. During most of her pregnancy the mother had been under treatment for severe secondary syphilis. She had taken only iodide of potassium. One of the twins died at the age of eleven weeks, having suffered most severely from characteristic symptoms; the other remained quite healthy, having never shown any indication whatever of disease.

In the infant which died the liver was found much enlarged, soft, and fatty. There were also some traces of inflammation of the capsule. The body of the child weighed only six pounds and a half, whilst the liver weighed six ounces and a half. No gummata were

found in any of the viscera. Death had been caused by diarrhœa.*

On the apparent absence of symptoms in cases of inherited syphilis.—We have seen that the symptoms which usually betray the existence of syphilis in an infant may vary exceedingly in severity. In turn each one of those most common may be absent. There may be no snuffles, no eruption, no wasting, no soreness of the mouth or anus. All authorities will admit that the group is often incomplete, and that, whether complete or incomplete, it may be very faintly marked. Some, however, make it an important point to assert that there are no cases in which infantile symptoms are wholly absent. Positive proof that there are such it is exceedingly difficult, if not impossible, to give, for the reply may always be made that the infant was not sufficiently well watched. That there are many in whom, for all practical purposes, infantile symptoms are omitted, I have not the slightest doubt. I have seen many cases of keratitis at puberty, or of bone or throat affections of undoubted character, and with the clear history of parental disease, in which nothing whatever had been ever observed in infancy. In some of these the entire absence of the usual marks of the disease in physiognomy, teeth, etc., quite bore out the parents' statement. I have seen many times a well-developed nose with a narrow bridge, a well-formed forehead and good complexion all in conjunction with keratitis of the most definite kind, and with corroborative facts of the clearest nature. Sometimes the teeth in such cases may be typically malformed, but this is rare. We may probably take it as certain, that when the bridge of the nose remains narrow no material degree of snuffles was ever present, and that if the complexion is good there was no rash on the face. The definiteness of the several stigmata by which the diathesis is recognised at puberty is always in ratio with the severity of the disease in infancy.

For practical purposes, then, we must admit that a taint of inherited syphilis may remain latent until at,

* *Pathological Transactions*, 1867.

or even considerably after, the age of puberty, it may manifest itself by a severe attack of interstitial keratitis, by deafness, nodes, lupus (specific), or ulceration of the palate. In saying this I am not speaking solely from observation of the children of the poor, who may be supposed to be sometimes negligent in observation, and apt to forget what has happened to their children. Some of those who illustrated the facts which I now describe were the offspring of most intelligent and observant mothers, and had also been more or less constantly under the notice of the family surgeon. In some instances one or two children in the family had suffered both in infancy and afterwards, whilst another who had shown nothing in childhood yet displayed the usual conditions at adolescent periods.

Absence of symptoms at the time of birth.—As is set out in the preceding chapter, in a majority of cases, perhaps a very large majority indeed, the children of syphilitic parents, if born alive, are born with all the appearances of perfect health. "As beautiful a baby as you need wish to see, but began to fall off when a month old," is the constant expression of the disappointed and puzzled mother. This absolute escape during intra-uterine life has not much, or perhaps anything, to do with the severity of the subsequent manifestations; for some of those who suffer most severely are precisely those who looked best at birth. Nor has it, probably, much to do with the question as to the nearness of the parental disease, or with that as to whether derived from father or from mother, or from both.

The fact that most infants tainted with syphilis live a healthy life so long as they are within the womb, and only begin to show symptoms after some weeks of independent and air-breathing life, leaves us, however, still face to face with another of very different aspect. There can be little doubt that syphilis is a common cause of abortions, of premature births, and of dead births at full time, and that in a few instances it causes the production of children who, born alive, display signs of the disease at the time of birth. This is a part of

our subject concerning which I must confess that I have had but little personal experience. Our knowledge concerning it is chiefly derived from surgeons in large family practice, and especially from those holding appointments in lying-in institutions.

Abortions.—As regards the proneness to abort in syphilitic mothers, although it is undoubtedly very common, yet it seems quite possible that we have got rather an exaggerated impression. Abortions are very common quite independently of syphilis; and we do not possess on this point any carefully observed family data with which to institute comparisons. Not only do they happen to women, but they are also abundantly frequent in our domestic animals. On the other hand, we have every day proof that women may bear large families of tainted children, and never show any tendency to abort. I urge these considerations not with any wish to throw doubt on the current belief, but only to suggest that a little care is desirable before we accept as true the suggestion that all that happens to the offspring of syphilitic mothers is really and directly due to their syphilis.

Above all, I have to protest against the condition known as the macerated fœtus being accepted as an indication of syphilis. Nothing is commoner than the macerated lamb, calf, or foal, and all that the maceration proves is that death had preceded expulsion by a considerable time.

The placenta.—Changes in the placenta are of great importance in reference to the viability of the fœtus. Cell proliferation around and in the villi occurs, and is followed by results similar to those in other organs. The vessels become occluded and the villi wither.

Some unexplained facts as to the influence of sex in inherited syphilis.—There are some curious facts as regards the greater liability of the female sex to the later results of inherited taint. My attention was first drawn to them when writing on syphilitic keratitis in 1863, and although they have since then been confirmed not only by my own more recent experience,

but by many other observers, no plausible explanation has been offered. The inequality referred to does not apparently obtain in the case of registered deaths from syphilis in infancy, nor as regards the prevalence of inherited taint in general, but only in reference to certain special affections.

The mortality at the Blackfriars Hospital for Skin Diseases, when I was on the staff, was mainly caused by hereditary syphilis. Its total was, however, very small. During a period of nearly twenty years only 71 death certificates were given. Of these, however, no fewer than 41 were for hereditary syphilis, and several others are so worded as to leave the question doubtful. Of the 41 alluded to, 22 were boys and 19 girls. Thus it would appear that the number of boys who die of infantile syphilis at least equals that of girls.

In my work on "Inherited Syphilis as a Cause of Diseases of the Eye and Ear," I published a considerable number of cases of iritis in infancy, and of keratitis and of deafness at later periods. On counting up the whole of these, it would appear to be the fact that the female sex presents a considerable excess of subjects of each of these forms of disease.

My facts stand as follows :—

Of iritis in infancy, 23 cases in which the sex is specified, and of these 18 were females and only 5 males.

Of keratitis at various ages before and after puberty, but none in infancy, a total of 102 cases, out of which 64 were females and only 38 males.

Of deafness at various ages (no infants) there are 21 cases, of which 15 had keratitis also, and are counted in the preceding statement. The subjects of the 6 cases not counted in the keratitis series are all females, and of the 15 so counted 9 were females and 6 males. Thus we have totals of 15 and 6 respectively.

My book also comprises, in addition to the cases included under the preceding statements, 20 others, in which for various ailments children or young persons, the subjects of inherited syphilis, came under care. These were of various ages, but most of them beyond infancy. Of the 20, 13 were females and only 7 males.

Mr. Hinton stated that cases of deafness in connection with hereditary syphilis constituted one-twentieth of his patients at Guy's Hospital. He gave no statistics as to sex, but stated: "The great majority of the cases that I have seen have been in females."*

The most recent contribution to the statistics of the subject occurs in a lecture by Mr. Brudenell Carter, published in the *Lancet*. Mr. Carter gives, as his experience of interstitial keratitis, 92 cases, stating that he regards them all as resulting from inheritance of taint. Of these, 61 were females and only 31 males. As regards ulcers of the cornea (not syphilitic), the proportions of the two sexes were equal.

* Toynbee on "Diseases of the Ear," p. 461.

CHAPTER XL

INHERITED SYPHILIS IN CHILDREN AND YOUNG PERSONS (POST-INFANTILE PERIODS)

The recognition of inherited taint.—The establishment or otherwise of a diagnosis of inherited venereal taint in young persons must always be treated as a matter involving peculiar responsibility. It is often one of great difficulty, and requiring the cautious use of special knowledge. In most cases the surgeon is precluded, either by moral obligations or by motives of kindness, from asking any direct questions, or even such as may excite suspicion. If it is the mother of the patient to whom such questions are put, it is very possible that they may be the means of inducing her to suspect that which she had never before dreamed of, and which, whether true or otherwise, may poison the happiness of her life. There can be no duty more imperative, in the exercise of our profession, than that of abstaining from needlessly exciting in the minds of our patients suspicions as to conjugal purity. In a general way there is much less need of caution in seeking information from the father of such a patient than from the mother. Still, no one would willingly be guilty of the cruelty of leading a father, however correctly, to attribute the sufferings of his child to his own faults. These considerations greatly increase the importance of those objective symptoms upon which we are accustomed to base a diagnosis of this nature. I shall endeavour to be as explicit as possible in defining the degree of value which I believe to attach to some of these.

In any case in which a syphilitic taint is suspected

we must seek certainty, first by inspection of the patient's symptoms and developmental peculiarities, and secondly by inquiries as to infantile history.

Malformations of the permanent teeth.—By far the most trustworthy amongst the objective symptoms is the state of the permanent teeth, if the patient be of age to show them. Although the temporary teeth often, indeed usually, in syphilitic children, present some peculiarities of which a trained observer may avail himself, they show nothing which is pathognomonic, and nothing which I dare describe as worthy of general reliance. The *central upper incisors, of the second set, are the test teeth*, and the surgeon not thoroughly conversant with the various and very frequent forms of dental malformation will avoid much risk of error if he restrict his attention to this pair. In syphilitic patients these teeth are usually short and narrow, with a broad vertical notch in their edges, and their corners rounded off. Horizontal markings or furrows are often seen, but they, as a rule, have nothing to do with syphilis. If the question be put, "Are teeth of the type described pathognomonic of hereditary taint?" I answer unreservedly, that, when well characterised, I believe that they are. I have met with many cases in which the type in question was so slightly marked that it served only to suggest suspicion, and by no means to remove doubt, but I have never seen it well characterised without having had good reason to believe that the inference to which it pointed was well founded.

Next in value to the malformations of the teeth—a subject to which I must return later (Chapter XLV.)—are **the state of the patient's skin, the formation of the nose, the contour of the forehead and shape of the head.** The skin is often thick, pasty, and opaque, but not infrequently remarkably soft and silky. It often shows little pits and scars, the relics of a former eruption, and at the angles of the mouth are radiating linear scars running out into the cheeks. The bridge of the nose is usually broad and low, often it is remarkably sunken and expanded. A want of

firmness in the cartilaginous septum, allowing the end of the nose to be shaken about too easily, is a frequent condition to be noticed. The forehead is usually large and protuberant in the regions of the frontal eminences; often there are well-marked transverse depressions a little above the eyebrows. The hair is usually dry and thin, and now and then (but only rarely) the nails are broken and somewhat roughened. If the eyes have already suffered, a hazy state of the corneæ, and a peculiar, leaden, lustreless appearance of the irides, with or without synechiæ, may be expected. If, however, the eyes have not yet been attacked by syphilitic inflammation, they will present no deviation from the state of perfect health and brilliancy. The occurrence of well-characterised symmetrical interstitial keratitis is now considered by most authorities as in itself pathognomonic of inherited taint. It is almost constantly coincident with the syphilitic type of teeth, and, when these two conditions are found together in the same individual, we may certainly feel that the diagnosis is beyond doubt. As a general rule, however, it is only by the careful estimate of various physiognomical conditions, and when the symptoms, considered together, support each other, that the diagnosis of this diathesis can be established. I must especially beg of those who have not previously made the deformities of the teeth the subject of special study to be very careful in their inferences. Mistakes, leading to much-regretted consequences, may ensue from too hasty reliance upon misinterpreted symptoms; and those in which the teeth are concerned are especially liable to mislead.

In inherited syphilis not only is the skull very prone to show peculiar prominences on the frontal eminences, but there are frequently low protuberances on other parts. The skull, as a whole, often presents a somewhat square appearance. All the long bones ought also to be examined, more especially the tibiæ, for not unfrequently nodes will be discovered on them. These are sometimes attended by overgrowth of the bone in length. When this is the case, a bend forwards, known as "the sabre curve," is often pro-

duced. The state of the patient's hearing must be examined. If there be symmetrical deafness, or the history of a past attack of deafness without discharge from the ears, the fact is strongly corroborative. Lastly, a careful ophthalmoscopic inspection of the fundus must be made. Patches of absorption in the choroid in the extreme periphery are often present, and their value for diagnosis is very great, although possibly they are not to be considered as pathognomonic of syphilis. A condition somewhat resembling retinitis pigmentosa will be sometimes seen, but it is rare and not wholly trustworthy.

Terms.—The terms "congenital," "transmitted," and "hereditary" may, for our present purposes, be considered as synonymous.* They all stand in contradistinction to "acquired," and imply that the disease has been obtained from a parent before birth, and not from post-natal contagion. In pathological inheritance no primary sore occurs, but the virus passes more or less directly from the blood of the parent into that of the child. The term "congenital" must not be held to imply that the inheritance is obvious at the time of birth, for it may easily be the fact that no signs of it become apparent until long afterwards. Not the less is it probably true that the taint, or rather the living virus, is always existent in the child at birth.

Modes of inheritance.—There may be some variation as to the precise mode of inheritance. It may be that it is from the father alone, or from the mother alone, the poison being in each instance present in the one parent at the time of their child's conception. To these modes we may give the name "conception-inheritance," qualified as "paternal" or "maternal," or "sperm-inheritance" and "germ-inheritance" respectively. This is the only kind of direct *paternal* inheritance possible. A mother may, however, be the means of communicating the disease to her offspring

* It will be obvious that throughout this chapter I use the word "inheritance" in its pathological and not in its more restricted physiological sense. A child may be as properly said to inherit property or morbid germs as to inherit character or diathesis, though not in the same sense.

in another manner. It may have been the fact that at the date of impregnation she was perfectly free, and that she acquired primary disease at some period of her pregnancy. In this case the fœtus will receive the poison, not at the very starting-point of its existence, but after a period, of variable length, of healthy intra-uterine life. Facts, in abundance, prove that at whatever period of pregnancy a woman acquires syphilis, if only time be allowed for the development of her disease, there is great probability that it will pass from her to the fœtus. Nor, we may remember, does this happen in the case of syphilis only. If a pregnant woman suffers from small-pox, her fœtus will also be affected, and very probably it is the same with the other exanthemata.

It may be convenient here to ask whether the transmission of syphilis in this way from the mother's blood to that of her child, through the placental circulation, produces results differing from those which follow sperm-inheritance or germ-inheritance. The question may be answered, temporarily at any rate, with a denial, and the *onus probandi* may be suitably thrown on those who assert it. I once attended a lady in the seventh month of her pregnancy for primary syphilis. I saw her indurated chancre and also her rash. Her husband was also under my care for the disease. The child was born looking healthy, but it began, as usual, to suffer from snuffles at a month old, and it went through a severe infantile illness with all the usual symptoms. It recovered under mercurial treatment, but subsequently showed the characteristic teeth and physiognomy, and had a severe attack of keratitis with periostitis of the tibiæ and effusion into both knee-joints. This child was subsequently under my observation for fourteen years, and there has been nothing whatever to distinguish its symptoms from those which we see so frequently as the result of sperm- or germ-inheritance. Other cases of a similar kind might be adduced, and they justify us in holding for the present that probably the results of intra-uterine infection and conception-infection are, as a rule, closely similar.

Sperm-transmission and germ-transmission.—We must next ask whether sperm-inheritance differs in its results from germ-inheritance, and whether when the child receives a taint from both parents it suffers more severely, or in any way differently, from what occurs when it receives it from only one. We enter here upon a most difficult inquiry, and our knowledge of the laws of inheritance is not sufficiently advanced to permit of a categorical answer being given. Nor, indeed, have our facts as to the inheritance of syphilis been as yet collected and compared with sufficient care. It may prove that future investigations will succeed in establishing more detailed and definite laws, as explanation of the variation in the clinical phenomena which we witness. On the other hand, it may, perhaps, come about that we shall see that we have already gone farther in this direction than either our present or our future knowledge will warrant. We are met at the very threshold of our inquiry by the fact that we do not yet know the limits of possible variability in the phenomena of syphilis, independently of any appreciable difference in the conditions of its origin. Thus we are constantly in danger of assuming that differences which we observe in the course and severity of the disease are due to peculiarities in the mode of acquisition, when in reality they were quite possible under modes which were identical. The more we study the subject the more shall we feel obliged to acknowledge the importance and width of bearing of this fallacy. We must also be exceedingly careful as to giving our confidence to single and isolated narratives, whether they be the results of our own observation or the records of that of other surgeons. There are in respect to syphilis such endless sources of mistake that, however clear the seeming inference may be, it is never safe to trust it unless it has the support of many independent observations. Acting on this rule as to the reception of evidence, I shall, in what is to follow, trust far more to general conclusions from daily experience than to the apparent indications of individual but isolated cases.

Can syphilis be inherited directly from the father?—Whilst all admit that a child may inherit syphilis from its mother, there are, possibly, still some who doubt whether it can inherit from the father independently of the mother. The evidence on this point seems to me overwhelming. It is a matter of constant experience that the father of a syphilitic infant is known to have had the disease before marriage, whilst not a symptom has ever been observed in his wife. It is improbable, in the highest degree, that a large number of married women should acquire syphilis in its primary form, pass through its secondary stages, and yet never know it. Yet this is the supposition which we must adopt, not once nor twice, but as being an everyday occurrence, if we reject the belief that a syphilitic father may beget a syphilitic child, quite independently of any previous infection of its mother. There are, however, many other supporting facts. In these cases it very frequently happens that the taint in the father is wholly latent, that he has for long appeared to be absolutely well, and that he has no trace whatever of sore on his penis by which an infection of his wife might be effected. Then, again, not only has the disease wholly escaped the observation of the mother, but she appears, on the most minute examination, to be wholly free from symptoms, and in most instances she remains so in after-life. Such facts are wholly inconsistent with the supposition that she has passed through syphilis in its ordinary stages as an acquired disease. In nine cases out of ten, acquired syphilis is an affair which its victim cannot either ignore or forget.

Severity of disease, independent of conditions of transmission.—It being, then, taken as established that a child may at the time of conception take syphilis from its father alone, from its mother alone, or from both simultaneously, and that it may also receive it later on from the mother's blood during pregnancy, we have to ask whether the disease presents any differences under these several conditions. The answer to this has already in part been given, for it has been asserted

that what is termed "pregnancy-transmission" is just as severe as conception-inheritance. Diday has cited a number of facts in proof of this, and all that I have myself observed is in unison with his conclusions. To avoid tediousness, it may perhaps be asserted briefly that there is no reason for believing that the inheritance from the mother (germ-transmission) produces more serious results than sperm-transmission, or that the child who inherits from both parents suffers more severely than he would if one were free. In connection with this assertion, it is to be freely admitted that there are certain facts for which as yet we can find no explanation, and which may possibly lead to some modification of this rule. The cases exceptional to rule to which I refer are those in which children are born with syphilitic lesions actually present, or with traces of intra-uterine disease. We must also, in connection with this point, recall the fact, apparently established, that the two sexes, in reference to certain lesions, do not suffer exactly in the same ratio, the examples of infantile iritis, of keratitis in adolescent periods, and of syphilitic deafness, being much more common in girls than in boys.

Having just suggested that the several modes of inheritance amount, as regards the heir, to much the same thing, we have next to ask whether the stage which the disease has reached in a parent makes any difference as to that manifested in the offspring. This is best answered by saying, broadly, that there is no evidence in proof that it does so. Some facts which are unexplained undoubtedly exist, but there is enough of positive evidence in proof that children who present precisely similar phenomena may be born at various periods of the parental disease, to make us put them for the present aside. Diday and others have collected evidence on this subject. We shall probably be quite safe in making a *tabula rasa* as regards all theories hitherto advanced in explanation of the different degrees of severity which inherited syphilis displays. These differences are probably not greater than those which we observe in the case of the acquired disease. Chancre-

syphilis, as is well known, falls with very different severity of incidence on different individuals. The reasons why it does so are inexplicable, just as are those which apply to the parallel phenomena in small-pox and scarlet fever. It will be wise, therefore, to clear away the old hypotheses and begin the investigation of facts anew.

With the hypotheses which we thus put aside, it may be well to associate a piece of matter-of-fact observation which is probably a mistake. It is generally said, and accepted, that the inheritance of syphilis, when continued through a family of children, shows a tendency to fall off, and decreases in severity in each successive child, until it comes finally to an end. I must myself take some share of responsibility for the perpetuation of this opinion, which I now believe to be an error. It is also strongly stated by Diday. That the eldest child or elder children (those born nearest to the parental acquisition) are the most likely to inherit it, is unquestionable, and so also is the fact that the younger ones often escape. In admitting this, however, we by no means admit that the disease is apt to occur in a modified form in the younger ones. We shall probably be nearer the truth if we assert that the inheritance of a syphilitic taint is often irregular; that frequently, of several children born under apparently similar conditions, one may receive it and another escape; but that, if it be received, it is always one and the same specific malady. Although it may and does develop with very differing degrees of severity, yet the child who inherits it at all, inherits its full risks, and is just as liable as another to its severest manifestations. Much evidence might be adduced to show that when a succession of children suffer, the youngest may suffer as severely as the eldest. It might also easily be proved that, under such circumstances, the disease may skip one child and appear again in one still younger.*

The following case seems worth quoting in illus-

* These statements have received definite support from the discovery of the spirochæte as the specific cause of syphilis. As given above, they stand exactly as they did in my first edition.

tration of the assertion previously made, that there is usually no aggressive tendeney in the adult life of those who inherit syphilis.

Mrs. —— was under my observation at intervals for twenty-five years. In the first instance I removed her right eye, which had been lost by heredito-syphilitic inflammation. Her other eye was also mueh damaged, both as regards cornea and ehoroid. She had a square forehead and typieal screwdriver teeth. She was absolutely deaf. At one time it appeared likely that she would beeome insane, her chief symptom being extreme querulousness. She had formerly taken iodides and mereurials for long periods.

My ehief objeet in mentioning her ease is to note that in the last twenty years during which Mrs. —— remained under my observation there was no aggressive tendency, either as regards the brain or the damaged eye. Both remained exactly as they were. She could still see to read large type, and to do needlework. She was a great trouble to her husband, from her constant eomplaints of pain at the pit of the stomach and her inability to be pleased with anything. At the age of fifty she looked much as she did at thirty-five. Her only daughter, who was herself quite free from symptoms of taint, was married and had healthy ehildren.

CHAPTER XLI

SELECTED CASES IN ILLUSTRATION OF INHERITED SYPHILIS*

When in 1878 I resigned my appointment on the staff of the Moorfields Ophthalmic Hospital, my sphere of observation in reference to the later results of inherited syphilis became greatly reduced. In private practice such affections are fortunately rare. It was at Moorfields that I had collected the cases upon which were based my conclusions as to the keratitis, choroiditis, and other eye affections which occur in connection with inherited taint, and also as to the peculiarities in the teeth and physiognomy by which such taint may usually be recognised. My work on these affections, which was published in 1863, contained narratives of most of the cases which had come under my observation up to that date, and after its publication it did not seem worth while to continue to collect cases in illustration of doctrines which were soon generally accepted by the profession. Since that time I have taken notes almost solely of such cases as seemed either exceptional to the views which had been advocated, or which suggested new ones. From time to time I have since published, chiefly in my *Archives of Surgery*, brief annotations on these topics.

It may be convenient to recapitulate some of the more important of them :—

Vol. I., p. 51, *et. seq.* Two cases of infantile convulsions in connection with inherited syphilis.

Vol. I., p. 51. Severe chronic bone disease, one node having suppurated. No other indications of taint in the child, æt. 13, but mother syphilitic.

* Reprinted from *Archives of Surgery*, January, 1898.

Vol. I., p. 53. A case in which a mother showed secondary symptoms apparently from fœtal contamination.

Vol. I., p. 53. Choroido-retinal disease in an infant after convulsions. I may now add to this record that four years later the child was partially idiotic.

Vol. II., p. 65. Are women liable to transmit syphilis to offspring during longer periods than men?

Vol. II., p. 66. A woman bore syphilitic children four or five years after her own disease (erroneously stated in text to have been *eight* years).

Vol. II., p. 118. A case in which, of twin infants, both dead, the bones of one showed syphilitic changes, and those of the other were free. (Seen at Berlin.)

Vol. II., p. 291. A case in which two sisters, born with an interval of seven years, both suffered from late lesions, neither of them having had infantile symptoms. Both parents were probably tainted, the mother by fœtal contamination. (A very remarkable narrative.) Again referred to, with additional particulars, Vol. V., p. 70.

Vol. II., p. 294. Case in which it might have been believed that a man who married four years after his syphilis, communicated the disease to his wife.

Vol. II., p. 295. An example of glandular gumma in the neck of a girl the subject of inherited syphilis.

Vol. IV., p. 324. A case in which a man who married, with my consent, four years after syphilis, was supposed to have been the father of a syphilitic child. Diagnosis as regards the child erroneous.

Vol. V., p. 72. Severe syphilis inherited from a father. The mother remained in excellent health. Severe keratitis and nodes, but no peculiarities in teeth or physiognomy.

Vol. V., p. 75. Case of acquired syphilis (severe) in a man who was reputed to have had symptoms of inherited disease in infancy, and also interstitial keratitis.

Vol. V., p. 76. Four healthy children born to parents both of whom had suffered from syphilis.

Vol. V., p. 76. Palmar psoriasis in a girl of eighteen the subject of inherited taint, and whose mother had the same affection.

Vol. V., p. 183.	Good health, and entire absence of physiognomical and dental peculiarities in a man, aged twenty-six, whom I had treated for infantile syphilis. He had suffered from a severe attack of keratitis at the age of nine.
Vol. V., p. 216.	Several cases illustrating paralytic dementia in the subjects of inherited syphilis.
Vol. V., p. 264.	Gumma in the tongue in a patient the subject of inherited syphilis.
Vol. V., p. 360.	Arrest of sexual development, with mental peculiarities, in a boy the subject of inherited syphilis.
Vol. VI., p. 15.	On the differences between syphilitic teeth and the malformations due to mercurial and other forms of stomatitis.
Vol. VII., p. 60.	"Ringworm tongue" in a child of six years, who had suffered from inherited syphilis.
Vol. VII., p. 62.	An instance of very sêvere keratitis, with choroiditis and vitreous opacities, in a syphilitic girl of twelve, who showed no peculiarities of physiognomy. Synovitis of one knee.
Vol. VII., p. 63.	Reference to the case described in Vol. II., p. 291.
Vol. VII., p. 294.	An instance of severe syphilitic pemphigus present at time of birth. (Drawing kept.)
Vol. VIII., p. 245.	Synovitis of the knees preceding keratitis in a young man the subject of inherited syphilis.
Vol. VIII., p. 280.	A case of complicated and relapsing inflammation of the eyes in a young woman (one of twins) who inherited syphilis.
Vol. VIII., p. 283.	On deafness in connection with inherited syphilis, and on the greater liability of girls to suffer from it.

I now purpose to give from my private note-books a few facts which I have not previously recorded. Some of these appear to be of value because they supply further details respecting cases already recorded, but most of them will concern wholly new ones. Amongst the special points which will be illustrated by them the following may be mentioned :—

That the subjects of inherited taint often grow up into healthy men and women.

That complete exemption from other indications

of taint does not exempt from the risk of an attack of keratitis.

That it is possible for one child in a family to suffer very definitely whilst all the others apparently escape.

That it is very exceptional for any considerable series of children to suffer in succession from inherited taint.

That the mother of one or more syphilitic children may herself remain throughout quite free from symptoms and apparently in good health.

That a condition of general arrest of growth may be one of the consequences of inherited taint.

That it is possible for children born within dangerously short periods of the primary disease in one or both parents to escape the inheritance entirely.

That although, as a rule, after keratitis, choroiditis, etc., the recovery is permanent, there are exceptional cases in which certain progressive changes continue.

That it is by no means improbable that some who really inherit taint never, either in infancy or subsequently, show any symptoms.

That the children of those who have suffered from inherited syphilis are usually quite healthy.

That syphilitic infants may be suckled by their mothers without, as a rule, risk to the latter.

My life's experience affords no trustworthy exception to either of these last two propositions.

Uterus and appendages from a case of inherited syphilis showing arrest of growth.—I have in my possession a drawing which represents the exact dimensions (measured by compasses) of the uterus and ovaries of an adult woman (æt. 20) who was the subject of inherited syphilis. She was of low stature and displayed a general arrest of development. Her mammæ were extremely small, and her skin was dry and of earthy pallor. She had, I believe, menstruated a few times. Her physiognomy and teeth showed the

usual characteristics. She died in the London Hospital, and as we had noted the especial absence of feminine developments we were interested in examining the organs. They were the smallest I have ever measured. Thus, the uterus was only an inch and half in length (half of what is normal), and the appendages were in proportion.

A case which I have recorded in *Archives* (vol. v., p. 360) is a good example of a parallel condition in the male sex. Although seventeen, the boy was quite emasculated in his build, and was the subject, I have no doubt, of arrested development of the sexual organs. He had extensive choroido-retinitis.

In the following case we have an instance of

A strong, healthy son born of a mother who had suffered severely from inherited syphilis; the mother dwarfed in stature. —Mrs. —— was herself a sufferer from inherited syphilis in a very severe form. She was dwarfed and quite deaf. She had been under my care for an attack of keratitis, and subsequently was much troubled with noises in the head. She was married and had borne one child. I saw this child when he was twelve years old. He was a fine, strong lad without a symptom of taint, had perfect teeth, and was as tall as his mother, to whom he offered a strong contrast.

Inherited syphilis; keratitis and internal otitis at the age of thirteen; report on state of health at the age of forty; important facts as to family history.—One of my patients at Moorfields Ophthalmic Hospital was under treatment in 1870 for a severe attack of interstitial keratitis. Twenty-one years later, in August of 1891, through the courtesy of Dr. W. H. Johnson, of Limehouse, I had an opportunity of investigating her condition. She was now a tall, well-grown woman of thirty-four. Her features were not peculiar, and the notches in her teeth, which had formerly been present, were worn out. She was absolutely deaf. The history of her deafness was that in 1871, whilst still taking small doses of mercury, which I had prescribed for her keratitis, her hearing began to fail, and that within a fortnight she had become quite deaf, and had remained so ever since. She had learned to talk with her fingers, but of late

her sight had failed so much that it was feared she would lose even this means of intercourse with others. She was liable to attacks lasting a few moments at a time, during which she was in darkness. Her corneæ showed the characteristic haze, and the pupils were small. There were white patches near the borders of the corneæ, and a conspicuous white areus in the upper half.

As regards family history, this patient was the fourth child, and had younger brothers and sisters. She was the only one who had suffered. I saw one sister, only eighteen months younger, who had ailed nothing whatever.

Six years later still, in November, 1897, I again examined this patient, and obtained from her elder sister in more detail some important facts as to the history of their family. Fortunately the fears which had been entertained as to the advancing failure of sight had not been realised. She had ceased to be liable to attacks of retinal anæmia, and although her left eye was disabled by pupillary occlusion, she could still see fairly well with the other. It was impracticable, owing to the smallness of the pupil, to examine the fundus; at any rate, I found it so, and a note on a Moorfields Hospital letter recorded, by another observer, the same result. In spite of this, however, I was assured that she was a great reader and could see to do the finest needlework with ease. Apart from her disability from deafness, etc., she enjoyed excellent health, was of a happy disposition, and always busy. She was now forty.

The elder sister, who had, at my request, brought her to me, subsequently gave me the following important particulars as to their family: The patient is the third living, and there are six younger ones. All these six are in good health, and have never suffered anything suggestive of syphilis. My informant's remark was: "We are a remarkably healthy family, and all well grown and strong." Asking as to their parents, I was told that their father, who was a pilot, was a man of splendid frame and always healthy,

but had "lost part of his palate after a bad sore throat." He finally fell down dead from heart disease when between sixty and seventy. Their mother had enjoyed good health until her death from bronchitis at sixty-five.

No one can reasonably doubt that this woman is the subject of inherited taint; her deafness and keratitis sufficiently prove that, and the statement that her father had a perforation of his palate as a consequence of a bad sore throat indicates the source from which the disease was derived. As her sister, only three years older than herself, is wholly without indications of it, there cannot be much hesitation in believing that her father acquired the disease after his marriage, and not long before our patient was begotten. It is of interest to note that not only does his wife appear to have wholly escaped, but also all their subsequent children. The man and wife continued to live together as though nothing had happened, and a succession of six children were born, all of whom lived and have remained well up to adult life (all being, in fact, still living and robust). The one next to our patient is not more than eighteen months her junior.

Syphilis inherited from the father; severe infantile symptoms and subsequent keratitis; a younger sister free from symptoms, but showing typical teeth.—The next case which I have to relate is a very conclusive one in proof of the possible escape from all obvious symptoms in childhood of those who yet most certainly inherit taint. A man who had suffered from syphilis resumed, after a short time, cohabitation with his wife, and became the father of a child (a girl), who suffered severely in infancy. It was not expected that she would survive, but with great care she was reared, and became a healthy woman. At the age of twenty-nine she passed through a most severe attack of keratitis, which left her corneæ permanently damaged. It was for this that I was consulted when she was thirty-two years of age. The bridge of her nose was much sunken, her corneæ were opaque, and her teeth very characteristic. Her whole frame was some-

what dwarfed. With her came a younger sister, aged twenty-eight, who was married and the mother of a fine, healthy child. This woman had never suffered anything. She was well grown and showed nothing peculiar in physiognomy, yet she had teeth as characteristic as any that I have ever seen. Between the patient and this her younger sister, two births had occurred. One of the infants was stillborn, and the other lived five weeks and then died of diarrhœa. In this instance the mother, who had continued to live with her tainted husband and had borne to him, during five years, four tainted children, never herself suffered in any way. She is still living and in excellent health. She suckled her eldest child for some time whilst it was ill, and never contracted any sore on her nipple.

Incidentally we have, in the above narrative, an example of healthy offspring in the third generation.

Hereditary syphilis; interstitial keratitis at the age of twenty-six; patient the father of healthy children.—The following case is of interest as an example of the production of healthy children in the third generation, and also of the late occurrence of keratitis :—

December 11, 1873. J. ——, a six-foot soldier, attended me in 1862, aged twenty-six, for interstitial keratitis. He got well, and remained well for five years. Then he had ophthalmia, which ended in granular lids. He was a stout, florid man in splendid health, and the father of six healthy children. Yet his teeth were quite characteristic, as also was his keratitis.

His elder sister came with him (five years older), and she had no signs of hereditary syphilis. I was informed that a younger brother had had an attack of inflammation of the eyes.

Healthy child of a mother herself the subject of inherited syphilis.—Mrs. ——, aged twenty-eight, had borne two children. One had died of bronchitis after measles, aged eighteen months; the other, aged three months, she brought with her, and it appeared to be perfectly healthy.

This woman came to be inspected at my request, because I had diagnosed inherited syphilis in a younger sister. Mrs. —— had deep scars about the mouth, and her teeth, although not greatly malformed, were quite characteristic. She had suffered from keratitis at the age of eleven, and the corneæ were still hazy. She now appeared to be in good health. She stated that she had been told that up to three months old she had a bad rash on the face.

Effusion into one knee-joint in a boy aged five, pale and puny; interstitial keratitis of marked character, three months later; no history of infantile symptoms. [April 9, 1873.]—A further note on August 29 of the same year records that the eye was well, but the knee still somewhat swollen. It will be seen that the synovitis, contrary to rule, preceded the keratitis.

Congenital syphilis; infantile convulsions, followed at the age of eight by threatened dementia.—Mr. ——'s child, aged eight and a half years, was brought to me in February, 1892. At the age of three months she had had pain in all the epiphyses, and a month later she had a convulsion. When six months old she had a very severe fit, attended by squint. Last summer her mind seemed to fail, and she was no longer able to say hymns as before. Although she had not been taught at school, yet she had picked up a good deal. During the past few months she had become dirty in her habits. I examined her eyes, and found grey degeneration of the optic nerves.

There were two younger children of the same family who were quite healthy.

Comments.—I do not know the sequel of this case. The child was obviously threatened with failure of mind, etc., such as is illustrated by the cases cited at p. 216, *Archives*, vol. v., and concerning which Dr. Shuttleworth has published some important facts.

One only in a family of eight showing signs of inherited syphilis; the others living and quite free.—The subject of this remarkable case was a girl of

sixteen, attended on September 10th, 1870, on account of the remains of interstitial keratitis. Her teeth, physiognomy, and eyes were in most characteristic conditions. With her came two sisters—one æt. 24, the eldest of the family, and one æt. 7, the youngest, neither of whom showed the slightest indication of inherited taint. Both had perfect teeth. I was told that there were eight living children in the family, that the patient had suffered severely all her life, and none of the others at all. The attack of keratitis was very severe. There were three younger than the patient living, and four older.

The above facts are best explained by supposing that the real father of the patient suffered from syphilis not long before her begetting. This would explain the escape of all born previously. The husband of her mother was a sea-captain, and often away from home, and in connection with this fact several possibilities suggest themselves. Unfortunately I have not noted how long the interval was between the patient and the one now living who was born next to her. It may have been long enough to allow of the infecting parent having got rid of the taint. Possibly the two who died intervened. In all probability the inheritance was paternal, the mother having escaped.

Inherited syphilis; father alone the source of infection; mother remaining quite healthy throughout.—A surgeon had a chancre on his index finger in August, 1883. He took mercury, and did well under it. His wife bore a child in December, 1884. It was a fine child at birth, but when two weeks old it became covered with an eruption. After that it never thrived. Grey powder was at once given, and when the child was brought to me on January 16th, at the age of five weeks, the rash had faded, but there were unmistakable symptoms of inherited taint. Its buttocks were then covered with a red excoriated eruption, which tended to assume a polished surface. There was also some eruption about its mouth. It had had no snuffles. Under mercurial inunction the symptoms disappeared, and the child afterwards throve well.

In this case I know that the mother remained throughout quite free from symptoms. It appears to be a good instance of inheritance from the father only.

As the chancre was not on the penis, there was but little risk of direct contagion to the wife. That a woman should bear to a syphilitic husband a syphilitic child, and yet apparently wholly escape herself, is, I believe, not uncommon.

It is interesting to add to this narrative that, three years after the date of my notes, the father reported to me that his wife, his child, and he himself were all in excellent health.

Congenital syphilis; keratitis severe in eldest and youngest of three children; absence of teeth peculiarities.—Mr. —— brought me his three children.

W. (M.), æt. 14, had suffered from keratitis, and had a characteristic forehead. His corneæ were now clear.

F. (M.), æt. 12, showed nothing and had ailed nothing.

E. (F.), æt. 10 (my present patient), had now the remains of most severe keratitis.

None of the three had peculiar teeth.

Syphilitic pemphigus developed during intra-uterine life (Ricord's Plate, and *Archives*, vol. vii. p. 294).—No one who has seen the forty-sixth plate of Ricord's Atlas can doubt the occasional occurrence of the intra-uterine development of syphilis. The infant whose body is depicted was born dead, and it was covered with abrasions and pemphigus blebs. The hands and feet were affected with special severity. The infant was a male, and born at full time. Its father had suffered from syphilis quite recently, but the mother remained, so long as she was under observation, in perfect health, and had never had a symptom. The child was believed to have been dead three or four days before birth. It had no special visceral disease.

Recovery from syphilitic pemphigus in an infant; choroido-retinitis and much damage to eyes.—A child of six (July 13, 1873) had been in infancy the subject of syphilitic pemphigus. She had at birth crimson palms and soles, and ten days afterwards bullæ as large as grapes appeared on her hands and forearms, feet and legs, and were confined to those parts. She was very ill, but recovered

under grey powder and mercurial ointment. She also had sores at the corners of the mouth, snuffles, and patches at the anus. These facts were supplied to me by the surgeon who had treated her.

Her father had contracted syphilis six months before his marriage, and her mother, after a first miscarriage, had a syphilitic eruption. A previous child was syphilitic. The child born next after our patient had an eruption on the buttocks, and got well under grey powder, but died from "tuberculosis and inflammation of the brain" at three years of age. The next child, a male, had no symptoms of syphilis. He was, at the time of my notes, nine months old, and had, I was told, some tendency to rickets, as shown by late dentition and large ends of the bones.

To return to our patient. She was brought to me on account of her failing sight. Her eyeballs were constantly rotating (not oscillating), and there was convergent strabismus. The left eye saw $\frac{20}{200}$; the right saw $\frac{20}{70}$, perhaps more. There were in both numerous very irregularly shaped patches of choroidal absorption. Some of these were small, with black dots in their centres, while others simply showed removal of choroidal pigment. The patches were arranged quite irregularly. The left disc was grey and waxy, and there was much pigment at its edge. The movement of the eyeballs and defective sight had been recognised at the age of two years, so that it is probable that the choroiditis occurred early in life. When I saw the child she was healthy-looking, with no malformation of the head, and with good temporary teeth.

Case of infantile pemphigus of hands and feet, probably syphilitic; death of two children in early infancy with similar symptoms; maternal inheritance suggested.—On May 6, 1874, I was called to visit Mr. ——'s infant, a seven-months baby, then twelve days old. It showed bullæ of erythematous pemphigus on the hands and feet, and a few small excoriations about the anus, not true condylomata.

The father admitted gonorrhœa some years ago, but

denied having ever had either sore throat or rash. The mother appeared to be perfectly healthy. There was, however, a statement that some years before, after nursing a syphilitic child of her brother's, she had experienced an inflammation of one eye, which was supposed to be syphilitic, and was cured by mercurial treatment. This was not followed by any symptoms of secondary syphilis. Since that time she had had one other child, which had snuffles very badly, and died with pemphigus when a fortnight old.

The child was ordered mercurial treatment, but died thirty-six hours after my visit.

Comments (written at date of notes, May, 1874).—Though the parental history in this case is too imperfect to justify a positive conclusion as to its syphilitic nature, still the probabilities are all in favour of such a conclusion, since it is certain that the children of syphilitic parents do frequently suffer from pemphigus, and that the disease very usually makes its appearance immediately after birth.

CHAPTER XLII

INHERITED SYPHILIS AS OBSERVED IN ADULT LIFE

Physiognomical stigmata of inherited syphilis. —If during infancy, as is quite possible, the child has not suffered from syphilitic inflammations of any tissues, then I believe it is probable that nothing whatever to denote the disease will be present in the physiognomy. This, probably, is the condition of a considerable number of those who yet have inherited a taint quite sufficient to give liability to more remote affections. The proof of this statement may not infrequently be met with in cases in which one child in a family shows traces, which are wholly absent in others, whilst all alike suffer later on. If, however, a tainted child have in infancy passed through the maladies so frequently witnessed at that period, then in all probability the physiognomy will have received an impress which is seldom wholly effaced in later life. The skull may be peculiar in form, the texture of the skin may be modified, scars may be left about the mouth and other parts of the face, and—above all, in value and in permanence—the teeth may be malformed on a very peculiar pattern. One or more of these conditions may be present alone, or the whole group may exist together. If there have been no infantile dermatitis of the face, there will be no scars or other alteration of the skin; if no periostitis of the skull, no frontal protuberances; and if no stomatitis, then no malformation of the teeth. The physiognomy of syphilis in the *infantile* period had for long been well known, the withered aspect and old-man-like features, etc.; but I believe that I was myself the first to describe that of the later stage of the disease, and to distinguish it from that of so-called scrofula.

Not much has, I think, been added to my original description, but as regards the explanation of some of the phenomena valuable light has been afforded. I was inclined to attribute the peculiar shape of the skull bones to a temporary tendency to hydrocephalus, whereas the able and very extensive researches of M. Parrot have made it certain that they are, at any rate chiefly, due to periostitis and softening of the bones themselves. In like manner the researches of Mr. Moon, Mr. Coleman, Mr. Tomes, and Mr. Cartwright, jun., have helped us to see how the very peculiar dental malformations are brought about. In the main, however, my descriptions remain without any material additions. I will say a few words as to each feature of the physiognomy severally.

First, however, let it be remarked that the face of an adolescent who has in infancy suffered from syphilis may often be recognised at a glance. No analysis of details is needed. The square forehead with prominent frontal eminences—like budding horns—the sunken nose, the soft, pale, earthy-tinted skin, and the scars about the angles of the mouth, make it quite needless that their subject should be asked to show his teeth. In many who come under observation after their attack of keratitis has occurred, very conspicuous peculiarities have been left behind in the eyes. The irides look steel-grey, and, although the corneæ have probably almost wholly recovered, they have not the brilliancy of perfect health. There is also often a slight tendency to frowning, consequent on prolonged intolerance of light. Thus the physiognomy becomes much more marked after the attack of keratitis than it was before.

The form of skull.—There is usually an exaggerated prominence of the frontal eminences, and between them and the eyebrow a shallow furrow or depression. Posteriorly, on the parietal bones, similar eminences, but more widely spread and lower, exist, constituting the natiform skull of Parrot. As a whole the skull is somewhat larger than normal. All the peculiarities are chiefly due to chronic infantile periostitis with

Plate 27.—The Natiform Skull of Congenital Syphilis

The portrait here given is copied from one published by Dr. Newton Pitt, and well represents the form of the head in infants suffering from congenital syphilis. It is that to which the terms "natiform" or "hot-cross-bun" have been given. It was especially described by Dr. Parrot in Paris, and subsequently, with excellent colonred illnstrations, in the 30th volume of the *Pathological Transactions*, by Dr. (now Sir) Thomas Barlow. The changes consist chiefly in the deposit of spongy bone in four positions—the two frontal and the two parietal eminences. Those in the latter are the most constant and the most permanent. These often constitute a very marked feature in the skulls of adolescents or even of adults, leaving across the forehead the broad, shallow furrow which I had myself long ago and often described. It is a feature very useful in diagnostic recognition. I had been inclined to attribute much to the presence of some degree of hydrocephalus, and to M. Parrot belongs the credit of demonstrating, from the large amount of material at his disposal, that the cause of the local prominences is a chronic periostitis. The deposit of bone occurs both within and without, but chiefly the latter, and may implicate all the bones.

The subject of Dr. Pitt's case was a twin (female) aged eight months. Its associate had a head of similar form. The only history of parental syphilis which could be obtained after careful inquiry concerned the father.

PLATE 27.

PLATE 28.—PERIOSTITIS OF THE CALVARIA

This illustration well shows the roughened surfaces on the parietal bones caused by inherited syphilis. They are often known as Parrot's bosses, from the name of their describer. When of considerable size and occurring also on the frontal eminences they constitute the natiform skull.

(From a St. Louis Hospital photograph.)

softening, but a tendency to hydrocephalus probably takes some share. All of them tend to diminish in conspicuousness as their subject advances in life. With these peculiarities of skull may also be noticed the very common flattening of the bridge of the nose, consequent upon internal and external congestions with softening of the nasal bones.

The skin.—The integument of the whole face is usually of earthy pallor, and is thin, soft, and wanting in resiliency. Often, little pitted scars are visible on various parts, and especially around the mouth, and at its angles radiating linear scars are to be noticed.

The teeth.—The malformations of the teeth due to syphilis are very frequently mixed up with those which are due to the stomatitis caused by mercurial treatment. Hence great difficulties arise in their correct recognition. The more closely we keep to the peculiarities displayed by the upper central incisors, the less will be our risk of error. All the other teeth are liable to lead us astray. If the upper central incisors are dwarfed, too short, and too narrow, and if they display a single central cleft in their free edge, then the diagnosis of syphilis is almost certain. If the cleft is present and the dwarfing absent, or if the peculiar form of dwarfing is present without any conspicuous cleft, the diagnosis of syphilis may still be made with much confidence. In most cases the conditions are symmetrical, but now and then they are notably one-sided. It is remarkable that the lateral incisors rarely show any peculiarity, but they also are sometimes dwarfed. The peculiarities in other teeth (in the lower incisors, the canines, and the molars) are, so far as I know, of a kind which it is impossible to distinguish from those due to stomatitis. It would be well if the terms "pegged" and "peg-shaped" (or, as some absurdly write it, "peg-top") teeth, were disused; I am sure that they often mislead. In saying this I by no means wish to imply my belief that the upper central incisors alone suffer in inherited syphilis. On the contrary, the lower incisors not very

infrequently show dwarfed and foliated conditions, which are, I believe, due to syphilis, and not to mercury; but these conditions are not to be trusted in the absence of peculiarities in the upper central incisors, whilst if the latter be present they are superfluous. The conditions due to stomatitis (usually mercurial) are defects in development of enamel, and are seen as transverse ridges crossing all the incisors, but especially in the state of the crowns of the first molars. They are probably the result of inflammation of the tooth pulp at some period during infancy, and are wholly distinct from the arrests of development due to syphilis. The two, however, for obvious reasons, often co-exist.

Both the syphilitic and the mercurial abnormalities of the teeth occur, as I have said before, mainly in the second set, since both are due to influences brought to bear upon the dental sacs at a time when the crowns of the temporary teeth are calcified and beyond risk of damage. Defects in the first set of teeth are, for the most part, to be referred to influences existing during intra-uterine life. Thus it is very possible that the proneness to premature decay often observed in the milk-teeth of syphilitic infants may be due to mercury given to the mother during her pregnancy.*

May the subjects of inherited syphilis expect longevity?—I have repeatedly asked attention to the fact that the subjects of inherited syphilis, when they attain adult age, usually settle down into good health, and are not liable to any accessions of specific symptoms. This is not quite invariably true, but it is remarkably so in most instances. When a patient has passed through an attack of keratitis and attained the age of thirty, there is seldom anything else to follow. Now and then gumma-tumours may develop, but they are exceedingly rare. Several excellent instances in confirmation of these statements have recently come under my observation. A gentleman whose son I had attended for a most severe attack of interstitial kera-

* I have been assured that notched teeth of characteristic pattern sometimes occur in the milk set, but I have never seen them myself, nor have I seen photographs.

titis recently consulted me about his own condition, and the opportunity occurred for inquiry about his son. I was told that he was in excellent health, actively engaged in business, and about to be married. In another instance a similar report was made respecting two brothers whom I had seen in their youth. A Miss ——, now aged forty, has been under my observation, together with a sister similarly affected, for more than thirty years. Her eyes have suffered so severely from keratitis and choroido-retinitis that one is lost and the other exceedingly defective. She is, however, very plucky, and earns her living as a supervisor in a laundry, holding her position by dint of energy, in spite of her defective sight. She is liable to recurring attacks of retinal anæmia, during which she is almost blind. Her general health is, however, excellent, and her eyes are no worse now than they have been for a long time. Her sister, two years younger than herself, has recovered completely from her keratitis and enjoys good health.

History of a syphilitic family. [Notes taken June 20, 1889.]—A Mr. —— married eighteen months after his primary syphilis. Six months after marriage his wife complained of a sore in the vagina, but nothing further was observed. She was confined within a year of her marriage, and her infant, a boy, had the usual train of syphilitic symptoms, and recovered under the usual treatment. He was at the date of these notes aged eighteen, and to all appearance perfectly well. The next child, a boy, never showed any specific symptoms, nor did the third, a girl, although always delicate. The fourth, a boy, suffered severely, worse even than his eldest brother had done. He was brought to me for advice on June 20, 1889. He was eight years of age, and suffered from a chronic form of interstitial keratitis. The eyes had been inflamed, on and off, for two years, in spite of much treatment. He still had some superficial grey-white deposits in both corneæ, with some vascularity.

Three other children, younger than this boy, had been born, and were living. None of them had ever

presented any symptoms. Both parents were apparently quite well.

Comments.—In this case probably the mother, who acquired her disease two years after the father, was the source of infection to their children. Hence its long persistence. The entire escape of the mother herself, as regards any obvious manifestations, is worthy of note, though not unexampled.

Clinical lecture on a case of remarkably good development in a woman, the subject of inherited taint.—The following is part of a lecture which I delivered at the Polyclinic :—

"We are indebted to Mr. Waren Tay for the opportunity of seeing the patient who has just left us, and who was sent from the Moorfields Ophthalmic Hospital. She was, as you saw, a tall, well-grown young woman, yet her physiognomy bore the most unmistakable evidences of inherited syphilis. We will note the fact that the taint does not always hinder development. The bridge of her nose was sunken, her forehead squared, with frontal bumps, and the scars around her mouth almost equalled what we sometimes see depicted in text-books; her skin was thick and muddy. Yet, in spite of these drawbacks from her good looks, she might, if need were, have served as a female policeman, standing some inches more than six feet and being proportionately muscular. The two main features of interest for us, however, were her eyes and her teeth.

"She is passing through an attack of most acute keratitis in her right eye, and it is attended by very exceptional conditions. The whole cornea has become very vascular, so that it is everywhere of a dull red or deep salmon tint, and in its centre an onyx has formed with a superficial ulceration over it. This occurrence of suppurative inflammation as a complication of interstitial keratitis is very unusual. I have seen it before, but only in very few cases. There is another feature of peculiarity in the case as regards the keratitis. It is that one eye has got well before the other was attacked. The left eye went through, as the notes show us, an ordinary attack of keratitis, by no

means very severe, in July last and the following months, but the right, which is now so severely inflamed, was not affected till November. As we have seen, the left is now bright and well; the right, it is much to be feared, is lost. This occurrence of a long interval between the attacks in the two eyes is not usual; more ordinarily the second eye follows the first in a few weeks, or a month or two at latest, and, as the attack usually is prolonged over six months, both are, during the greater part of the time, affected together. I have noticed sometimes, when this want of contemporariness in the attacks in the eyes has occurred, or when one eye has suffered and the other escaped, that there was also a want of symmetry in the malformation of the teeth, suggesting that the two halves of the head had not been developed with precisely the same tendencies to disease. This may have been the case here, for only one of the upper incisors is a typically syphilitic tooth. The other is very much broken, but I do not think it ever was a characteristic one. It had been carious, and we were told that it had broken in biting a bread-crust. Now, the syphilitic incisors are usually short and strong, and not prone to caries. The remaining upper central incisor is, as I have said, a characteristic tooth; short, dwarfed in all dimensions, and showing a single broad but shallow notch.

"Whilst the woman was before us I asked you to observe carefully the state of her other teeth. No case could have better proved what I have so often asserted, that syphilis of itself, even when severe, does not often damage the whole set, but causes malformation of the upper central incisors only. The defects in the other teeth, so constantly seen in association with inherited syphilis, are due usually not to that disease but to the mercury given in infancy for its cure. I venture to assert, with much confidence, that the patient whom we have had before us did not take mercury in her infancy. I make this assertion on the strength of the fact that her other teeth are in good condition, being for the most part sound, white teeth, with good enamel. Now, a course of mercury in infancy interferes with the formation of

enamel in certain of the teeth, those, namely, which at the period of the treatment are just perfecting their development. It does not hurt the bicuspids, for they are later than most of the others, and not yet susceptible of damage. It causes, however, horizontal furrows across all the incisors and near the apex of the canine, and it bares the surface of the crown of the first molar. It is this last-mentioned, 'the six-year molar'—one of the first to appear of the permanent set, and perhaps the earliest to complete its calcification—which is the most prone to be injured. Now, in the woman whom we have just seen, as I pointed out, her first molars, those which remain of them, are sound white teeth, the enamel being complete over the whole of their surfaces. Such molars are, I submit, never seen in those who have taken much mercury in infancy.

"We have in this case no history to help us. The patient is a young woman of twenty-two, and we have no facts as to her infancy. We only know that she is, as usual, the oldest living of a small family."

CHAPTER XLIII

LAWS OF TRANSMISSION IN REFERENCE TO PARENTS

Most authorities are agreed that, as a rule, parents who have reached the sixth year of their disease, although they may themselves be still liable to symptoms, do not transmit. Now and then transmission under such circumstances does occur, especially in the case of the mother, but the rule is as now stated. The body of evidence on this point, in the case of fathers, is very large indeed. We see, every day, fathers of families, none of whose children have ever shown a symptom, but who are yet themselves (after, it may be, long periods of latency) liable to suffer from tertiary phenomena. Such facts are far less frequently seen in the case of women; but then we must remember that the proportion of mothers who have in former life suffered from syphilis is far smaller than that of fathers. Making, however, all allowance for this, we may still believe with confidence that a child has much less chance of escape if the mother have been diseased than if the taint be confined to the father.

The expressions just used will suggest the hypothesis already insisted on, which is perhaps the best for our use in the attempt to unravel the intricate phenomena of inherited syphilis. It is that the transmission of the disease, as well in inheritance as in acquisition, is always effected by the conveyance from person to person, not simply of a tendency to disease, but of a particulate virus. This virus is probably as specific and individual as are the seeds of barley or of clover. If it pass into the sperm or germ, then the fœtus is liable to the full development of the disease; and if it chance that none of its elements do so pass, then the

offspring, although born to a tainted parent, escapes free. This virus is, throughout the early periods of syphilis, existent in great vigour in the parental fluids, and during these, if the risk occurs, transmission is almost certain. It diminishes in power, or probably in quantity, as time passes on (and hence the greater chance of escape of younger children), until finally it wholly disappears or dies out. Its disappearance is, however, by no means coincident with entire restoration to health of the patient, who, although fortunately impotent to transmit, is, as just stated, still liable to suffer.*

Colles' law.—Before saying anything further as to the results, to the child, of inherited taint, it is necessary to advert to the curious and somewhat unexpected fact that a woman who bears a syphilitic fœtus inheriting from its father, although herself remaining free from symptoms, acquires a state of constitution which protects her from syphilis in the future. No other interpretation can, I think, be given to the facts upon which is based what is known as Colles' law. The child born of such a mother, if suckled by a wet-nurse who has recently had syphilis, will not cause any fresh disease in her, but if by a woman free from taint, the risk is great that a nipple-chancre will result. Now, the mother of the child, although, so far as appearances go, free from syphilis, is, as regards fresh contagion from her child, no longer in any danger. She has thus in some way gained the position of one who has suffered from acquired disease. We know nothing as to the relation which a mother so protected would assume towards other children which she might bear. It is obviously possible that if, in a second marriage, she should bear a child to a healthy father, such child might inherit from her, but no facts have as yet proved it. It is also possible that, in continuing to bear children to a first husband, her taint, acquired through the fœtus, may act in reference to later conceptions, and may thus prolong the risk to their family after the

* I leave the above argument exactly as it stood in my first edition. Schaudinn's discovery has remarkably confirmed it.

father has ceased to transmit. This, however, is a bare possibility. There is much reason for believing that the parasite never gains access to the mother's tissues under such circumstances. It may be suggested that she becomes protected much in the way that a vaccinated person is protected from variola without having ever been capable of infecting others. Nor does it seem probable that the dyserasia of tertiary syphilis, as such, is transmissible. Many a man, himself the subject of tertiary syphilis, even in a severe form, is the father of healthy children; and many, after the birth of healthy families, become themselves the victims of a taint which had been long latent.

In this fact we have another strong reason for believing that when transmission does take place it is always particulate; always a transference of specific germs. It is not the state of health which syphilis may have produced in a parent which he transmits to his offspring, but the poison itself.*

Thus the transmission of syphilis to offspring probably differs *toto cælo* from that of such diseases as gout and scrofula. In these it is the final diathesis (the tissue tendency) which is transmitted, and not the special cause of it.

One of the most severe cases of congenital syphilis which I have ever seen occurred in a child whom I saw in 1884 with Mr. G. M——. The infant began to suffer at a month old, became covered with eruption, had snuffles, and was of waxy pallor; indeed, at one time a fatal event was feared. The mother of this infant had, under the advice of a distinguished obstetric physician, been taking mercury during almost the whole of her pregnancy. The dose had been, however, in my opinion, quite inefficient.

The husband admitted that he had suffered from syphilis, and he had been treated at Aix. When he married it was, he thought, more than two years after his syphilis, and he had been quite free from symptoms

* It is possible that some of the facts which we observe in the transmission of syphilis are gross and flagrant illustrations of what occurs under "Mendel's law."

for a year and a half. Yet it seemed probable, from what his wife said, that she contracted the disease almost immediately after marriage. She became pregnant within a month, and a month or so later "had a red rash all over her, and a bad sore throat." About this I had only her own statement, but that was quite definite. The symptoms were allowed to pass without treatment, and her pregnancy ended in a dead birth. At this time she had quite recovered, and both she and her husband continued afterwards to enjoy excellent health. A second pregnancy ended, however, as the first had done, in a premature and dead birth. It was in consequence of these events that the mercurial course to which I have referred was given.

The explanation of this case is, in all probability, that the husband communicated to his wife what I have called "the after-marriage chancre." He married when but very little more than two years had elapsed, and he had not had any continuous treatment, only the interrupted method of Aix.

I may state that when Mr. —— was sent to Aix he had nothing the matter with him except deafness. I have seen a letter from his surgeon there, who, although he gave him a full mercurial treatment, avowed his doubt as to whether he had ever had syphilis. So that it is clear that the symptoms were in him always slight and vague. The patient was apparently one of those in whom the virus may remain latent without evoking symptoms.

Paternal transmission.—It is perhaps not needful any longer to adduce evidence as to the possibility of transmission of syphilis by the male parent without infection of the mother. In former times I have written much in support of this belief. In opposition to it a widely spread opinion was formulated by Cullerier in the expression, "Pas de syphilis de l'enfant sans syphilis de la mère." Dr. Prince Morrow, however, now writes that the evidence has convinced the most sceptical, and that there is practical unanimity of opinion upon the doctrine of the direct paternal transmission of syphilis. Scepticism yet more recent

has not, I think, in any way invalidated this conclusion.

Importance of inspecting the whole family in cases in which inherited syphilis is suspected.—In all cases in which doubt remains as to the recognition of inherited taint in an individual patient, help should be sought first from a careful statement of the family history, and secondly from a personal inspection of all the brothers and sisters. It will often happen that whilst several children show nothing that is conclusive, one member of the family will, by the possession of typical teeth or by the traces of old choroiditis, by the physiognomy, or by an attack of keratitis, place the suspicion beyond doubt.

Irregularities in the transmission of syphilis from parent to offspring.—That acquired syphilis develops itself with exceedingly different degrees of severity in different persons all will admit. For the most part, we are obliged to accept this fact without explanation, and to say simply that in itself it proves that individuals differ much in their degree, or kind, of susceptibility to the syphilitic virus; or perhaps we ought to express our meaning in somewhat different words, and say that the tissues of different persons show differing tendencies under the influence of syphilis. For there are facts which show that it is not so much differing susceptibility as different kinds of reaction. Of twenty persons who may show the disease in exceedingly varying phases of severity, it may be true that no one differed from the others as regards susceptibility. All contracted the malady with equal ease, all went through the same stages, and all were equally protected by it as regards future attacks; but how different may have been the kinds of manifestation! One may have had a sore which lasted, it is true, a month or two, but which gave him no trouble, and was not followed by anything that could be recognised as a constitutional phenomenon; whilst another may have been covered from head to foot with eruption, have lost his hair, had sores in the throat, iritis, and a state of general ill-health which laid him

up for months. That the one as truly went through the stages of the syphilitic fever as the other, is proved by the almost equal liability to tertiary symptoms and the equal risk in each of transmission to offspring.

It is not true that this varying severity in the secondary stage is to be explained by reference to the patient's state of health, temperament, age, sex, or vigour. The most robust are often those to suffer most severely; and though we may admit that syphilis does acquire certain minor differences in connection with the age, sex, and temperament of its victims, these certainly go but a very little way in explanation of the startling inequality in severity to which I have adverted. That the secondary symptoms are usually in ratio with the primary seems probable; at any rate it is very rare for a patient who has had a chancre of unusual development, in respect to size and hardness, to escape (excepting as a result of good treatment) a severe outbreak of eruption. In saying this, however, we say little more than that the manner and degree in which a chancre indurates may be taken as a premonition of the manner in which the cell-structures of the individual are likely to behave when brought under the influence of the syphilitic virus. Apart from this we possess no knowledge which will enable us to predict during the first stage of syphilis, or before it, as to any given person, whether he is likely to suffer severely from syphilis or not. It would be as easy for a physician to pick out those who will have small-pox badly. Both in the case of the medical exanthems and of syphilis it would appear that the difference in constitution which determines severity or mildness may be a very slight one, for it is common enough to witness that, of brothers or other near relatives apparently of similar temperaments and in like conditions of health, one may suffer very severely and another escape with a very slight illness.

I feel sure that it is almost impossible to estimate too highly the importance of this fact, that acquired syphilis is, for reasons which we cannot explain, very unequal in its incidence in different persons. From

want of giving it due weight we are exposed to endless fallacies in our inferences, both as to the natural history of this disease and the results of treatment.

A precisely similar line of argument is applicable to inherited syphilis. We do not yet know within what limits of severity or of mildness the disease may vary. Our investigations here are even more beset with difficulty and uncertainty than in the case of the acquired disease. We do not, in the first place, know whether inherited taint is always of the same kind. It has been customary to assume, as regards inheritance, that the child born nearest to the parent's taint is the one most likely to suffer severely, and that the younger, if they do not escape entirely, may probably suffer only slightly. But a possible fallacy underlies our creed in this matter, which it is very desirable to expose. It may be that, after all, there are no degrees of severity in inheritance, no varieties in the potency of the virus received by the child, and that if a child inherits any taint whatever, it inherits, as a necessity, the whole disease. It is possible that the extremely unequal severity with which different children suffer is to be explained rather by differences in idiosyncrasy than by supposing that one received a large dose of the poison and another a small one. That this is really so may be made probable if we can show that of children, born within equally short periods of the parental contamination, the range of variation in severity is as great as in those more remote. It is with the hope of supplying some evidence on this and on many other points in respect to the facts as to inheritance of taint that I have ventured in these pages to give so many case-narratives. They are purposely put as concisely as is possible consistently with clearness of statement. Isolated cases prove but little, and, being firmly convinced that it is only by the most liberal citation of evidence that we can hope to arrive at truth, I make no apology for trespassing on the reader's patience with so many.

On the liability of women to transmit syphilis. —A remarkable case came under my observation at the

Polyclinic, in which a woman brought us two children, one a baby of nine months and the other a boy of eight, both of them the subjects of inherited taint. It appeared probable that she herself had acquired the disease not long before the birth of the elder of the two, but her symptoms had been of brief duration, and since then she had had good health. The case proves that when women are the patients the ability to transmit syphilis may persist through many years. I have encountered the same kind of proof several times before, and always, I think, in cases in which the mother had herself passed through the primary and secondary stages. The two years' period of probation, usually sufficient for a man, would not appear to be so for a woman. It is possible that the law of telegony* may here come into play. According to it, the ova stored up in the stroma of the ovary receive some impression from a first impregnation, the effect of which may be manifested in the results of subsequent pregnancies. It is what was formerly, and perhaps more intelligibly, known as Lord Morton's law, or "Mortonism." In the reality of these facts I have always been a firm believer. They would imply, perhaps, that ova are remarkably retentive of influences, and perhaps good storage-places for morbid poisons. We may easily conceive that the semen, being a secretion constantly renewed, may be far less likely to contain the virus in late stages of the disease. The ability to transmit by the semen may probably cease with the cessation of the efficiency for direct contagion, whereas it is possible that the retentive powers of an ovum may remain long after the woman's fluids have ceased to contain the virus. A case which illustrates this point occurs to my memory. I have several times published it before, but in this connection may be allowed briefly to mention its facts again. A married man brought me in

* The term "telegony" is used to express the creed of many breeders and some zoologists that it is possible for a first impregnation to influence subsequent conceptions by a different husband. In the case of syphilis it would imply that, in some special manner, the dormant ova may store up the virus and enable it to influence the germ in subsequent impregnations. There is, I think, no improbability in such a suggestion.

succession three of his children, all suffering from inherited syphilis. He was always willing, indeed wishful, that they should be treated for that disease, but always denied any knowledge as to how they could have obtained it. He was most positive that he had never had it. His wife never came. Finally he presented himself as the patient, with a chancre on one tonsil and an abundant eruption. He had been infected by his own infant, having inadvertently put the nozzle of its bottle into his mouth to start it. He now made a confession. He had known throughout that his wife had been seduced and had suffered from syphilis before he married her. Thus we see that during several years of cohabitation this woman never infected her husband, and we may presume that her secretions were not contagious. She herself appeared to be in excellent health, but she continued to bear syphilitic children. That these children were capable of infecting others, and that her husband was in no degree immune, was proved by the latter contracting primary disease from his child which he had never taken from his wife.

I shall be told that a closer parallel with telegony would be afforded if a woman who, *without suffering herself*, had borne a syphilitic child to a tainted father, continued afterwards to bear tainted children to a healthy one; but this is precisely what I deny to be of ordinary occurrence. We must not, however, allow to the law a wider domain than it really holds, and that probably, although real, has rather narrow limits. In the case of a woman bearing a child to a diseased father, in the majority of cases she never shows any signs of the disease, nor does the child until some weeks after its birth. Although Colles' law teaches us that she acquires some degree of immunity, yet clearly the virus never develops in her tissues, and it is therefore not surprising that, in reference to future children, there should be a great difference between her and a mother who had herself passed through the primary and secondary stages.*

* It need scarcely be remarked that the recent discovery of the spirochæte gives support and precision to the argument here produced.

Inherited syphilis in two sisters; the younger one suffering the more severely.—In 1861 a man brought to Moorfields two girls, his daughters, both of whom suffered from interstitial keratitis. In both the inflammation of the corneæ was just beginning, yet the the elder was three years (*æt.* 12) older than her sister (*æt.* 9). The younger, in whom it was beginning earlier, appeared to suffer more severely throughout. Her physiognomy and teeth were characteristic, whilst her elder sister showed very slight peculiarities of physiognomy, and had perfect teeth.

I cite this as a very important item of evidence in proof of the unequal severity of inherited syphilis, quite independent of the period which has elapsed since the disease in the parents. It was unquestionable that both sisters had suffered, yet the elder one had apparently almost escaped the symptoms common in the infantile period. The case is further of interest, as showing how almost wholly latent the taint may be up to the time of the outbreak of keratitis. Had the sisters been in reversed positions—that is, had the younger one suffered as slightly as did the elder—the case would have seemed very strong in support of the common creed that the taint is minimised by time.

On inheritance from both parents.—Inheritance from both parents instead of from one alone probably makes no greater difference to the child than does vaccination on both arms instead of one only. It renders transmission more certain, but in no material degree intensifies the disease transmitted.

Scarlet fever is the same malady when contracted by simultaneous infection from two persons as when from one only, and it is not probable that any different law obtains in the case of syphilis. It is impossible to intensify or to alter it. It is a specific disease, and must necessarily be complete, and cannot possibly be more than so. Contagion from one source is sufficient for the full result; contagion from more than one brings with it no aggravation. It is not improbably as absurd to think that the disease will be more severe when the transmission is from both parents, as to

suppose that the acquired disease is worse when there are two chancres. In saying this I am not forgetful that multiplicity on the part of a primary lesion—as, for example, in vaccination—does possibly, to some very slight extent, heighten the disease.

Details of a syphilitic family, both parents having suffered.—In the following case I had myself seen on a single occasion a husband and wife in the sixth year of their marriage for secondary syphilis. Both suffered severely, the wife especially so. She had a most acute attack of iritis. They continued in unrestrained cohabitation, and the following list, furnished to me some years later by their medical attendant, shows the results. Prior to the syphilis three healthy children had been born. After it the births were as under :—

1st child, a boy, born whilst under treatment, lived six months. Contracted small-pox, which was followed by cancrum oris in cheek.

2nd child, a boy, born twenty months after the primary disease (premature—seven months), lived five months; died in convulsions.

3rd child, a boy, born two years and seven months after (premature and stillborn).

4th child, a boy, born four years after (full time—stillborn).

5th child, a boy, born nearly six years after (full time and healthy); living now, in seventh year.

6th child, a boy, born about eight years after (full time); now very strong and healthy.

7th child, a girl, about ten years after; strong and healthy now.

8th child, a girl, born twelve months ago; very strong and healthy.

In this instance, although both parents had suffered and the mother very severely, none of the children showed definite symptoms. We may, however, hold it as highly probable that those stillborn were tainted. On this calculation the disease may be supposed to have persisted in the mother with heritable potency for four years. After that she bore four strong and

healthy children. The parents had regained good health. I cannot speak as to details of treatment, but believe that it had been very irregular and inadequate.

Syphilis acquired in infancy.—It is a somewhat curious fact that it still remains a question upon which little or no evidence has been recorded, whether infants who contract primary syphilis in very early life display the symptoms peculiar to inheritance. My impression is that they do not, but I have very few facts. I once had in a ward in the London Hospital a young girl who had a syphilitic eruption which resembled the lupoid psoriasis of adults. Her mother, who suffered from a very similar eruption, lay in an adjacent bed. Assuming that the child had inherited the taint, I often directed attention to the fact that she presented most unusual conditions. At length I ascertained from her mother that the child had contracted a sore from herself, and that her own syphilis had originated after her confinement. A portrait of this girl's eruption is given in Plate xxxvii. of the New Sydenham Society's Atlas.

CHAPTER XLIV

ON THE PEMPHIGUS OF SYPHILITIC INFANTS

The pemphigus which affects syphilitic infants presents remarkable differences from most other forms of eruption. It often occurs very soon after birth, it may be within a few days, and at a time when the other eruptions are rarely present. It may even occur during intra-uterine life, and thus may be present at birth. It is often confined to the hands and feet, and when severe it mostly portends death. The cause of death is obscure, for the child does not waste away gradually, but dies within a few days, usually, I think, with convulsions. Diday thought that this kind of pemphigus was due rather to the cachexia caused by syphilis than to syphilis itself. In this opinion I cannot concur, for I have seen the worst forms of pemphigus of the hands in infants who appeared at birth to be well nourished. It sometimes affects several children in succession in the same family, leading to the death of all. What the precise cause of death is, and why a bullous eruption on the hands should denote such a perilous state, are questions to which, as yet, we have no reply. It may be that conditions of visceral or cardiac implication are present, similar to those recorded by Dr. Coupland in his remarkable case (*see* p. 321).

It is not quite the truth that syphilitic pemphigus in young infants is always fatal. Sometimes, indeed, it is a mild disease and quite transitory. If the child improves under treatment, I believe, indeed, that it always clears away. A married gentleman, who consulted me for the remains of syphilis, incidentally mentioned that his wife had just been confined. I, of course, inquired as to the infant's health. He said

that it now appeared to be thriving, but that "it had suffered from what the doctor had called pemphigus of the hands and feet." In January, 1882, I gave a clinical lecture on a case of infantile pemphigus, in which the child survived long enough, at any rate, to pass into another phase of disease. This infant was sent to me when nine days old, its hands, feet, and face being then covered with blebs. It was a well-grown baby, and in all other respects appeared to be in good health. Contrary to what is, I think, usual, none of the bullæ had sanious contents. Many of them were remarkably delicate and clear, and those on the face were arranged in panicles like herpes. There was not a single vesicle on the trunk. At the first visit there was nothing known which supported the diagnosis of syphilis, but subsequently I learnt that the infant's mother had suffered from syphilis, and had, two years before, borne a child which, at eight months old, died of that disease. In the case under my care mercury was given, and the eruption soon ceased. Two months later the child was again brought to me. It was then puny and emaciated, with snuffles and painful swelling over the ends of several bones. The treatment had not been efficiently kept up. [I do not know the sequel.]

It is to be noted that this syphilitic form of pemphigus bears but little resemblance to common *pemphigus diutinus*, excepting in the bullous character of the eruption. The latter is never confined to the hands and feet, never affects infants, and almost invariably persists and extends until arsenic is given. It is remarkable, however, that both of them tend to death unless treated.

Whether there be any infantile condition not connected with syphilis in which bullæ occur on the hands and feet and are of dangerous import, is a question of much clinical importance.

The statements above made are taken almost without alteration from my first edition. My later experience of pemphigus in syphilitic infants has not been large, but some cases of much interest have been observed which

suggest that a very close resemblance to the malady may occur without any history of parental disease. In one of these I saw in succession two infants who died with bullæ on the palms and soles within a fortnight of birth. Both had been apparently well nourished at the time. The parents were both in good health. The father was quite candid in admitting exposure to risk, but denied having ever had syphilis. In another instance a married couple, who had both been for a year under mercurial treatment and to whom further cohabitation had been forbidden, came to me in order to ask whether it was necessary to continue the latter precaution. Their first child, a very fine baby at birth, had suffered from pemphigus of the hands and feet, and had died on the sixteenth day. The eruption had not been wholly confined to the extremities, but there had been no other signs of syphilis. The most careful inquiry of the parents, both of whom appeared to be in excellent health, failed to elicit the slightest evidence as to syphilis in either of them.

In a debate which occurred in the French Academy, and which is summarised by Diday,* there were two camps of opinion. By the one party it was contended that pemphigus neonatorum was always syphilitic, and the other denied the connection, and asserted that there was seldom any history of such disease in the parents. The fact that any authorities could be found to assert this latter conclusion may be allowed to prove that many cases have been observed with negative histories similar to those of my own which I have just mentioned. These facts certainly ought to shake our faith in the teaching that this malady, even in its most characteristic type, can be held to be in itself a proof of parental syphilis.

It is inconceivable, however, that the many observers in the past who have described and figured infantile pemphigus of the hands and feet, and have attributed it to syphilis, have all been in error. In no published portrait of the malady—and there are many—has it

* *See* his book, New Sydenham Society Library.

been assigned to any other cause. It would, however, appear to be rare, for it is barely mentioned in our modern text-books.*

In spite, however, of the general silence of English observers during the last quarter of a century, I do not think that there can be any doubt that an acute bullous dermatitis of the palms and soles, beginning very soon after birth and tending rapidly to death, does occasionally occur in syphilitic infants. Although manifesting itself so soon after birth, it does not seem to imply severe intra-uterine disease, for its subjects very usually appear to be well-developed infants and show no other signs of the disease. Their speedy deaths may not improbably be the explanation of the apparent limitation of the disease to the parts named. Were the infant to survive, a more general eruption and other symptoms might probably follow. Such cases are recorded. It would be unwise, then, to attempt to form of the cases of syphilitic pemphigus neonatorum a too abruptly specialised group. They should stand rather as being simply the most acute and severe of all forms of infantile pemphigus. It is well known that in all forms of pemphigus the advent is often sudden, and the tendency to speedy death is not infrequently marked. In the rare cases of syphilitic pemphigus which have been recorded as occurring in the acquired disease in adults, the emaciation and debility produced have been great, and death has in some been averted only by the timely addition of arsenic to the mercurial course. We may suppose that these infants have a congenital proclivity to pemphigus as well as the specific taint of syphilis, and that they ought to be promptly treated with arsenic as well as mercury.

* Bumstead writes: "In 1834, Krauss collected a large number of instances of this affection in infants, and carefully described its symptoms, but did not suspect that it was due to hereditary syphilis, as the researches of M. Dubois have since rendered probable." He adds that syphilitic pemphigus of hereditary origin is usually present at birth, is confined to the palms and soles, and is soon followed by the death of the infant.—"De Pemphigus Neonatorum," 1834, *Bulletin de l'Acad. Nat. de Méd.*, 1851, t. xvi.

Opinions of authors and description of published plates.—Chotzen figures this form of palmar pemphigus in association with a general eruption in his 71st Plate. The outspread palm is shown with a large purulent bulla in its centre, and others in the palmar aspects of the digits, and a large excoriation. Both palms and both soles were affected. It is entitled "Lues hereditaria: *Exanthema pustulobullosum volæ manus* (*pemphigus syphiliticus*)." The mother of the child had suffered from syphilis a year previously. The infant had a general eruption, papular and pustulous, over the whole body, rhinitis and rhagades. In spite of treatment, it died about a month after the portrait was taken. The exact age is not given.

Diday writes: "Some children present at birth, or a few days afterwards, an eruption of bullæ, the principal seats of which are the soles of the feet and the palms of the hands." He adds that the progress is rapid, and the general health so seriously affected that such infants usually sink in a few days. His statements might imply that he had seen many cases, but he does not record any in detail. His subsequent discussion of the subject is lengthy, but it is by no means confined to cases which were of the type described. In some the eruption did not begin during the first week, and in many others it was not confined to the palms and soles.

Kaposi, in Tafel 264, figures "pemphigus syphiliticus neonati" of what we may call the classic type, but unfortunately without any particulars. The eruption appears to be confined to the palms and soles (which are covered with large vesications), with the exception that there is a sore at the anus. The infant is not emaciated.

Bumstead records a case under his own observation in which the eruption appeared on the third day after birth, but was at the anus, and also on the abdomen and thorax. It was followed in the third week by mucous patches on the buttocks and elsewhere. The father had suffered from syphilis recently. Under

grey-powder treatment the infant at the age of three months was doing well.

In one of the cases which Dr. Taylor, of New York, has recently published as examples of "third-generation syphilis," he has mentioned the fact that a syphilitic child suffered in infancy from pemphigus of the palms and soles. In this instance the child had other symptoms, and recovery took place under specific treatment. She grew up to be a large, big-boned, strapping girl, and became the mother of children in her turn.

Postscript.—The questions discussed in this chapter may, I think, be simplified by appeal to certain general facts which have been repeatedly enforced in the present work. Inborn peculiarities in the structure of the skin are present in definite degree in a large number of individuals, and may become hereditary. Thus in some the epidermal layers adhere more firmly than in others. In some the epidermal cells detach themselves more readily than in others, and these are prone, under disturbances of health or local congestion, to produce scaly eruptions. In others, fluid effusion occurs easily in the rete-mucosum, and vesicles or bullæ form. A structural proneness to epidermatolysis may be assumed to be the predisponent to all forms of pemphigus, and of that which occurs in congenital syphilis amongst the rest. The degree in which this is present will determine whether the vesication is severe and extensive, or otherwise. We know that all forms of bullous eruption are attended by great disturbance of health, and that pemphigus diutinus was, before the specific power of arsenic was observed, accounted a fatal malady. Thus we arrive at the conclusion that the syphilitic pemphigus of infants is a "revealing symptom," and shows that those who exhibit it have a condition of skin prone to epidermatolysis, and we may conjecture further that they ought to be treated by arsenic.

CHAPTER XLV

THE TEETH IN INHERITED SYPHILIS

Importance of care in estimating the malformation of the teeth.—Most of the more conspicuous malformations which the teeth present have nothing to do with syphilis. Some of these, more especially what are known as "craggy teeth," are family peculiarities, and are seen in several generations without implying anything as regards the health or diathesis of their possessors. Others, and a far larger number (pitted teeth, honeycombed teeth, furrowed teeth, discoloured teeth, etc.), are probably caused by attacks of stomatitis occurring in infancy, and are not due to syphilis. Amongst the causes of such stomatitis I cannot feel the least doubt that the influence of mercury stands first. It is not easy to salivate infants, but this by no means implies that they do not, when under the influence of mercury, suffer from congestion of the gums, such as would be likely to interfere with the normal development of the dental pulps. The defects subsequently shown will be in relation with the severity of the mercurialisation, and the age of the child at the time. The crowns of teeth which are well calcified before the mercurial course cannot be damaged by it, nor, it would appear, do those suffer much which are in a very early stage of development. It is those which have considerably advanced, but are not as yet completed, that are most apt to receive hurt. The commonest cause of damage to the enamel of the permanent teeth is the use of mercury for the maladies incident to the primary dentition, whether by medical prescription or in the form of popular nostrums. The almost constant co-existence of defective enamel-formation with lamellar cataracts, and of both

with the history of convulsions in infancy, affords, I think, a good illustration of this. In almost all such cases we find that the convulsions were treated by calomel, and if in any given case there be proof that mercury was not used, then the teeth will be found undamaged. Without in the least wishing to imply that all, or almost all, the non-syphilitic defects in the development of the teeth are due to mercury. I do yet hold with confidence to the proposition that they almost invariably are due to some form of inflammation of the gums. It may have been an attack of thrush, or follicular stomatitis, or it may have been from some less definite cause, but there must have been some form of inflammatory congestion of the tooth-sacs.

In the case of syphilis we can easily understand that inasmuch as the teeth are part of the dermo-skeleton, they may suffer with the skin and its appendages. Nor is there anything to occasion special surprise to see it affecting symmetrically certain teeth, and leaving the rest almost free. Although, however, we insist on the importance of giving almost exclusive attention to the upper central incisors, yet the rest of the teeth by no means wholly escape.

It must be borne in mind that it is probably but seldom that an opportunity is afforded us of inspecting teeth which have been damaged by syphilis only. Most subjects of this taint are treated by mercury in infancy, and in most mouths which show syphilitic teeth we encounter also the results of mercurial stomatitis. It is often very difficult to assign correctly to each cause its separate share in the results. As has been already explained, all horizontal defects, all defects which are general and not peculiar to pairs of teeth, are to be considered as non-specific. Mercurial stomatitis often damages the whole set after a fashion of which we see nothing in syphilis. There is, however, one pair of teeth which usually escapes in syphilis and suffers severely from mercury. As the upper central incisors are the test teeth for syphilis, so the first permanent molars are those which especially mark the

PLATE 29. — TEETH SHOWING THE EFFECTS BOTH OF SYPHILIS AND OF MERCURY

The front teeth of both jaws of a woman aged twenty-eight, showing conditions due both to inherited syphilis and to the influence of mercury (*see* Fig. 2 of Plate xi. in the Author's "Atlas of Clinical Illustrations").

The upper lateral incisors are wanting. The central ones are dwarfed, notched, and discoloured. In the notches the dentine is exposed. The lower incisors are dwarfed and discoloured, and the two lateral ones show crescentic notches—a peculiar and exceptional feature.

effects of mercury. These teeth are developed almost simultaneously with the central incisors, and are usually cut a year before them. They are, therefore, likely to suffer from the same influences. If the defect be due to mercury, we find not merely arrest of growth, but great defect of enamel formation. I have illustrated the appearances assumed by mercurial teeth both in my original paper in the *Pathological Society's Transactions*, and more recently in my "Clinical Illustrations."* My reason for referring to them now is the important relations which they bear to the teeth of syphilis, and the numerous errors in diagnosis to which they give rise. In almost all the illustrations given in the plates last referred to, the conditions due to mercury are seen side by side with those due to syphilis, and often in the same tooth. It is not improbable that the use of mercury for the cure of infantile syphilis tends to prevent and to minimise the special malformations due to syphilis, but at the same time it adds others of its own, and the two become inextricably combined.

Details of diagnosis of inherited syphilis by the teeth.—Although my opinions concerning the value of malformed teeth as indicative of congenital syphilis have undergone no important modifications since the publication of my first papers on this subject in 1858, yet I have in various directions become acquainted with details with which at that time I was not familiar. If I were now asked whether the teeth may be treated as conclusive, in the absence of history and of corroborative conditions, I would answer, without hesitation—as, indeed, I have done in an earlier chapter—that in many cases they may. There are teeth—and they are seen not very infrequently—so characteristic that I should feel sure, in the absence of all other facts, that the possessor of such teeth must have inherited syphilis. In a large majority of cases, however, the teeth are not so characteristic as to justify such an opinion; they suggest

* *See* "Clinical Illustrations," vol. i., page 54 *et seq.*, and vol. ii., part 9, also Plates 11, 42 and 43.

suspicion only, and are to be allowed more or less weight in different instances, and in relation with the corroborative facts. That the employment of the malformations of the teeth, as symptoms, is a matter of much practical difficulty I have had abundant opportunities for knowing. In many cases patients have been sent to me as "obviously syphilitic," and as having "typical teeth," in whom I could not find any reason to suspect inherited taint. It may be worth while, therefore, that I should endeavour to specify some of the more common risks of error.

The first danger is forgetfulness of the fact that the milk teeth are never characteristically malformed; and the next, neglect of the rule that it is to the upper central incisors, almost solely, that we should look. It is quite true that the other teeth, more especially the incisors of the lower set, are often malformed at the same time, but their peculiarities are not characteristic; and although these may be very conspicuous, they may be, and usually are, due to other causes than syphilis.

It is quite true that the milk teeth in syphilitic children are often very peculiar. In my original papers, as well as subsequently, I gave some good pictorial illustrations of the manner in which the milk teeth usually suffer. Sometimes the tooth-sacs suppurate, and the crowns of the teeth, almost always the upper central incisors, are exfoliated before they are cut. The occasional occurrence of this is one of the strongest facts which I can adduce in support of the assertion that the gums and tooth-sacs are liable to congestion and inflammation during the secondary stage of syphilis in infants. I have never witnessed this suppurative exfoliation of the upper incisors excepting in those who were syphilitic.

The lower incisors (second set) usually present serrations only, that is, two small notches and three elevations. I have, however, seen several examples of a single central notch, resulting apparently from suppression of the middle denticle, as in the upper set.

A far more common event than exfoliation is caries,

PLATE 30.—SYPHILITIC TEETH

The upper teeth of a woman who was the subject of inherited syphilis. The central incisors show well the characteristic central notch. The lateral incisors show the same in a modified degree.

and it is often very peculiar in its form. The neck of the tooth is attacked and is rapidly eaten through, and the crown drops off. In this way all the incisors of the upper jaw may be destroyed, and the child, from the age of two to that of six, may be without teeth in this position. Sometimes the lower incisors also are affected, but more rarely. What the cause of this destructive caries may be it is of interest to consider. Inasmuch as the crown is first calcified, we can easily see how it may escape the possibility of damage during a syphilitic illness occurring at the age of a month or six weeks after birth, whilst the neck and fang may be defectively organised. This is probably the explanation. Although exfoliation of the crowns is rare, it is possible and probable that minor degrees of inflammatory action are common. We may conjecture that the children who show tendency to rapid caries of the neck are those in whom, during infancy, the inflammation of the tooth-sacs stopped just short of suppuration.* Clearly, in explanation of peculiarities presented by the milk teeth, we have to suspect influences which have been brought to bear during the later periods of intra-uterine life, or the earliest ones of infancy.

The conditions which I have mentioned as not uncommon in the milk teeth of syphilitic infants are not to be treated as pathognomonic symptoms. They can at best rank only as suspicious, for probably states closely resembling them occur not infrequently in those who are not syphilitic.

When we come to the permanent teeth, the most frequent mistakes occur in respect to the craggy, foliated, indented, and fluted teeth, which usually imply stomatitis in infancy. These defects in the teeth are often far more conspicuous than the peculiarities which denote syphilis. Hence occur frequent errors in diagnosis, sometimes of a very serious kind. To avoid such it is well—in addition to the primary rule to look only at the upper central incisors—to note the following memoranda :

* *See* Fig. 1 in Plate 43 in my "Clinical Illustrations," vol. ii.

All transverse markings (that is, lines which cross several teeth on the same level) are to be disregarded.

All mere defects in enamel formation leading to pits or honeycombing, or irregular breakages, are to be disregarded.

Foliated or wart-like projections on the teeth, with, of course, defect of enamel, although very suspicious, are untrustworthy.

In looking at the "test teeth," the upper central incisors, we must observe chiefly their size and their edges. Typical teeth have always a single notch, usually shallow, in the middle of their edges. The notch is more or less crescentic, and is accompanied by a rounding off of the angles. The tooth is almost always dwarfed, both as regards its length and width; often very much so. It is not flattened out as a normal incisor is, but rounded, and more or less peg-like. In most cases the enamel is deficient in the middle of the notch, but not always. The teeth are often not properly placed, but incline either towards each other or in the divergent direction. They are seldom large enough to touch their neighbours on both sides.

Able observers, Mr. Moon and others, have described certain peculiarities in the form of the first molars, "dome-shaped teeth," which are more or less characteristic. Respecting these and all other peculiarities (and they are many and valuable to those who know how to use them), I can only say to those not specially skilled, Beware! It is safer to trust only to the upper central incisors. If they are typical, it suffices; whilst if they are not, no other peculiarities with which I am acquainted can justify a diagnosis.

Absence of malformations of the teeth and of keratitis in many cases of inherited syphilis. —Syphilitic teeth are present probably in only a minority of those who are the subjects of inherited syphilis. This, at any rate, is true if we restrict our attention to such teeth as are characteristic. It is unquestionably true that teeth of perfect development may not infrequently be seen in the mouths of those who yet have suffered severely from inherited taint. In

PLATE 31.—CRAGGY TEETH AND SYPHILITIC TEETH

Fig. 1.—A pair of "craggy" teeth: they are the upper central incisors and may be contrasted with Fig. 2. These craggy teeth appear to be sometimes a family peculiarity, and to have no connection with either syphilis or mercurialism.

Fig. 2.—A pair of typical teeth: they are the upper central incisors of the permanent set. These are dwarfed in all dimensions, slant towards each other, are of screwdriver form, and show shallow central notches.

Fig. 3.—The upper milk teeth of a syphilitic child aged three years. The lateral incisors have been left as mere stumps by the breaking away of their crowns, and the two central ones are progressing to a similar condition through erosive caries which encircles their shafts. The canines are large and their enamel is sound.

such cases it is to be presumed that the stage of inflammation of the gums in early infancy, by which we seek to explain the malformations, has been omitted.

It curiously happens that certain results of inherited taint are met with more commonly in those who do not show malformed teeth, whilst others but seldom occur except in company with them. I long ago noted that in cases of phagedænic ulceration of palate or nose in young persons the teeth are very seldom typical, and subsequent observation has fully confirmed this statement. The same patients not infrequently escape the occurrence of keratitis. The omission of both these very valuable indications of taint led me at one time to feel doubt whether these palate-cases were really syphilitic. This doubt has, however, been wholly removed by increasing experience. I should now regard acute ulcerative destruction of the palate or nose in a young person as being in itself an almost conclusive proof of inherited taint, and should attach no diagnostic value to the absence of keratitis and of malformed teeth.

Whilst both keratitis and malformed teeth are not infrequently absent when the palate ulcerates, they very commonly in other cases support each other. Few who have well-characterised teeth escape keratitis, and it is exceptional to see keratitis without typical teeth. This common association is of great interest.

Those who have undamaged teeth often fail also to show any peculiarities in physiognomy. This amounts to saying that all who in infancy have suffered severely, and in whom as a consequence the physiognomy has received a stamp, have suffered also from stomatitis as a part of the general disease. This statement involves the admission that there exists a class of patients in whom, in spite of the modern development of diagnosis, the recognition of inherited taint is still a matter of great difficulty, perhaps impossible. How large this class may be we cannot tell. Probably it is not a large one. We must, however, be prepared to encounter now and then manifestations of inherited syphilis in those who do not show a single corroborative feature.

CHAPTER XLVI

THE EYE IN INHERITED SYPHILIS

We do not know with any exactness the age at which the **choroiditis of inherited syphilis** usually occurs. When it affects the periphery of the fundus only, as is most usually the case, it is, probably, often coincident with the attack of keratitis. Not infrequently we find evidences of past choroiditis in patients who have never had any affection of the cornea, and sometimes it is certain that it precedes the keratitis by many years. Since choroiditis often causes comparatively little defect of sight (and children make no complaint of slight failures of this kind, in fact, never observe them), we but rarely have the opportunity of examining it in the earliest stage. Almost invariably we discover only the results of disease which has been long past. It is not impossible that it sometimes occurs to infants. In the acquired disease we know that it usually happens at a comparatively early period, occasionally soon after, or even with, the iritis of the secondary stage.

Inherited syphilis suspected; choroiditis disseminata at an unusually early age.—The youngest patient in whom I have recognised choroiditis disseminata was an infant, aged five months, whom Dr. (now Sir Thomas) Barlow was kind enough to send me from the Children's Hospital in Great Ormond Street. There were extensive evidences of old choroiditis in both eyes, large patches of sclerotic being laid bare. The infant was hydrocephalic, the head having begun to enlarge at the age of two months. Some snuffles had been present, and there was a scaly rash on the forehead. I thought that the child was syphilitic, but there was no conclusive proof.

PLATE 32.—SYPHILITIC TEETH MODIFIED BY MERCURY

The teeth of a boy aged eleven, who had suffered from inherited syphilis, and who had also taken much mercury. They are the permanent teeth of the lower jaw. The upper set from the same mouth are represented in Fig. 4 of Plate xi., vol. i. of the Author's "Atlas of Clinical Illustrations," and show the conditions characteristic of syphilis as well as those due to mercury.

The denudation of the upper surface of the two first molars shown in this figure was equally exhibited in those of the upper set. This condition of exposure of discoloured dentine caused by loss of enamel is, I believe, a frequent result of mercurial influence. It would appear that the incisors have almost wholly lost enamel, and are dwarfed and discoloured. The reader is referred to "Clinical Illustrations" for a more detailed description, but it may be added that the molars show an approach to the dome-shaped teeth described by Moon.

Choroiditis disseminata in a mother and two daughters; loss of the nose by phagedæna in one daughter; history of syphilis negative.—The following narrative conveys important lessons as regards the relative value for purposes of diagnosis of the patient's family history and the symptoms displayed. I have no doubt that both in mother and daughters the disseminated choroiditis was really due to syphilis; acquired in the one patient, and inherited in the others. Yet the history, as will be seen, was negative.

Mrs. ——, aged about forty, brought me her eldest child on account of phagedænic ulceration of the nose. The tip and lower parts of the nose were entirely destroyed, and cicatrisation had occurred level with the cheeks. After it had once healed there had not been the slightest tendency to relapse, and thus a very marked feature of difference was shown between this disease and common lupus. The loss of the nose had occurred at the age of three years, and had resulted, according to the mother's belief, from a fall. The child was fair-complexioned, and, excepting as regards her nose, there was nothing in her physiognomy indicative of syphilis. Her teeth were carious and malplaced, but not typically malformed. In both eyes were numerous patches of absorbed choroid, with pigment accumulations; these were more numerous in the left than in the right. In 1869 I saw this child again; she was then eleven years of age. The state of the choroids was much as at the previous note.

Mary ——, aged ten, the younger sister of the above patient, showed similar conditions as regards the eyes. In the right eye were numerous and large patches; in the left, few and small ones. The right eye diverged. With the left eye she could read $2\frac{1}{2}$; with the right only 12. This child was a florid, fair-complexioned, pretty girl; her teeth were excellent, both in form and colour; and her physiognomy showed nothing indicative of syphilis.

The mother of the patients mentioned above had herself lost one eye with choroiditis disseminata. It was the left; and the history given was that the sight had failed four or five years after marriage. She had no other indications of syphilis. She had been married nearly twenty years. Her eldest child was not born till eight years after marriage, and died in consequence of an accident at the age of eight. Ada and Mary, whose cases have just been given, were her only other children. She did not admit that any of her children had presented symptoms in infancy.

In August, 1869, I had an opportunity of seeing the

father of the children. He would not admit having ever had anything excepting a slight gonorrhœa. He appeared in good health, and asserted that he had always been so. These children were the offspring of his second marriage. Although he entirely denied the history of syphilis, he, with a willingness which was very suspicious, consented to my giving him a letter to his family surgeon explaining my view of the nature of his children's ailments.

It will be seen in the above narrative that my reason for confidently regarding these cases as syphilitic is rather that they corroborate each other than that the evidence is conclusive in any one direction. A mother and two daughters have been the subjects of choroiditis disseminata, and one of the latter has lost her nose by a form of phagedæna not usually met with excepting in connection with syphilis. There is no history of scrofula in the family; nor, indeed, if there were, is this form of choroiditis ever seen as a scrofulous disease.

Iritis as a consequence of inherited syphilis.—In my work on "Syphilitic Affections of the Eye and Ear" I collected a series of cases illustrating the iritis of infants. I do not here reprint the cases, but only the summary of the facts respecting them. The series comprised twenty-three cases, and most of them had been under my own observation. I must refer those specially interested in this topic to my original memoir, from which I select the following extracts:

On account of the very slight symptoms which often attend it, iritis in the infant is very liable to be overlooked. Its diagnosis, however, when once attention has been called to the patient's eyes, can scarcely be considered difficult. In two cases, however, I have known considerable difference of opinion to prevail as to its existence. These were cases in which the iris was simply tumid and discoloured, in which no perceptible masses of lymph had been effused, and no congestion of the sclerotic vessels existed. In each instance by the use of atropine I was enabled to demonstrate great irregularity of the pupil, and thus to remove the doubts of those who had at first hesitated to concur in my diagnosis. In like cases the employment of the

solution of atropine should always be resorted to. It will also often be necessary, in young infants, to use a spring speculum to keep the lids open in order to procure a satisfactory inspection. Irregularity of the pupil, the presence of yellowish or reddish lymph, tumidity, loss of lustre, and alteration of colour in the iris itself, are the symptoms upon which the diagnosis is to be based. Generally, also, there will be seen on minute inspection a faint pink zone in the sclerotic. There is very rarely much congestion of the conjunctiva, and the cornea is almost always clear.

The measures of treatment are simple. The daily use of atropine drops* to dilate, if possible, the pupil, and the rapid exhibition of mercurials, are the two all-important measures. I usually employ the mild mercurial ointment, directing it to be rubbed into the soles of the feet, nape of neck, and calves of legs, about a scruple being employed daily. The infant's general health should be carefully watched, and instructions given as to a proper dietary. Syphilitic infants need animal food, in the form of broths, beef-tea, etc., at an earlier age than others. If there be diarrhœa, or if the mercury induces it, a carminative draught containing opium may be given, but the mercurial must not be laid aside whilst any lymph is present in the pupil, unless the child's state should absolutely necessitate it. In these cases, however, mercury almost always agrees well, and the infant gains flesh under its use.

The prognosis of these cases depends upon the stage at which they come under treatment. If the lymph is recent, absorption may be confidently expected under the mercury. It is, however, an insidious and dangerous affection.

Conclusions respecting iritis in infants.—1. The subjects of infantile iritis are much more frequently of the female than the male sex.

2. The age of five months is the period of life at or about which syphilitic infants are most liable to suffer from iritis.

* Four grains of sulphate of atropine to an ounce of distilled water.

3. Syphilitic iritis in infants is often bilateral, but quite as frequently not so.

4. Iritis, as it occurs in infants, is seldom complicated, and is attended by but few of the more severe local symptoms which characterise the disease in the adult.

5. Notwithstanding the ill-characterised phenomena of inflammation, the effusion of lymph is usually very free, and the danger of occlusion of the pupil great.

6. Mercurial treatment is most signally efficacious in curing the disease, and, if recent, in procuring the complete absorption of the effused lymph.

7. Mercurial treatment, previously adopted, does not always prevent the occurrence of this form of iritis.*

8. The subjects of infantile iritis, though often puny and cachectic, are also often apparently in good condition.

9. Infants suffering from iritis almost always show one or other of the well-recognised symptoms of hereditary taint.

10. Most of those who suffer from syphilitic iritis are infants born within a short period of the date of the primary disease in their parents.

Gumma in the iris.—It is not often that we see uncomplicated iritis, in connection with inherited syphilis, at any other age than infancy. A few cases occur, however, later in life; of this the following seems to be an example. Mr. Tay was kind enough to send to me a little girl, aged four, who had on her right iris a salmon-tinted gumma. It was nearly as big as a small pea, and was placed on the upper and outer part of the iris. It had been present nearly a month, and was attended by some dotted deposit in the posterior lamina of the cornea (keratitis punctata). The child did not herself present anything that was definite as regards syphilis, but there was a

* In several of the cases the patients had previously been treated by mercury for other symptoms of hereditary syphilis. In one instance the second eye was attacked while the patient was taking mercury for the cure of iritis in that first affected. This I have known to occur more than once in adults. In the latter, in five instances I have seen acute syphilitic iritis set in during actual ptyalism.

history that she had had snuffles in infancy, and that when eighteen months old she had sores at the anus, "of the nature of piles." She frequently complained of aching in her legs, and the surfaces of her tibiæ were a little lumpy. Her forehead and physiognomy, though not characteristic, were decidedly suspicious. The family history was that her mother had had six children. The first died at four months of thrush; the second died at ten months, cause unknown; the third was a premature birth; the fourth, a healthy child, still living; the fifth, our patient; the sixth, a baby, aged sixteen months, apparently healthy.

Value of the evidences of past choroiditis as proof of inherited syphilis.—Amongst the symptoms to which we finally make appeal in cases of difficulty in the establishment of a diagnosis of inherited taint, in children and young adults, is the evidence of past choroiditis. If, in a case in which other facts are present which suggest suspicion, there is any evidence of old choroiditis, it is, I believe, often held to be almost conclusive. I am convinced, however, that some care is necessary in its interpretation, and that it must not be relied upon if it stands alone and if other facts are in contradiction to it. What the other influences are under which choroiditis disseminata may occur in early life, excepting syphilis, I do not know; but I have seen several cases in which, after the most careful investigation and after observation of the patient for many years, I was obliged to come to the conclusion that no specific taint was probably present. Nor is it easy to mention any peculiarities which would enable us to distinguish the cases which are syphilitic from those which are not. The symptom must therefore remain, as I have just said, as one of great importance when it corroborates others, but untrustworthy when it stands alone.

The form of choroiditis which is the commonest from inherited taint is characterised by atrophic and pigmented changes near to the periphery of the fundus. They are sometimes seen in both eyes, sometimes only in one. In other cases patches may be seen in all parts

of the fundus. There is yet another form in which no large patches occur, but a great number of small ones, and in which numerous dotted and striated accumulations of pigment are seen in the retina simulating the conditions of retinitis pigmentosa.

Mr. Tay has reminded me of a case which he was once good enough to show to me, in which a fine, well-grown young woman presented teeth which were typically notched, but who showed no other symptoms. No history implying syphilis could be obtained, and it might easily have been assumed that the condition of the teeth was not pathognomonic. Ophthalmoscopic examination, however, revealed characteristic conditions of peripheral choroiditis, and, in conjunction with the teeth, might be considered to establish the diagnosis.

As a rule this form of keratitis affects both eyes. A few remarkable exceptions occur, and they may possibly prove of importance in assisting us to understand the nature of the process. In several I have seen only one of the upper incisors presenting a characteristic notch, and more than once this has been coincident with one-eyed keratitis. I have recorded one such case.*

Keratitis in one eye only; facial paralysis; only one tooth malformed.—A girl, aged nineteen, who was the subject of a demonstration, had interstitial keratitis of one eye only. She had one upper central incisor tooth of perfect form and with good enamel, whilst the other was broken away and had evidently been malformed. She was the subject also of facial paralysis from infancy. The facial paralysis, the deformed tooth, and the keratitis were all on the same side. She had, however, had gummata in her tongue on both sides, and both her tibiæ were much thickened.

* *Polyclinic Journal*, Jan., 1901, p. 26.

CHAPTER XLVII

THE SCROFULA OF INHERITED SYPHILIS

It is obviously possible for a child to inherit both tuberculosis and syphilis, and for the bacillus of the one and the spirochæte of the other to be present together. Or a child having inherited syphilis may contract tuberculosis in early infancy. To the results of such double or coincident infections the term *scrofula of inherited syphilis* is applicable.* Syphilis does not exclude tuberculosis, nor does tuberculosis exclude syphilis.

In mixed cases of the kind referred to it may become exceedingly difficult to assign to each agency its share in the resultant phenomena. A tendency to ulceration and to suppurative inflammations and to implication of the glandular system may generally be accepted as raising a strong suspicion of tuberculosis, whilst should the ulceration be extensively and rapidly destructive—in any degree approaching to phagedæna —we may infer syphilis as its cause. The occurrence of rapid healing under treatment and the production of sound scars must also be accepted as favouring the diagnosis of syphilis. The not very infrequent

* It may be taken as proved that the tubercle bacillus but rarely develops or multiplies during intra-uterine life. Neither in man nor in the lower animals have many instances occurred of the recognition of tubercular products in the bodies of the newly born. A few such are on record to prove the possibility, but they do not go much farther. Prof. McFadyean, of the Veterinary College, paid especial attention to this and offered a premium for calves born with tubercle. We are told that he obtained only four. It has been hastily assumed by more than one writer that this is an argument in disproof of parental transmission, and in support of the belief that the disease is usually acquired by infection after birth. In reality it implies nothing of the sort, for it is well established that the limits of latency of tuberculous germs are very wide indeed. It may be that these germs wait for months or for years until some exciting cause brings them into activity.

examples of rapid destruction of the soft palate or of the nose and adjacent parts, followed by a sound scar, are almost invariably due to an active complication with syphilis, whilst not improbably they sometimes begin as tubercular inflammations. Interstitial keratitis, when it occurs in tuberculous subjects, may be attended by ulcerations of the cornea and followed by superficial leucomata. As a practical rule it may, I think, be said that in almost all cases in which the soft palate has been extensively destroyed, and sound healing has resulted, the diagnosis of syphilis may be accepted.

We must not in these cases place too much reliance, for diagnostic purposes, upon the results of specific treatment. Syphilitic affections of this type sometimes resist treatment for long. The measures which benefit them often cure also those which are tubercular. For the latter, small doses of mercury in combination with tonics and liberal diet are often very useful; and as local measures in both, mercury and iodoform, and the liberal use of cauterisation, are very beneficial. When, however, the response to such measures is prompt and definite, the recognition of syphilis is much strengthened.

Possible connection between syphilis and such diseases as lupus, scrofula, and rickets. —The question as to whether there are any diseases which are remotely connected with inherited taint, transmitted through several generations, is one which constantly recurs for debate. The older writers were inclined vaguely to refer almost all forms of chronic disease of skin or bone to inherited taint, and the public is still very suspicious in the same direction. M. Ricord conjectured that common lupus was remotely due to syphilis, and Sir Erasmus Wilson asked, "Is not all struma syphilis?" More recently, M. Parrot tried to prove that rickets is but a manifestation of inherited taint. It is extremely important to arrive at the truth in this matter. My own conviction is that whilst syphilis can very closely imitate lupus, rickets, most of the forms of scrofula, and almost all varieties of skin disease, yet all these separate maladies may

and do exist in their typical forms quite independently of it. True rickets is probably due to defective food and insufficient exposure to sun and air. Common lupus is part of the domain of scrofula, and scrofula is due to inherited peculiarities of organisation closely connected with tuberculosis, aided by a variety of influences referrible to climate, diet, etc., which have been brought to bear upon the individual. I believe it to be a most false supposition that a taint of syphilis is present in most, or even in any large number, of English families. Yet we find the diseases just mentioned developing themselves with great frequency, and amongst all classes. Everyone will admit that they are often met with under circumstances which make the question of inherited syphilis highly improbable. To those who are inclined to give credence to the suggestions referred to, I would venture to propose a consideration of the following facts :—

1st. That rickets and scrofula are both of them frequently met with in the lower animals, and that they may, indeed, be produced artificially under conditions which make the influence of syphilis an impossible hypothesis.

2nd. That the typical forms of these diseases are constantly met with under conditions which do not give the slightest support to the suggestion of syphilis.

3rd. That amongst those whom we can now so easily recognise as the subjects of inherited taint, we do not frequently encounter such maladies as struma, scrofula, and rickets.

4th. That when lupus is met with in the subjects of inherited taint, it is of somewhat different form, and displays somewhat different tendencies from those which we meet with in its common, or scrofulous, prototype.

5th. That whilst we are now able to recognise (by teeth, physiognomy, etc.) a large number of those who are the subjects of inherited taint, and in the case of their marriages we have opportunities of examining those who, if such a thing were possible, would display the effects of inheritance in the third generation, no evidence respecting children so born has yet

been produced to indicate that they are specially liable to either rickets or scrofula.

The following narratives will illustrate these remarks :—

Certain rare cases of lupus of the pharynx, etc., which very closely resemble syphilis.—There are certain rare cases of lupus of the mouth and throat which it may be exceedingly difficult to distinguish from syphilis. An example of this was shown to me many years ago by Mr. S. W. Sibley. The patient, a young lady, had her soft palate adherent to the posterior pharynx and her uvula destroyed. She had also some laryngeal impediment, probably due to cicatrix. Her hard palate was covered with pitted scars. Excepting possibly in the larynx, which, owing to the narrowing of the pharynx, could not be seen, the disease in the mouth was quite arrested, and the scars were sound. Although the scars were exactly like those left by syphilis, yet the evidence seemed to point to struma and lupus. There was a large patch of common lupus on her left cheek, and her right hand had been much damaged by the same disease.* The patient showed no other signs of syphilis, nor was there any suspicious history. I have seen several other cases in which lupus very closely simulated syphilitic destruction of soft palate, etc.

The above appeared in my first edition. In reviewing the facts of Mr. Sibley's case in the light of subsequent experience, I am inclined to think that there must have been a syphilitic element in it; and the same remark applies to the others. Tubercular lupus of the pharynx but very rarely results in sound cicatrisation, whilst it is by no means uncommon for that which is due to syphilis to do so. Probably it was a mixed or partnership case.

Ulceration of the palate in inherited syphilis.—It is a very important fact that, in cases in which the palate and nose are attacked, the teeth are but seldom malformed. I do not know how to explain this, but of the fact I feel certain, and it has often

* A portrait has been preserved in the Clinical Museum.

caused great difficulty in diagnosis. A boy of twelve was under my care in the London Hospital for a perforating ulcer in his soft palate. It was almost phagedænic, and could scarcely have been due to anything except syphilis. Yet his physiognomy was good, his teeth were perfect, and I could get no history which supported the suspicion. Under iodide of potassium and local cauterisation the sore healed. Six months later the same boy came to me at Moorfields with interstitial keratitis of a characteristic form. I therefore feel no doubt that he was really syphilitic. I have seen a considerable number of cases of destruction of the palate in children in whom neither teeth nor physiognomy suggested syphilis. The history is, of course, often quite negative. I have formed an impression, which becomes increasingly strong every year, that it is wise to treat such cases as syphilitic, that is, to apply iodoform and push the iodide. It is possible that, in a few cases, tubercular lupus may produce similar destruction, but I much doubt if it is a frequent event. If at any stage there is a tendency to phagedæna the case is almost certainly syphilitic. If keratitis has occurred, or there are evidences of past choroiditis, the diagnosis is complete.

If the soft palate should be *perforated*, it is a very strong fact in favour of the diagnosis of syphilis. Lupus may creep round the edge of the palate, and may destroy much tissue, and leave adhesions, but it does not often produce perforating ulcers. The most important aid in diagnosis is the rate of progress. Syphilitic ulceration spreads rapidly; common lupus is always very slow.

Phagedænic ulceration of the throat and nose in connection with inherited taint; patient both blind and deaf.—Mr. Snell, of Victoria Park, sent to me, in 1879, a patient whose case was of great interest. She was deaf, almost blind, and had lost her nose and the whole of her palate. I think I never saw more complete destruction of the palate. None of it was left, and the fangs of the molar teeth were all exposed. The incisors had

fallen out. The teeth which remained were perfect as to form and state of enamel, but it is to be noted that the patient had lost her characteristic ones. She had had extensive iridectomies done at Moorfields on account of corneal opacities. We may take it as certain, from this combination of lesions, that she was the subject of inherited syphilis, and her mother corroborated this diagnosis by telling us that in infancy she was very delicate and "snuffled for a long time." My chief reason for publishing this case is in order to enforce the distinction between phagedænic syphilis and lupus. The tip and alæ of the girl's nose were destroyed, and the nostrils exposed, and some might be inclined to suggest that it was the work of lupus. But we must observe that the scar left was white and sound, that there were no tubercles near it, and that the process of destruction was at an end. Had it been common lupus we should not have seen such perfect repair, for, in spite of the best treatment, lupus almost always tends to relapse, and very seldom leaves a white scar. Next we must note also that the destruction had been very extensive. The whole nose, alæ, turbinated bones, vomer, and hard palate were gone—a condition common enough in syphilis, but very rare in lupus. The latter is a disease of skin and mucous membrane, and rarely goes deeper than these tissues.

It is of great importance to make the diagnosis between phagedæna of the nose and lupus, for the treatment of the two is quite different. If in phagedæna we miss the proper measures at the right time, the patient will inevitably lose the nose, for the destruction is very rapid and shows no tendency to spontaneous arrest. It will destroy as much in weeks as lupus can in years. The treatment is, to apply iodoform, and, if necessary, use freely the acid nitrate of mercury, and to give iodide of potassium. If this be done the cure is quickly effected. No case ought to get worse after the surgeon has been consulted. The subjects of this form of destructively spreading syphilis, which looks like lupus, are usually young persons about the age of puberty, and often

Plate 34.—Phagedænic Lupus of Inherited Syphilis

The three portraits here reproduced all illustrate the ravages of that form of phagedænic lupus which occurs in the subjects of inherited syphilis. Similar forms of ulceration are met with in the acquired disease, but seldom run to the same lengths, possibly because the diagnosis is more confidently made and proper treatment adopted. Early treatment is essential, as without it the ulceration runs a rapidly destructive course. Whether or not the characteristics of the ulceration are due to the coincident existence of tuberculosis and syphilis is uncertain, but that the treatment must be for the latter is undoubted. The two specifics are essential, but local measures are at least equally important. If the liberal use of iodoform does not suffice, fuming nitric acid should be applied or the actual cautery used. The nose and the lips are the parts most commonly attacked. Very formidable cases of the same kind are met with in the pharynx. The sufferers are usually young adolescents, and girls more frequently than boys. The cicatrisation after treatment is usually quite sound, and there is no tendency to relapse.

The recognition of these cases as a special group in connection with inherited taint, and of the great importance of their prompt treatment, were, the author believes, first made by him. During recent years excellent portraits in illustration of the condition have been published by several observers.

(From Hutchinson's "Clinical Illustrations," smaller Atlas, Plate lix.)

PLATE 34.

girls. It commonly happens, as already stated, that they do not show typical teeth. Destruction of the palate often occurs at the same time, for all phagedænic action is contagious in the patient's tissues, and tends to spread.

Case illustrating the diagnosis between congenital syphilis and rickets.—A little girl, D. ——, aged two years and a quarter, was brought to me by a mother who appeared to be in good health. I was told that her father also was in good health. The child had been born soon after marriage, and had appeared to be quite healthy at birth, and for a year afterwards, with the single exception that she had snuffled somewhat. She was nursed at the breast for three months. At the age of fourteen months she had a little eruption on the face, and subsequently "an attack of German measles." During the last month for the first time she had shown small condylomata at the anus and on the vulva. She was late in development, and scarcely yet able to walk. There was no doubt that she was in a mild degree rickety. She had always sweated much, and especially on the head. All her front teeth had "rotted away." Her head had lumpy projections on the frontal and parietal eminences. She had been vaccinated from the calf.

It will be seen that we have here several conditions requiring careful interpretation. The condylomata were, I think, conclusive indications of syphilis, and their presence helps us to believe that the nodosities on the skull bones were also syphilitic and not from rickets. It is to be noted that the condylomata showed themselves late. The absence of history, and the apparently good health of the parents, are facts which must not be allowed much weight. If the condylomata had never occurred, the case might, however, have easily been considered as one of rickets only, and the skull peculiarities might have been claimed as belonging to that malady.

The rotting away of the front teeth may, I think, be trusted to a certain extent as a symptom of syphilis. It is at any rate common in syphilitic children, and it

is rare in rickets. It may be plausibly suspected that it is sometimes caused by mercury, administered to the mother during pregnancy.

Deformities at the elbow-joint, due to syphilitic inflammation at the lower humeral epiphysis. — Inflammations about the ends of the long bones are well recognised as occurring during the infantile stage of inherited syphilis. The lower end of the humerus is the bone most frequently affected, but the wrist, shoulder, and knee may be attacked, and probably no joint is exempt. Very usually only one, or at most two joints suffer at the same time. As the affected epiphyses and bones are in an early period of growth, very considerable deformation of the parts may result and may become conspicuous in later life. In the elbow the condyles of the humerus may appear to be much widened, or the head of the radius may be displaced. Many years ago I had under care in the London Hospital a girl of about six, who had large nodes on both her femora, and was unquestionably the subject of inherited syphilis. The form of her elbows was altered in such a way that the end of the radius was displaced upwards upon the external condyle and a traumatic dislocation was closely simulated. We were, at the time, doubtful whether or not it was a congenital condition, but I was more inclined to refer it to the influences mentioned, and to think that the radius was overgrown. Some facts subsequently supplied to me by Mr. W. E. Hacon, of Upper Holloway, in connection with a similar case which we saw together, gave support to this opinion. Mr. Hacon's patient was a girl of fourteen, the subject of specific disease, who had formerly suffered from keratitis and multiple nodes. One elbow looked exactly as if the radius were dislocated forwards, but, on more careful examination, it was certain there was no dislocation and that the deformity was owing to flattening backwards of the external condyle. There was such an alteration in form of the lower epiphysis that in measuring across the back of the joint, from one condyle to the other, there was a difference of nearly an

inch in favour of the affected side. Thus the external condyle projected much more than the internal one (contrary, of course, to what is normal).

Mr. Hacon told me that he had seen two somewhat similar cases. My note taken at the time states: "These curious deformities are probably due to overgrowth of some parts of the epiphysis itself, just as we get overgrowth of long bones, under similar circumstances, as the result of lasting syphilitic inflammation."

Sometimes, however, there may be destruction of the epiphysis and much greater deformity, as in the case recorded below.

In this instance the elbow was much deformed, the bones of the forearm being displaced upwards in front of the shaft of the humerus. The condyles of the latter were wholly wanting, and the extremity of the shaft projected sharply under a thin but sound scar. This scar extended for a considerable distance above and below what remained of the joint.

There was no history of any injury. The statement was that disease had occurred in the joint at the age of ten or eleven; that portions of bone came away; that the limb was in splints for a year; that amputation was proposed, and was only averted by a consultation with Sir James Paget. The ulceration of the skin must have been of a lupoid character and very extensive, to have left so large a scar and one so abruptly margined. The question is, Was the disease struma or congenital syphilis? and it is one not easy to answer. Miss —— was now forty years of age, and she came attended by a sister two years older than herself.

Both sisters bore traces of having suffered severely from symmetrical attacks of keratitis. The conditions, although suspicious, were, however, not quite characteristic, and were such as might possibly have been caused by ulceration. Neither of the sisters had a characteristic physiognomy, and both had lost their upper front teeth and were wearing artificial ones. Both of them were deaf, the younger one very much so, but then there was the history of otorrhœa after

scarlet fever. They had lost their parents, and no history of infancy was obtainable. Their two younger sisters had both died of pulmonary phthisis. The younger of these two suffered from ozæna, and her soft palate on the right side was adherent to the posterior pharynx, evidently as the result of ulceration. Thus there were a number of items of evidence which, taken together, make it very probable that the disease of the elbow was really due in chief to inherited taint.

An instance of absence of most of the usual signs of inherited syphilis.—A young woman, aged twenty-two, who was one day brought to the Polyclinic by Dr. Isaacs, showed in her physiognomy not the slightest evidence of inherited taint. She had white teeth with good enamel, and all of perfect form, excepting the two upper central incisors. These latter were short, defective at their edges, and showed broad notches. She was a well-grown woman of rather handsome features, although very pale. Dr. Isaacs gave the history that he had treated her for a severe attack of interstitial keratitis about four years ago, and, although it had passed off very satisfactorily, her pupils remained motionless. The right was somewhat irregular at its margin, and much larger than the other. Nothing was known as to family history beyond the fact that she was an only child, and that her father had led "a fast life."

I asked attention, when this patient was before us, to the sound enamel of her teeth, and to the absence of any peculiarities in physiognomy, and said that, in all probability, there had been no infantile symptoms, and that no mercury had been given; yet the attack of keratitis, and the malformation of the upper central incisors, made it certain that she was the subject of inherited taint. I also drew attention to the fact that the diagnosis might easily have been missed. The teeth and the keratitis supported each other, but in the absence of either the case might have been deemed to prove that the one which was alone present was independent of taint.

The patient had been brought for consultation on

account of attacks of pain to which she was liable in her face and other parts. There was a history of inflamed knees at the date of her keratitis, and she still had pains in her legs. There was no proof of periostitis in any bones, and the character of the pains, taken with the motionless pupils, suggested suspicion as to tabes. Her patellar reflexes were, however, quite good. I mentioned that the pupils were often left very sluggish after severe attacks of keratitis and long-continued use of atropine. There were also present a few iritic adhesions.

Epiphysitis in infancy; arrested growth of radius.—Mr. and Mrs. —— suffered from syphilis together, and rather severely. Both were treated with mercury, but I believe not for long.

Their first infant, born in May, 1880, died.

Secunda, born in 1881, was brought to me when fourteen weeks old. She had bad snuffles, and was covered with a dusky papular eruption. These symptoms had begun at six weeks old. She had also swelling and pain about the left wrist, and it is on account of this symptom that I mention the case. Six or eight months later I saw her again. She was still a very small child, but had got rid of all symptoms excepting enlargement of the lower end of the radius, which was still considerable. It appeared that the growth of the radius had been arrested, for the overgrowth of the ulna was pushing the carpus over to the radial side. I was told that there had been nodes on the skull, but these had now disappeared.

Gland disease not common in the subjects of inherited syphilis.—The absence of tendency to gland disease in the subjects of inherited syphilis is remarkable. My note-books do not furnish me with more than a very few examples, and even these are not marked ones. I do not think that I have ever seen a case approaching to typical lymphadenoma or generalised affection of the lymphatic system in any subject of either inherited or acquired syphilis.

CHAPTER XLVIII

NERVOUS DISORDERS IN CONNECTION WITH INHERITED SYPHILIS

In my address introductory to the Discussion on Syphilis, at the Pathological Society, in 1876, I mentioned, as amongst the features of difference between acquired and inherited syphilis, that diseases of the nervous system were rare in the latter. This subject has, since then, received much attention. Dr. Hughlings Jackson,* as was fitting, led the way in a valuable paper read before the St. Andrews Undergraduates' Association, in 1868, in which he recorded examples of epilepsy, hemiplegia, idiocy, and other affections occurring in the subjects of inherited taint. Sir Thomas Barlow also published cases, and proved to us that disease of the arteries of the brain from syphilis might occur even in young children. The zealous investigations of observers such as those whom I have mentioned, and many others, have, however, not resulted in showing that any large number of cases of central brain disease occur in this association. Almost all the variety of affections which we see in connection with acquired syphilis, may be met with occasionally in those who have inherited it, and in association with similar lesions. We may have meningitis, neuritis, and diseases of vessels with all their varieties of consequence, but they are far more rare than in the subjects of acquired disease. Nor are we justified, in all the examples of such maladies as epilepsy and chorea, even when we meet with them in those

* *See* "Disease of the Nervous System in Patients the Subjects of Inherited Syphilis," *Trans. St. And. Med. Grad. Assoc.*, vol. i., 1868. "Nervous Symptoms in Cases of Congenital Syphilis," *Journ. Mental Science*, Jan., 1875.

who are unquestionably hereditarily syphilitic, in believing that they are necessarily in any kind of causal relation with that taint. I have Dr. Hughlings Jackson's authority in this matter. He tells us that under such circumstances he has repeatedly met with these maladies presenting no features of difference from their non-specific prototypes, and advantaged by the ordinary measures. Respecting epilepsy, it is, he thinks, only when it assumes the unilateral character (Jacksonian epilepsy), and is therefore presumably due to a local and cortical lesion, that we are justified in suspecting that it may be due to syphilitic changes.

The large group of nervous affections attended by neuritis and sclerosis, which we encounter in the late stages of tertiary syphilis of the acquired form, appears to be fully represented in the subjects of inherited disease, but the examples are very infrequent. A few cases of locomotor ataxy have been recorded as occurring in such association.* I have not myself seen many, and I have met with exceedingly few of those paralyses of single ocular nerves which are so common in acquired disease. Both hemiplegia and paraplegia are also of extremest rarity in such association. It may be plausibly objected that the number of the subjects of inherited taint who survive to adult life is far smaller than that of those who have passed through the acquired disease; and also that we but rarely trace them up to that period of life at which ataxy usually occurs. These suggestions may be adequate to a certain extent, but do not, I think, explain the whole. I cannot but believe that it remains a very remarkable fact that inherited syphilis does not appear to damage the tissues, or to leave them permanently vulnerable, in the way that the acquired disease so frequently does. In a word, true tertiaries—that is, non-symmetrical, serpiginous and aggressive affections —are rare in congenital syphilis. It might almost be asserted that no chronic skin diseases are attributable

* An excellent account of what is known as to the tabes of inherited syphilis will be found in Dr. James Taylor's Work on "Nervous Diseases of Childhood."

to it. If any such should appear to occur in this connection, they should excite suspicion that the disease was of post-natal origin. Not only do we seldom encounter disorders of the nervous system, but palmar psoriasis, chronic affections of the tongue, sarcocele and gummata of the viscera, are all alike rare. Excepting in the infantile period, congenital syphilis rarely shortens life. It does not often, in any special manner, predispose to any serious form of disease.

I have left the preceding statements much as they occurred in my first edition. Subsequent research has, it must be admitted, much extended our knowledge of the influence of inherited taint in predisposing to disease of the nervous system. It has, however, rather given precision to what was conjectured than caused us to believe that to be common which we formerly thought to be rare. We now accept, as well established, a form of tabes, and one of general paralysis with imbecility, as occurring in connection with syphilis in children, and as being in almost all respects similar to the like maladies in adults. We know also that a form of meningitis, attended by cell effusion into the perivascular spaces and spreading infectively in the pia mater, with the result of thickening and adhesions of the membranes, is an occasional pathological condition in connection with this taint. When this affects the ependyma, hydrocephalus may follow, and when the cerebral convolutions are more especially involved, not only may there occur symptoms of irritation, but there is much risk of secondary atrophy and loss of function.

It is not improbable that a certain number of patients are threatened with these maladies, and subsequently recover, either under specific treatment or even without it. It is chiefly the worst and most aggressive cases which finally come under the observation of our specialists. In all cases in which children are known to be the subjects of taint, careful watch should be maintained, and if any departures from health are observed, mercury should be commenced and its use long maintained. It has been well pointed out by

Fournier that, whilst we have for long insisted on prolonged courses in acquired syphilis, we are for the most part, in the case of infants, content to see the symptoms disappear, and the suggestion is made that a change in this respect is desirable. A valid objection to prolonged courses in early infancy is that they will certainly damage the enamel of the permanent teeth. If, however, at any age, cerebral symptoms are threatened, there certainly ought to be no scruple on this score.

Fusiform neuritis in connection with inherited syphilis.—I find, published by Dr. J. A. Ormerod, in the *Pathological Transactions*, the case of a woman of twenty-three, who was the subject of inherited syphilis. The peculiar feature of her case, and one I think almost unique in connection with that cause, was the existence of a fusiform enlargement of the left median nerve in the middle of the upper arm. The tumour was tender on pressure. It had been present for nearly three years, and was attended by motor paralysis, wasting, and anæsthesia.

Paralysis of cranial nerves in a case of inherited syphilis.—Mr. Nettleship brought before the Pathological Society, in 1881, a girl, aged fourteen, in whom the teeth and the previous occurrence of keratitis made the diagnosis of inherited syphilis certain. She had paralysis of the third, fifth, and sixth nerves, the condition having existed for four years. The anæsthesia was incomplete, as was also the motor paralysis of several of the recti. It did not appear that the disease was aggressive.

Ophthalmoplegia externa in connection with inherited syphilis.—I do not recollect more than two instances in which I have observed ophthalmoplegia externa as a result of *congenital* syphilis.

One of these occurred in a woman whose case I shall relate, in whom it was quite possible that there was acquired taint as well, but in the other there was no suspicion of this. The following is a brief abstract of the second of these cases. The patient was aged sixteen when I saw him. Both his eye-

balls were almost fixed, and the upper lids drooped. By effort he could, however, lift the lids, so as to expose almost the whole of the cornea. All the recti muscles were involved in paralysis on both sides, but on both the external rectus suffered rather less than its fellows. He was quite blind, with white atrophy of the optic nerves, his sight having failed at the age of thirteen. He had characteristic teeth. An elder brother, who came with him, showed no signs of inherited taint. During the progress of the ophthalmoplegia, which had been gradual, he had been under the care of Dr. Liebreich, Mr. Bader, and Dr. Hughlings Jackson. There were no indications of aggressive nervous disease. The lad was intelligent, and, although without sight, was able to travel alone by omnibus to his classes at the blind school.

Atrophy of the optic nerve, secondary probably to neuritis, is an occasional concomitant of ophthalmoplegia externa. It is of bad omen, as indicating the probability that the disease is likely to involve other parts of the nervous system.

Dr. Byrom Bramwell has published, with a portrait, an excellent illustration of ophthalmoplegia externa with ptosis in inherited syphilis. In it recovery ensued.

Illustrations of epilepsy and headache in association with hereditary syphilis.—A girl,* aged eleven, who had characteristic teeth and physiognomy, suffered from double keratitis and symmetrical synovitis of the knees. She was deaf, and liable to severe headaches and epilepsy. Her first set of teeth had, it was stated, all fallen out at three years old, and she was for three years toothless before the others came. (Under my own care.)

A boy,† aged fourteen, under the care of Dr. Brown-Séquard, had characteristic teeth and keratitis. At the age of four he had epilepsy, followed by right hemiplegia. He became partially idiotic, and had repeated attacks of epilepsy.

A lad, aged nineteen, under my own care, had characteristic teeth and physiognomy. He became liable to epilepsy at eleven, the attacks being attended by spasms in the muscles of the left limbs. These painful spasms always preceded loss of conscious-

* *London Hospital Reports*, vol. i. p. 387.

† Recorded by Hughlings Jackson, *Med. Times*, June, 1861, p. 651.

ness, indeed the latter was often omitted. He had had double keratitis at the age of eighteen.

Nerve disorders in hereditary syphilis.—Dr. Hughlings Jackson has recorded the following remarkable history of a family:

Prima (æt. eighteen) had good teeth and good health, but there were extensive adhesions in both pupils, and scars at angles of mouth.

Secunda (æt. fifteen) was delicate, had typical teeth, partial blindness, and a slight degree of right hemiplegia. There were films in the vitreous and the optic discs were pale. Subsequently the left leg became weak also.

Tertia (æt. twelve) had typical teeth, had been always ailing, and was nearly blind in the left eye. Vitreous, etc., as in *secunda*.

Quartus (æt. eight) had had fits, was quite blind, paraplegic, and partially idiotic. There were shreds in each vitreous, and the discs were dirty white. His test teeth were not up.

Quintus (æt. two and a half) was rickety, but nothing more.

Dr. Jackson suggests that probably in some of these cases the pia mater was affected.

Hemiplegia, probably from arterial disease, in a young child; epilepsy two years later; chronic choroido-retinitis.—As already noted, it is not common to have indications of arterial disease (or the occurrence of cerebral paralysis, presumably in such connection) in cases of inherited syphilis. Sir Thomas Barlow and others have, however, proved that the arteries are occasionally affected even in young children. In the following case the cerebral attack was similar to those which we so frequently witness in cases of acquired disease.

The patient (who was sent to me by Dr. Mitchell Clarke, of Bristol) was a little girl of five years of age, whose mother had died of constitutional syphilis. She was of decidedly feeble intellect, but could talk well. Her head was large. Her sight was somewhat defective, and the optic discs were pale and waxy, there being extensive changes consequent on choroido-retinitis, and much resembling those of retinitis pigmentosa. The history was, that at the age of three she had suffered an attack of paralysis (right hemiplegia). Nine weeks before this occurred she had had a fall, as her nurse thought, in consequence of an attack of giddiness. A four days' illness, with sickness, etc., and restless nights, had preceded the hemiplegia. Then, suddenly one morning, her nurse found the left limbs paralysed, and they had never recovered. The wrist, fingers,

and elbow were kept flexed, and moved stiffly, like those of a wooden doll. The right lower extremity had become somewhat weak also, but the upper one remained quite free. The left side of her face was involved in paralysis as well as the limbs. Two years after the attack of hemiplegia she had another fit, and was unconscious for thirty-eight hours. It was attended by convulsions, and for ten days afterwards she did not know her attendants. This fit, however, left no paralysis, and would appear to have been of the nature of epilepsy.

Hemiplegia in a young woman who had suffered severely from congenital syphilis.—Dr. Turner sent me a young woman, of about nineteen, who had lost part of her nose, all her front upper teeth, and her soft palate, and who was deaf and had clouded corneæ. Her mother was known to have had syphilis, and there could not be the least doubt that she had herself suffered very severely from inherited taint. It was alleged that she had had no symptoms until she was eleven.

The chief interest of her case lay in the fact that she had recently had a sort of fit, which had left her with hemiplegia of the right limbs. The hemiplegia was already passing off.

Case of defective brain, with atrophy of optic discs and chronic choroido-retinitis in association with inherited syphilis; tabes and general paralysis threatened.—A young man who was sent to me by the late Dr. Barnes, of Ewell, afforded an excellent example of the slighter form of mental defect sometimes met with in connection with inherited syphilis. There could be little doubt that there had been in infancy a temporary condition of meningitis attended by optic neuritis. The lad was brought to me on account of defective sight, and in the hope that he might be helped by spectacles. I found that his pupils were of unequal size and not very active, and that he could see only $\frac{20}{60}$. He was seventeen years old. He had a pair of typical teeth and a physiognomy which was fairly characteristic. There was no history of any illness that he could remember, but he had been told that he was ailing in infancy. He was the eldest of his family, one older than himself having died young. His father had died, after a four years' illness, of "softening of the brain." Long before his last illness he had suffered from "headaches, which made him eccentric and of unbearable temper." It may be conjectured that the so-called softening was really due to slowly aggressive syphilitic changes. I found in the son both optic discs very pale and their margins indistinct. The central vessels were

not in the least concealed, nor were they much diminished. Near to the disc were some groups of faintly-marked minute pale dots in the choroid. None of these had any pigment at their edges. In the extreme periphery of both eyes were ill-defined patches of similar dots, and after considerable search I found a few lines of black pigment in the retina. There were no large patches of absorption in the choroid, and the changes were altogether very inconspicuous. Still, there could be no doubt that he had experienced an attack of neuro-retinitis, and that slight changes were now in progress in the direction of retinitis pigmentosa. It should be stated that it had been observed that he could not see well by artificial light, and that his pupils dilated but little under the use of atropine. As yet no attack of keratitis had been experienced. Nor was there any deafness. As regards his brain condition, the lad was so nervous that I could scarcely get him to speak to me, or to read the test-types. A friend who came with him told me that he was decidedly defective in intellect and much behind other boys of his age. It was believed that his sight was slowly getting worse.

Idiocy and juvenile dementia in connection with inherited syphilis.—It has been a matter of general remark amongst authorities on this subject that well-marked examples of inherited syphilis are by no means frequent in our idiot asylums. Forty years ago my late highly-valued friend, Dr. Daniel Hack Tuke, persuaded me to visit with him the Earlswood Asylum with special reference to this point. The result was that we found only a very few who could be reasonably suspected of being syphilitic. Dr. Langdon Down, who was at that time the superintendent of the institution, subsequently, from more extended investigations, recorded a similar opinion; and a few years later still, in conversation, this high authority told me that he had seen no reason to alter his belief. In the *British Medical Journal* of January 30th, Dr. Shuttleworth,* of the Lancaster Asylum, in a lecture upon the Causes of Idiocy, upholds the same view, stating that he had not one patient under care in whom syphilis could be suspected, and adding that character-

* Dr. Shuttleworth has since published some valuable additional facts on the subject. In 1877, Dr. Clouston described under the name of "developmental general paralysis" cases which are now recognised as general paralysis with dementia and as being certainly due to inherited syphilis. (*See*, further, page 494.)

istic teeth are rare in idiot asylums. Dr. Judson Bury, in an excellent paper in *Brain*, of April, 1883, maintains a somewhat different opinion, and thinks it not improbable that there are more cases due to this cause than have been suspected. He urges the importance of taking a wider basis for diagnostic recognition, more especially the examination of the choroids. It is quite true, as I have, indeed, often urged, that we must not content ourselves with the inspection of the teeth. Probably only in a minority of the examples of inherited taint do the teeth show any peculiarities, and in many in which they are damaged they are yet far from being characteristic. If we would wish to be successful in our diagnosis, we must take into simultaneous consideration the whole group of phenomena which we now know are often connected with bygone specific disease.

As might have been expected from the fact that syphilitic infants are generally born with all the appearances of perfect health, we do not find congenital idiocy, whether microcephalic or otherwise, in other than the very rarest connection with this taint. It is at the same period of life in which we encounter disorders of the sense-capsules, choroiditis, keratitis, deafness, and the like, that we find the chief risk to the brain, and thus the failures of intellect are to be classed rather as the dementia of children or general paralysis with insanity than as infantile idiocy.

It is usually at about the age of eight or nine that the brain begins to fail. Even then the attack rarely proceeds to any high degree of intensity; acute outbreaks are very rare. This is in keeping with what we observe in connection with choroiditis, which rarely destroys the sight, but, as a rule, produces changes only in the periphery of the fundus. Dr. Hughlings Jackson has drawn our attention to the probability that inflammation of the pia mater may be in some sort the analogue of choroiditis, and may occur under similar conditions; and Dr. Judson Bury has proved from necropsies that a state of secondary atrophy of

the grey substance of the convolutions may be the result.

As a matter of clinical observation, I would suggest that it is not very uncommon to note a slight deficiency in vigour of intellect in the adolescent subjects of infantile syphilis, but that anything amounting to imbecility is certainly very rare. Their defects, whether slight or more severe, are, I think, rarely aggressive, though I have known a few in whom the symptoms implied slowly-advancing changes.

I have myself seen a great number of the subjects of inherited taint who had attained adult age and whose intelligence was excellent. I have at the same time seen a few in whom, at different periods of life, cerebral disorders did slowly develop, which were attended with mental derangement now and then amounting to imbecility. In one case a lad whom I had long known as having suffered from interstitial keratitis, etc., became ultimately an inmate of Colney Hatch, and there died; but I do not know what precise form his insanity took. A girl of about ten was brought over from New Zealand quite blind with white atrophy, and the evidences of inherited taint were perfectly conclusive. She was liable to most violent outbreaks of passion, and was for days together in a state requiring continuous control.

In another case, in which, many years ago, I obtained a *post-mortem* examination, I found the skull-cap very much thickened and sclerosed and the convolutions of the brain atrophic.

There is a special form of paralytic dementia, closely allied to general paralysis of the insane, which sometimes sets in from the age of three to six years, or later, and is rather rapidly aggressive. Under it a child of average intellect up to the age mentioned, and wholly free from paralysis, may be, in the course of two years, reduced to a condition of the most helpless idiocy. The symptoms suggest that it is an affection of the cortex, and very possibly of the pia, and that the ultimate changes are of a degenerative nature. Not improbably some transitory stage of

congestion precedes the degeneration, but there are none of the more severe head symptoms, pain, convulsions, etc., which usually attend the presence of gummata. The two following cases may serve as illustrations :—

Case 1.—Congenital syphilis; no infantile symptoms; good health till the age of four; aggressive general dementia; choroido-retinal degeneration simulating retinitis pigmentosa.—The subject of the following case was, when she came under my observation, a tall child, aged eight years, emaciated, and of pale, leaden aspect. She sat on her nurse's knee with her spine bent and "in a heap." Her head was usually turned to her right shoulder, and she constantly rotated it. Her mouth was always open, and she often lolled her tongue out, like an idiot. She frequently uttered a sort of exclamation. She appeared to take no notice of anything, but if for a few moments her eyes became fixed on anything, the rotation of her head ceased. Up to four years of age she had been quite well; she could walk well and talk freely. A photograph was brought to me, which showed her a healthy-looking child without anything in her physiognomy indicative of syphilis. Her ailments came on gradually. It was at first noticed that her left ankle seemed weak, and would bend over. After this both legs got weak, and she would easily fall. At the end of a year from this time she had ceased to attempt to save herself with her hands, and would fall on her face. Her speech began to be indistinct, and was gradually lost.

She did not easily cry, and appeared to be quite good-tempered. She did not resent the striking of her knees, nor the putting of drops into her eyes.

It was thought that she could distinguish her mother from her grandmother, but with one single exception, a year ago, when she suddenly said "Papa," her father thought that she had not recognised him for three years past.

Any sudden noise would throw all her limbs into spasmodic movement. All her limbs were exceedingly

thin; her elbows were always bent, and the fingers usually flexed strongly into the palms over the bent thumbs. They could, however, easily be straightened, and in sleep I was assured that the limbs were always quite limp and straight. Her feet were in a condition of talipes equinus, with some varus in the right one. Her extremities were very prone to become cold, even in hot weather. The knee-jump was at least normal. Her pupils were of equal size and small. She often turned the eyeballs upwards, but they did not oscillate, and she had no squint. Sensation appeared to be normal, and she certainly felt tickling of her feet.

The ophthalmoscopic examination was difficult, as the head had to be forcibly fixed to prevent constant rotation. The pupils, small at first, had dilated well with atropine. The media were quite clear. In both eyes there was a broad peripheral zone of choroido-retinal disease, denoted by closely-placed, roundish, but not abruptly defined pigment accumulations. The retinal vessels were so small that they could with difficulty be found. Of the discs I obtained only momentary glimpses. They were hazy and of a pale pinkish-cream tint. Their margins were well defined, but there was an approach to the condition sometimes described as "waxy."

It was impossible to estimate the child's vision or her hearing. My impression was that both faculties were very dull indeed. The eyes were but very rarely fixed on anything, and she never took notice of special objects. Although a sudden noise made her start, it was necessary that it should be very loud.

It is to be noted that although her muscles were small in bulk they were very strong. When she chose to resist, it required much force to straighten her limbs or to fix her head. Her father had to use his strength to keep her head still during the ophthalmoscopic examination. She very rarely shut her eyes, and during my long attempt with the ophthalmoscope I had no difficulty whatever on that score. She kept her eyes constantly wide open. It would seem that her pupillary reflexes were normal, and the iris in full activity,

for the pupils were small, and they dilated rapidly and fully under atropine.

As regards the diagnosis of inherited syphilis, there was nothing conclusive in her physiognomy or teeth. The latter were a little suspicious, however, and there were bosses on the frontal eminences.

The father of the child, who came with her, gave me the following conclusive facts. Nearly two years before the birth of the child he contracted a sore. Having no suspicion as to its nature, he unfortunately infected his wife, who had both a local sore and an abundant eruption. She required a long treatment, and even at the present time has some skin disease remaining (lupoid?). The husband himself never had any secondary symptoms, but had throughout good health, and at the present time appears to be very robust.

Had it not been for the father's statement, I should have felt some doubt as to the existence of inherited taint. There would appear to have been entire immunity from symptoms up to the age of four, and then a setting-in with unusual severity of those changes which accompany the choroido-retinitis that simulates retinitis pigmentosa, and which produce conditions approaching idiocy. It is probable that the retinal changes represent others, much more extensive, in the grey matter of the brain itself.

Case 2.—Congenital syphilis; fair health, but defective development of mental powers; at the age of six, aggressive idiocy; Raynaud's phenomena very marked.—The following case may very suitably accompany the preceding. It is an example of exactly the same form of disease, but it had not as yet reached the same development. We have a child, born of syphilitic parents, suffering mildly from the usual symptoms of infancy, but afterwards, although of distinctly delayed development, enjoying fairly good health until the age of six. From six onwards to the present date (four years) there has been aggressive disease probably affecting the cortical substance of the

brain, and producing general paralysis and idiocy. With this a most remarkable enfeeblement of circulation has been produced, attended with Raynaud's phenomena in a severe form.

Dr. G——, who sent this patient to me, wrote that he knew that the parents and their children had suffered from syphilis. The following are the notes which I took:—

R. ——, æt. ten. Parents' marriage fourteen years ago. Both parents suffered soon afterwards from syphilis.

The following is a list of their children:—

1st, M. Dead-born at seven months.

2nd, F. Died at birth.

3rd, F. Lived to nine. Had affection of spine. Died.

4th, M., ten. *The patient.* A fine baby till five weeks old. Thrush badly. Convulsions at eleven months. No eruption remembered.

5th, F. Died from meningitis, aged nearly two years. One side paralysed. Symptoms of five months' duration only, and believed to have been caused by exposure to the sun.

6th, F., seven. Living, healthy and intelligent.

7th, F., four. Living, healthy.

8th, M., three. Living, healthy. Had convulsions during dentition.

Our patient could not walk until two years old. After that could walk and run well up to the age of six. Next it was noticed that his circulation was very feeble. One winter "an ear was caught," and a portion of it sloughed. His hands and feet would become blue, and "black knots" would form on the hands. No sores occurred. He never had anything called chilblains. His youngest sister has also suffered from cold hands. Their mother is a chilly subject. Her fingers in cold weather are apt to become numb. She never has chilblains.

It is about two years since he began "to fall about." He has now lost power in both hands and legs. He can only manage to stand by holding on to the table. Last summer he could just walk alone; now he cannot walk at all. He never had power in his hands to write. He never quite learned to read. He could talk well formerly, and repeat poetry, though always "childish for his age." Now he cannot speak so as to be understood by a stranger. He is unwilling to speak at all, and never voluntarily moves himself. He sits with playthings in his hands, but does not play with them. His mother has to turn him over in bed, or he would always lie as at first put. He is rather stout and flabby. At home he is usually sallow and with sunken eyes; but when excited, or opposed,

his cheeks become brick-red or dusky. They were very red when I saw him. Recently, ulcerations have formed between his toes. He never perspires, and when his feet are livid they are very dry.

He sleeps fairly well. The paroxysms of coldness of hands and feet occur every day, and often several times in the day. His nails and fingers go quite black. The lividity extends halfway up the calf. Sometimes the condition lasts most of the day. Usually it begins about three in the afternoon, and lasts till he gets to sleep.

We have here a well-marked example of Raynaud's phenomena, and it is to be noted that they have been developed in association with advancing cerebral disease. It must be remembered, however, that the tendency was probably inherited, for both his mother and a sister have shown it in slighter degree.

Dr. Shuttleworth, writing from his experience at the Royal Albert Idiot Asylum, has drawn attention to the fact that in some of the cases in which congenital syphilis is the cause, the children are healthy and intelligent during the first few years of life. His cases would some of them, indeed, appear to have been closely parallel to the two which I have here recorded. It is quite in keeping with what we know of some other phenomena of inherited taint that the occurrence of the symptoms should be delayed. The keratitis and the deafness, which are not uncommon, both usually set in at an age approaching adolescence. The same statement is especially true of the cases of aggressive choroido-retinitis with pigmentation, which are probably still more closely related to our subject.

We owe to Dr. Mott much very valuable information as to dementia in connection with inherited syphilis, more especially in its later stages and as to its pathological anatomy. He has dealt with twenty-two examples of it, and did not find that in any one of these syphilis could be excluded, whilst in a large majority the history and the presence of stigmata were conclusive. In three of his patients the fathers had suffered from general paralysis of the insane, but in many others there was no history of family neuropathy.

The characteristic changes were atrophy of the convolutions, with thickening and adhesions of the membranes, and dilatation of the ventricles.

A good chapter on this subject, giving a summary of the views of Dr. Mott and others, will be found in Dr. Taylor's work on "The Nervous Diseases of Childhood," etc. It has been held that all treatment is useless, and that the changes are the result not of active syphilitic lesions but of post-syphilitic degeneration. It is, however, not improbable that in their earliest stage the conditions are those of syphilitic inflammation, and that the prompt and continued use of mercury might then be very beneficial. As with the general paralysis of adults, when the patient reaches the asylum the stage is hopeless, but it does not quite follow that the earlier ones were so.

CHAPTER XLIX

INSTANCES OF HEALTHY FAMILIES BORN OF CONGENITALLY SYPHILITIC PARENTAGE

It is now taught by some authorities that we may distinguish two forms of syphilitic manifestations as due to inheritance. In the one the child shows in infancy the usual *rôle* of symptoms, or at any rate, either then or later on, some which are quite unmistakable. This, the only form which until recently has been recognised, is named by some the "contagious" type, and by other "virulent syphilis." In addition to it we are now asked to recognise what is termed a "dystrophic" type, in which various defects in general health or local disorders or deformities, none of these in themselves conclusively specific, are ascribed to inherited taint. M. Edmond Fournier has supplied a somewhat appalling list of these, and has adduced evidence in support of the creed that they may be due not only to inheritance in the third generation, but even in the fourth. Some go even further, and think that this kind of obscure inheritance is responsible for a degeneracy of race which they view with great alarm as likely to be progressive in the future. It is obvious that such teaching is of importance to social reformers as well as to the medical profession. In fact, it is upon it that the clamour for legislation with a view to "the suppression of syphilis" has been to a large extent based.

After a careful study of M. Edmond Fournier's writings, and those of some others (Mr. Marshall, etc.) who, more or less fully, advocate the same views, I am not convinced. I do not believe that syphilis is to any appreciable extent responsible for degeneracy of race. Of the so-called "syphilitic dystrophies" it is

very improbable respecting a large majority that they are in any way connected with taint. The fallacy is the old one of *post hoc ergo propter hoc.* They are most of them common enough under conditions where no syphilis can be suspected. Respecting a few of them it may be admitted that they are probably specific, but at the same time asserted that they are simply examples of direct inheritance in which the more usual *rôle* of symptoms has not been developed, the so-called *syphilis occulta.* As to inheritance in the third generation, I am absolutely incredulous. That such an occurrence should be possible seems improbable in the highest degree, and the facts which have been adduced in its support are far from being unimpeachable.

Here, perhaps, may be permitted an expression of some astonishment at the great number of facts bearing on these topics which appear to have come under the cognisance of some of our Continental *confrères.* They far surpass anything which has ever been suggested by English observers. M. Ed. Fournier tabulates whole series of cases in which he thinks that third-generation inheritance occurred, and M. Taranowski records as established laws many statements which nothing but the observation of hundreds of quite definite facts would justify. Such facts are, however, in English practice exceedingly few. I have been myself for sixty years or more a not incurious observer; but, although I have been most desirous to ascertain, first, the degree of protection or modifying influence which the inheritance of syphilis affords as to subsequent contagion, and, secondly, the possibility of third-generation inheritance, yet the number of trustworthy facts which have fallen to my share bearing upon either of these questions might be counted on the fingers of my two hands. Either inherited syphilis is much more common in France and Austria than it is in England, or the supposed recognition of its subjects in adult life must proceed on much more liberal lines than with us.

I will now proceed to narrate some of the more important observations which have fallen to my share.

Transmission to the third generation—The question of the possible transmission of syphilis by inheritance to the third generation has occupied increasing attention during recent years. Prior to the observations as to the value of the teeth and physiognomy as enabling us to recognise the subjects of inherited taint in adult life, it was not possible to maintain respecting any syphilitic infant that one or other of its parents had incurred a like inheritance. Vague conjectures were afloat that all struma was syphilitic, and that various other conditions of cachexia might be due to the same cause. Until I published a case in 1866, no one had, I believe, ever hinted that an infant might be born destined to display the usual train of specific symptoms during the early months of its life in virtue of inheritance from a parent who had inherited it. In this observation I was, of course, assisted by the then recently acquired knowledge just referred to. Not long afterwards I had one or two other cases, and for a time I was half inclined to believe that these facts did really support the conclusion to which they seemed to point. More extended experience has, however, led to incredulity, and that, too, in spite of the fact that several distinguished authorities have published cases seemingly in corroboration of my own.

The considerations which have weighed with me in arriving at this conclusion may be stated as follows :—

Although unquestionably cases do occur in which those parents who exhibit the stigmata of inherited taint produce tainted children, they are extremely infrequent.

The symptoms displayed by such infants differ in no respect from those resulting from recent acquisition on the part of one or other parent.

It is never possible to exclude the suggestion of recent parental acquisition, whilst in some cases in which the facts had at first sight seemed most conclusive, further inquiry has indubitably shown that such recent acquisition had occurred. This has indeed

been the result in all the cases in which I have personally had opportunity for examination.*

When we remember that it is generally admitted that the possibility of the transmission even of acquired syphilis comes to an end within a few years, it must be allowed to be exceedingly improbable that, in the case of a child obtaining the disease by inheritance, the risk can persist until its own child-bearing age.

If those who inherit were capable of transmitting in adult life, it is probable that they would also be capable of infecting, whereas we have no records of such supposed infections, not even to the partner in marriage. If a woman, herself the subject of inherited disease, could convey active (or "virulent") syphilis to her offspring, she would also be, in all probability, a source of danger of infection to her husband. No accidents of that kind are, however, alleged.

Having regard, then, to the great improbability of the occurrence, I must believe that no trustworthy evidence has yet been brought forward in proof of third-generation transmission. The cases which have been supposed to be such were far more probably instances of undisclosed parental acquisition. My opportunities for observation have been large, and have extended over many years. I have been carefully on the look-out for facts, and I now record my conclusions.

* Without being discourteous to the statements published by others, I may perhaps be allowed to hint that, in all, much of what I would call good-hearted credulity in the reception of evidence is displayed. When a surgeon undertakes to guarantee for his patient that no exposure to the risk of contracting syphilis has ever occurred, I can but suspect that his experience of life has been but small, or that he is habitually not prone to attempt to look below the surface. If it is attempted to strengthen the guarantee by saying that the parties have been well known to him, my suspicions are strengthened, for it is precisely under such circumstances that sexual follies would be concealed. I have no reason to think that my own experience has been worse than the average, but I have known enough of what is possible in reference to the acquisition of syphilis, in all ranks of life and under apparently the most unlikely circumstances, to induce me to disregard almost absolutely the denials of patients and to allow my opinions to rest not upon what I am told, but upon what seems probably true.

I reprint the following clinical lecture from the pages of the *Polyclinic Journal*:—

Case of supposed syphilis in the third generation.—I wish to-day to offer additional facts respecting a case brought before us last week in which there was *prima facie* suspicion that syphilis had been transmitted to the third generation. The facts respecting it I have since carefully investigated, and the results are very important. You will remember that amongst the cases presented at my last demonstration were a mother and child. I had not seen them before and knew nothing of their history. It was, however, easy to see that the child, a stout infant of eight months, was suffering from inherited syphilis. It had a sunken bridge of nose, sores at the angles of mouth, a circinate eruption in small patches about its wrists, and, above all, a large ulcerated condyloma on one side of its anus. Whilst looking at the child I observed that its mother also bore in her physiognomy the well-known stigmata of inherited taint, and on inquiry we were told that she had, at the age of seventeen, passed through a severe attack of inflammation of both eyes. She had one characteristically notched tooth. She was a woman of about thirty-two, and had been married ten years. She told us that she had borne six children, and that her first-born, now a boy of nine, was living, but that in his infancy he had presented symptoms which were exactly like those now present in her baby. Between the two there had been four premature births, all dead. The woman considered that both she and her husband had enjoyed good health, excepting that the latter suffered from asthma. No further questions were asked. Having stated to those present my confident belief that we had had before us a most unquestionable instance of a mother, herself the subject of inherited taint, who had borne a tainted child (or probably two), I avowed my incredulity as to the infant's inheritance from its mother's inheritance, independently of subsequent acquisition by one or other parent. If inheritance in the third generation were a possible occurrence it ought, I contended, to be a tolerably common event, whereas the instances in which it has been suspected are exceedingly few. From my own experience I mentioned several in which the known subjects of inherited taint had borne quite healthy offspring, and said that I had only met with one single instance like the case before us, whilst in that one it was probable that the father of the infant had had the acquired disease. On *a priori* grounds the improbability of transmission to the third generation appeared, I ventured to remark, almost infinitely great. Finally, I promised that all the facts should be carefully examined and the patients brought forward again on a future occasion.

The patients had been sent to me by Dr. Sharman, of Dulwich, and I at once communicated with that gentleman in

order to ascertain whether he knew anything of the family, and whether he could procure me an interview with the father of the child. Through Dr. Sharman's courtesy the father, mother, and both children were sent a few days later to my private residence, and subsequently they were induced to attend again at the Polyclinic.

When the family attended at my house I first inspected the elder child and found that he had a most characteristic physiognomy and equally characteristic teeth. He had not, as yet, suffered from keratitis, but his mother's statement that he had presented the usual group of symptoms in infancy was well borne out. He was a well-grown, cheerful boy, but his teeth bore evidence of his having taken mercury in infancy. He had attended for many months at the Great Ormond Street Hospital for Children.

My next step was to see the father alone, and having assured him that I would say nothing to excite suspicion in his wife, I begged him to tell me candidly whether he had before marriage suffered from venereal disease. He assured me most positively that he had not, and he spoke with apparent truthfulness. There was nothing I could observe in him to invalidate his statement. He said that he had suffered much from bronchitis and asthma, and the ends of his fingers presented the broad nails and clubbed form of the pulmonary type of acromegaly. I may own that at the time I believed what he told me, but I subsequently found that a similar question had been previously put to him by Dr. Sharman, so that he was prepared for mine, and no doubt felt bound to adhere to what he had first said.

Next I saw the woman alone, and having obtained from her an account of her childhood, which confirmed what has already been stated, but with the addition that she was the eldest of six living brothers and sisters, all the others being in good health, I inquired as to her own health since her marriage. I gave her no leading questions, and endeavoured carefully to avoid exciting her suspicion as to what I wanted to know. She said that she had always been well, but then added quite spontaneously, but in a manner which made me feel sure that she knew what she was telling me: "I once attended University Hospital for sores." "When was that?" "Oh! as soon as I got up from my confinement with my first child." "Where were the sores?" "On my privates." "Did they examine you at the hospital?" "Oh, yes." "And what did they give you?" "Powders." "How long did you attend?" "Oh, almost six weeks; I was soon well, and have never had anything since." I have given you the *ipsissima verba*, because here ended this important episode. The woman would not admit that she had suffered from any eruption or sore throat, and I had promised her husband that I would ask no questions which should lead her to entertain suspicions of him. Had I put any direct questions to her very probably she would have denied

everything. At the same time I feel quite sure that she intended me to take the fact for granted. She could have had no other motive for mentioning the occurrence at all, for she denied that it had affected her general health.

My own interpretation of the case is that in all probability the husband contracted syphilis during the latter part of his wife's first pregnancy, and infected her, and through her their child. On this hypothesis the facts may be held to prove that a tainted mother may bear a tainted child at least seven years after her acquisition of the disease. This is in itself an important fact, but it has been repeatedly proved before, and it is as nothing compared with the hypothesis that a mother, herself the subject of inherited taint, may bear tainted children as the result of such inheritance. In support of that hypothesis the case cannot for a moment be quoted, for although it may be admitted that the acquisition of syphilis *de novo* by the mother is not conclusively proved, enough evidence has been offered to make it very probable, and to entirely prevent the case from being cited as proof of anything else.

In conclusion, let me beg you to note how very near we have been to missing the truth in the history of this case. If the mother had not at the last minute volunteered the information which she gave, we should have been obliged to record the case as one in which syphilis had occurred in the third generation, and in which there was no reason to suspect the acquired disease in the parents. The literature of syphilis, let me say, abounds in cases in which errors of this kind have occurred. We are obliged to record our patients' denials, and, if we can find no reason for disbelieving them, we are obliged to give them a certain amount of credit. In this instance, as you heard, the father of the child strongly denied having had any disease, and there were no facts by which to confute him. He appeared to be healthy and so did his wife. As regards his denial, we must remember that he had been asked the same question before I saw him. In these cases everything depends upon how the question is put on the first occasion. If a man has once said, "I never had anything of the kind," he cannot well go back on himself and admit that he has told a falsehood; I have known that done, but not often. Now, when something happening to a man's offspring is in question, a father is under a great temptation to exculpate himself. Not unfrequently, on the impulse of the moment, an emphatic denial is given which would willingly be retracted afterwards could it be done with dignity. As regards the mother, I do not think that she would have made any confession to me had I asked her in the presence of others. It was only when she was speaking to me in the privacy of my own consulting-room that she became confidential. I feel really thankful to her for the information which she gave me. Had she not given it, I should have felt compelled to publish the case as one which, so far as I could ascertain, supported the doctrine of third-generation

transmission. In that doctrine I am no believer, but there are those who do believe it, and the case would have been triumphantly cited by them as a most conclusive one.

Dr. Taylor, of New York, has recently recorded two cases in which he thought that the evidence strongly supported the belief in third-generation syphilis. If we accept the facts as proving that individuals in each of the three generations did really suffer from syphilis, there still remains the possible fallacy that in each instance one of the parents of the third-generation subject might have had acquired disease. Dr. Taylor in each instance expresses his conviction that this was not the case, and supports it by stating that he was personally acquainted with the families. This personal acquaintance may have seemed to him very trustworthy, but it is not so in reality. The fact of personal acquaintance will often lead a youth who has contracted syphilis to carefully avoid communicating with the surgeon concerned. Dr. Taylor does not even state that he had put direct questions on the subject. Even if these details have been carefully sifted, there would remain the possibility of illegitimate parentage. If the facts were quoted in support of a proposition which had a strong probability in its favour, they might be accepted as possibly true; but when they are alleged in support of what is acknowledged to be extremely infrequent, and, therefore, very improbable, they can scarcely be claimed as of much value.

In what has been written in the first half of this chapter we have been dealing chiefly with the inheritance of syphilis in its common and typical form. It is necessary, however, now to offer a few additional words concerning what, as I have already said, I am obliged to regard as a modern revival of an old heresy. Many authorities, in days when observation was less exact than now, held that various forms of cachexia and ill-health, not preceded in the child by any of the ordinary indications of taint, were yet due to syphilis in the parents. It was not supposed that such cases could be contagious, nor was it even contended that any of the unquestionable symptoms of the disease were ever

present. We may assume, therefore, that in modern language the specific cause—the parasitic spirillum—is absent in these cases, and that the inheritance is of syphilitic cachexia rather than of syphilis. Sir Erasmus Wilson asked, "Is not all struma, syphilis?" and many others have been inclined to put leprosy and some other constitutional disorders in a similar category. Five-and-twenty years ago professional opinion appeared to be definitely formed in the negation of these suggestions, but more recently some of them have been revived, and with perhaps even less of anything approaching to proof. Certain congenital deformities and infantile abnormalities have been claimed as syphilitic. These suspicions, whilst they concern somewhat third-generation transmission, are much more importantly influential respecting the first, in which they far more frequently come into play. Modern knowledge enables us to state the problem definitely. We may now ask explicitly whether any kind of syphilitic inheritance is possible which does not imply the transference of the parasite. It being fully admitted that parasitic infection, when really present, may be latent through indefinite periods, it may, I think, be contended with great probability of truth that unless the parasite be transmitted no transmission of any kind of syphilis can occur. This is possibly not quite the same thing as asserting that mere cachexia from syphilis in parents will exercise no influence on progeny, although plenty of evidence might be adduced in proof that the offspring of parents in the tertiary stages of syphilis are often well grown, healthy, and strong. It would be absurd to deny that an enfeebled parent may beget or produce a weakly child. All that is questioned is whether such child, if not receiving the specific poison, can suffer anything having any specific relation to syphilis.

The best kind of evidence which can be collected in elucidation of this question is that derived from the examination of whole families in which one at least of the children had borne unmistakable proofs of taint; and amongst such proofs notched teeth and keratitis stand

foremost. Having identified one such case, we may next inquire whether amongst the younger brothers and sisters who have not shown definite symptoms any special proclivities have been observed. If it be found that of such children almost all are well grown and free from ailments, we may then with reason put aside as coincidences cases in which the children of syphilitic parents have displayed such. A very valuable body of evidence on this point is afforded by the numerous family narratives recorded in my work on "Syphilitic Affections of the Eye and Ear." In all these cases one at least of the family was identified as certainly syphilitic, whilst amongst the other members the so-called "dystrophies" were conspicuously absent. The series is especially valuable for the purpose suggested, because it was collected without any bias and without special reference to the matters now in controversy.

In reference to third-generation transmission, I have by no means intended, in what I have said above, to imply incredulity as to its possibility. Recent investigations have made it probable that the spirillum may exist in a quiescent but living form long after all evidences of its activity have ceased in the patient. There are also certain facts which would favour the suggestion that the ovary is perhaps an exceptionally favourable site for such exceptional persistence, and it is established that in infancy the spirillum is very abundant. These considerations make for possibility, and I do not desire to ignore them. What I do assert is that no one has yet published cases which are more trustworthy than my own—in all of which, nevertheless, fallacies were disclosed.

CHAPTER L

GENERAL PRINCIPLES OF TREATMENT

Mercury.—The specific powers of mercury would appear to have been recognised very soon after the introduction of syphilis into Europe. Even in the days of Cervantes, that is, about a century subsequently to the appearance of the disease, it was considered (as we read in "Don Quixote") a question of historical interest, "Who first used salivations for the French distemper?" From that time to the present, with varying vicissitudes, it has maintained its reputation, and under modern methods of use its hold is now probably much stronger and more nearly universal than ever it was before. The non-mercurial school is now a small and silent one, yet there can be not the slightest doubt that the symptoms may wholly disappear without recourse to the specific. Anyone who will read the case-narratives of Judd and his compeers will be astonished at what is there recorded as to the speedy and complete disappearance of symptoms under quite simple measures. Dr. Drysdale took up the running, and Boeck, of Christiania, as is well known, used to advocate "syphilisation," and denounce mercury as "a devilish remedy."

There can be no doubt that the introduction of the iodide of potassium, which Judd was one of the first to use, has done much to establish mercury on a secure throne. Precisely in those conditions which mercury often aggravates is the iodide useful, and we now know well when to substitute the one for the other or to use them in combination.

If, however, we may assert that the verdict in the present day is almost unanimous that mercury in some form ought to be used, there is still some difference of

opinion as to its most convenient and effectual mode of employment. Nor are we quite agreed as to how early it should be commenced or how long it should be continued.

If we go back a century, all suspicious sores on the genitals were by most surgeons treated promptly with vigorous courses of mercury. Under this plan probably many cases of syphilis were suppressed in their very earliest stage, that is, the parasite was killed. Then came the recognition that many of these sores did not lead to real syphilis, and the rule was established that the secondary symptoms ought to be allowed to appear before such a serious measure was justified. Probably, all along, experienced specialists often felt themselves justified by the condition of the chancre in forming a positive opinion and acting upon it. As a rule, however, until fifty years ago and even later, it was denounced as culpable self-confidence to begin mercury before the rash appeared. It is remarkable that those days coincide with an apparent increase in the mortality. When, in 1855 and following years, the small-dose plan was introduced, and the avoidance of ptyalism advocated, mercurial treatment was robbed of its terrors, and the professional mind was prepared for the further step which favoured the earliest possible resort to it, with a view to the suppression of the secondary stage. Attempts at this anticipatory suppression are now the order of the day, and I observe with pleasure that an excellent authority, who for some time wrote against it, has recently avowed himself a convert.

Salivation.—The establishment of the principle that salivation, so far from being helpful, ought to be carefully avoided, was, I think, a very important step.

There is not the slightest reason to believe that those who have had their mouths made sore are in the least less prone to relapses than those who have not, whilst in many instances the occurrence of ptyalism, by interrupting the course, very definitely adds to the risks in the future. The object of treatment in the early stages is to kill the parasite in the blood and

tissues, and thus to prevent the occurrence of secondary lesions. To accomplish this, as much mercury as can be borne without inconvenience should be introduced. The entire absence of all manifestations may usually be taken to show that these objects are being achieved, but the immunity must be absolute and maintained. If otherwise, the remedy must be pushed to any extent which may be necessary. Diarrhœa and salivation are the two inconveniences which it is necessary to avoid.

The small grey-powder pill.—I wish to reiterate in the most explicit terms, as the result of long experience, that everything that mercury can do can be conveniently effected by the "small-dose grey-powder pill." In competition with other methods, the question is not so much as to efficiency as to convenience. Now and then, but very rarely indeed, a case may occur in which the tendency to diarrhœa may seriously interfere with the treatment, and in these it may be well to resort to inunction or the vapour bath. In my own practice, however, the necessity for such substitution hardly ever occurs; care as to diet and increase in the dose of Dover's powder are all that is needed. Dover's powder is probably much more efficient for this purpose than opium alone.

The calomel vapour bath and the inunction treatment are both of them very efficient modes for the use of mercury. Mr. Langston Parker and Mr. Henry Lee were both very successful with the bath. It is, however, troublesome and more or less expensive, charges to which the inunction plan is at least equally exposed. It is most desirable that for the treatment of such a disease as syphilis, which is common to all classes and which comes under the care of all sections of the profession, the measures should be such as are easy of employment. Not unfrequently there is, further, the necessity that the patient shall be enabled to keep his illness a secret. If the measures adopted are expensive, or if they involve frequent absences from home, they are almost certain to be interrupted or prematurely laid aside. It was considerations of this kind which gave to the small-dose grey-powder pill treat-

ment an easy victory, in the middle of the last century, over both inunction and the bath. The pills could be prescribed by any practitioner, taken by any patient, and continued for any time. It does not seem likely at the present day that either of the former competitors will again seriously enter the list. Another has, however, come forward.

In order to make the pill treatment of syphilis as effective as possible, it is desirable that certain details should be carefully attended to. The pills should be of uniform strength, and one grain of grey-powder with one of Dover's seems the best. These should be given at first three times a day, after meals by preference, the frequency being increased as the patient is able to bear them. All fruit, green vegetables, and soups should be most strictly forbidden. If the bowels are unusually irritable, the quantity of Dover's powder may be doubled; and if there is great debility, a grain of quinine may be added. The patient should be informed at the outset that he is to take the pills quite regularly and without any intermission for at least twelve months.

Iodide of potassium with mercury.—If for any reason it is desirable to give iodide of potassium as well as mercury, it is well to give the two separately, the mercury in pill and the iodide in solution. There seems to be no objection to their being taken at the same time, but Diday, who was a careful observer and a strong advocate for this mode of practice, held that two or three hours ought to intervene between the doses. These two specifics are far more manageable when given separately, and they appear to be more efficient; opportunity is also thus afforded for combining ammonia with the iodide, an addition which is of great importance.

Of late years I have got into the habit of using mercury much more, and the iodides far less, than I formerly did, and this not because I distrust the curative efficacy of the iodides, but because I have found that it is possible, by the use of very small doses of mercury, to cure the same affections, and to escape

the depressing effects of the iodide. My impression is that this change in practice is not at all limited to myself, and that it is destined to become general. The prejudice against mercury is fast disappearing, and both patients and surgeons are beginning to realise that the iodide, especially in the doses recommended of late, is not the harmless thing that it was thought to be. It is not at all uncommon for a patient to appeal to his prescriber, "Don't give me iodide of potassium if you can possibly help it. It depresses me so much, and makes me so miserable." These patients are not for the most part those in whom any special idiosyncrasy exists, but those who have painfully experienced its effects in considerable doses and over long periods of time. Of the permanently curative powers of the iodide in suitable cases I have no mistrust, although I think it is to be admitted that the risk of a relapse is far greater after an iodide cure than it is after one by mercury. The essential point, however, is, as I have insisted elsewhere, that, whichever drug be used, the local cure shall be complete before it is left off. If it be not so, and if ever so small a portion of inflamed tissue be left, as, for instance, in a syphilitic lupoid affection, the disease will certainly recur.

The influence of mercury on the blood.—By several investigators most praiseworthy attempts have been made to determine with exactitude the effects of mercury upon the blood and tissues, and to ascertain the manner and degree of rapidity of its elimination. The number of the red blood corpuscles has been carefully counted before and after its use. Making allowance for discrepancies consequent on the difficulty of the investigation, we may say that these inquiries, in a general way, bear out the conclusions previously arrived at by clinical observers. "A fattening course of mercury" is an expression which has been in use since the days of Abernethy, and the conclusion now arrived at by experiment is, that not only in the syphilitic but in the healthy, and not only in man but in the lower animals, mercury, if given in small enough doses, may be made to assist the formation of fat and

muscle. It also tends to increase the number of red corpuscles. Everything depends on dose, and upon the patient's idiosyncrasy. Whatever the idiosyncrasy, however, if the dose be reduced sufficiently, the drug may be made to agree.

That mercury is very quickly eliminated has been abundantly proved. It appears first in the urine, but may be detected also in all other secretions. It has been discovered by analysis in most of the tissues of the body, but in all probability it does not remain long. Hence the necessity for long continuance of its employment. The proper reply to the question so frequently put by patients at the conclusion of a successful course, "Will you not now give me something to take the mercury out of the system?" is, "It is much to be wished that it should stay in."

The importance of dose.—In the employment of specifics in the treatment of syphilis everything may be said to depend on dose. The statement so often made respecting patients, that they "cannot bear the smallest quantity of mercury or iodide," may always be set down as a mistake. Reduce the dose sufficiently and the drug will be borne, and when it is borne it will cure. It is not quantity of the drug which is needed, but its effect on the organism; and if the specific effect is gained by a minute quantity it is not only not needful but bad practice to attempt to increase it. I have never yet met with a patient who could not take either iodide of potassium or mercury, if only the dose was sufficiently reduced. The chief difficulties in treatment occur with those who are insusceptible, not in those who respond easily. I have repeatedly reduced the iodide of potassium and grey powder, respectively, to one-sixth of a grain for a dose, and then found them to agree well and to manifest specific influence.

Efficacy of early treatment in preventing tertiary symptoms.—Amongst the most important of the many problems which yet remain to be solved by the industry of future investigators is the influence of treatment in the early periods upon the liability to tertiary phenomena. It is a question of extreme

difficulty, being made so chiefly by the great departures from uniformity which syphilis presents. Tertiary symptoms are fortunately exceptional, whatever may have been the plan of treatment pursued, or even if all treatment have been omitted, and we can never feel certain that they have been prevented by any special measures which may have been adopted. Nothing less than a most painstaking collection of cases, each one of them extending over a period of ten years at least, can settle the question. When we remember that in very few indeed is the same plan of treatment pursued throughout, it will be easily seen that statistical evidence of the kind desired is not likely to be soon obtained. We must as yet, and for long, be content with general impressions.

There is no doubt whatever that the symptoms of the secondary stage may disappear under the most various plans of treatment, or without any, and that the patient may have a long period of absolute immunity, with, at the same time, no complete security as to the future.

Distinctions of stage.—Having asserted that all forms of visceral disease may occur in the secondary stage, and that every tissue in the body may be affected during it, there can be nothing surprising if, to many, it should seem that we abandon all distinction between the secondary and the tertiary stages. But it is certainly not so. We abandon, it is true, arbitrary rules of classification, but it is with the result of obtaining a clearer insight as regards the data on which it should be based. All will admit that for a time (as to the length of which, it is true, there may be some dispute) a syphilitic inoculation is a local matter; then follows a period far longer, during which the poison is free in the blood, and may, through it, infect all the tissues. We do not know how long this condition lasts, but we know that it is terminable, and that there will, sooner or later, ensue a state of the body in which the fluids are no longer infectious, and there exists no longer any tendency to generalised outbreaks. In this latter condition, however, the patient is by no means wholly free

from the risk of morbid phenomena in connection with his taint. As a rule, even the tyro can, however, easily distinguish such phenomena from those of the early stage. If he sees a general eruption covering the whole body, or ulcers in both tonsils, or double iritis, he does not listen to the patient's assurance that it is many years since his syphilis, but feels perfectly confident that there has been some recent infection. Thus, for practical purposes, and in a great majority of cases, the distinction of stages is definite and easily recognised.

Life-long courses of mercury.—In cases in which there are the premonitory symptoms of general paralysis of the insane, I have for long been in the habit of advising the continuous use of mercury for years. In doses of from half a grain to a grain of the hydrargyrum cum creta three times a day, and in combination, if need be, with a tonic, this drug may be given continuously for many years together, not only with impunity, but with great advantage to the general health. At the same time, those threatened with this terrible malady must be emphatically warned against sexual indulgence and all forms of intemperance.

The action of specifics not always that of parasiticides.—It is highly probable that we must regard the efficiency of mercury in the cure of syphilis under two different aspects. In the early stages it is undoubtedly a parasiticide and destroys the spirillum; in later periods it is often useful against forms of inflammatory action, concerning which it is not by any means proved that the parasite is present. As to a large number of this latter class it is indeed highly improbable that the action of the specifics (both mercury and the iodide of potassium) is simply that of parasiticides.

CHAPTER LI

OBJECTIONS TO CERTAIN METHODS OF TREATING SYPHILIS

As I do not recommend for general adoption any other method of treatment than that by small doses administered by the mouth and continued for very long periods, I shall not describe other plans at any great length. As I have already done repeatedly, I fully acknowledge that all methods by which mercury is introduced into the system are valuable in the early stages of syphilis. It is not, however, wise to resort to second-best when the best can be had, and he is not always the most successful soldier who goes to battle furnished with a variety of weapons. It is better to know how to use one drug well than to have a half-acquaintance with fifty. In the present instance I believe that he who has learnt how to prescribe grey-powder and the iodide of potassium, how to adjust their doses and their combinations, will generally act for the advantage of his patients if he ignores all acquaintanceship not only with inunctions, baths, and hypodermics, but with the innumerable chemical novelties which are from time to time forced upon our attention. Simplicity, directness, and economy are principles which must be kept constantly in view in our selection of weapons with which to conquer such a disease as syphilis. In the present chapter I shall confine attention to the statement of objections to those plans of treatment which are not advocated in this book. In order to avoid the appearance of partiality it may be well to allow the advocates of these methods as far as possible to make their own disclosures.

Respecting the use of the **mercurial vapour bath,**

it is scarcely needful to make further allegations than that it is both troublesome and expensive. These baths come within the reach of only a few. They can be employed only by private specialists or in public institutions.

Inunction.—This method, perhaps the oldest in European practice, has the disadvantage of being possible only to certain classes. It cannot be suitably carried out at the home of the patient, since it is dirty and certain to lead to betrayal. It is liable to cause unexpectedly profuse salivation, and is by no means free from the risk of causing diarrhœa. Its drawbacks are, however, more of the nature of inconveniences than real dangers, but they are such as to have led to general disuse excepting for special cases and as constituting imposing features at certain places of popular resort.

Lacy mentions cases of membranous enteritis after the daily inunction of blue ointment, and in six cases found, *post mortem*, the lesions of mercurial dysentery. Neisser in two cases observed most alarming stomatitis after five and seven inunctions respectively, and in one case a large slough was thrown off from the back of the tongue. After citing many other cases recorded by other authors, and especially the statement by Fournier that he was one of those who had cause to fear the employment of mercury by inunction, Lacy sums up as follows :—

"In reviewing these and other cases which have been reported, we are forced, after a careful examination of the facts in each case, to the conclusion that it is the form of treatment which leads in otherwise healthy individuals most frequently to grave complications and to fatal intestinal disturbances. The amount of mercury incorporated into the body in inunctions is, as it were, uncontrollable."

The same authority makes a somewhat unexpected admission as to failures with inunction methods :—"Cases in which inunctions are ineffectual and in which subcutaneous injections only produce results have frequently occurred in my practice and in that of

others" (p. 307). "It is probable that the skin of some individuals is less suited for the absorption of mercury than that of others."

Injections.—Marshall, who carefully contrasted the results in sixty-nine cases, found relapses twice as frequent after injection treatment as after inunction. Four of his thirty-seven injection cases had severe iritis, and one "early tertiaries." Of the thirty-two inunction cases, iritis occurred in only one.

There is an aspect of this question which I would most willingly avoid did it not seem a duty to advert to it. There is no doubt that the injection treatment of syphilis, as compared with other methods, much more definitely keeps the patient in his surgeon's hands and greatly increases his emoluments. It thus offers to the needy and unscrupulous a temptation too powerful to be always resisted. That the latter are a very small minority of those who have adopted it must be most fully and thankfully acknowledged. At the same time, none who have of late years been in any degree behind the scenes can doubt the reality of the peril. The evil does not end with the moral degradation of the practitioner or the pecuniary fine on his patient. It must in the long run tend to reduce the efficiency of the treatment of syphilis. That the injection plan is expensive, and cannot be made otherwise, is an objection which applies alike, though not equally, to the honest and the dishonest use of the syringe. Now a large majority of those who contract syphilis are young men not of large means. Nor are they, in many instances, of profligate habits or those who can afford to be careless of reputation. To them secrecy is essential and economy of great importance. Such men, often mere youths, will in the onset, having been assured that all other treatment is delusive, eagerly engage in the syringe plan. In the course of a few months they find themselves under the necessity of either abandoning it or making their needs known to their relatives, or, what comes usually to the same thing, attending regularly at some public institution.

Concerning the superiority of injections, M. Jullien, the surgeon of St. Lazare in Paris, has written :—

"Il n'y a aucune comparaison à établir entre les injections quelles qu'elles soient, solubles et surtout insolubles, et les pilules que l'on continuait jadis plus ou moins indéfiniment avec accompagnement de la stomatite obligatoire; nos armes modernes sont exactes et dépourvues d'inconvénient, mais, comme toute arme de précision, elles deviennent dangereuses dès que l'emploi est hasardé, capricieux, ou irrégulier. Mieux vaudrait cent fois s'en tenir aux méthodes anciennes que d'aborder, *sans une éducation et une discipline sévères*, les pratiques qui ont assuré le renom impérissable de Scarenzio et de Lang."

All who propose to use the injection treatment of syphilis should first read a lecture by one of its warmest advocates, Mr. Ernest Lane, which was published in the *Polyclinic Journal* for November, 1904. Mr. Lane gives details as to the anatomy of the parts into which the injection is to be made, and states that formerly when the needle was plunged haphazard into the buttock, accidents of more or less gravity not unfrequently supervened. He especially mentions abscesses, accompanied "by acute suffering," "long-continued attacks of sciatica," and "grave pulmonary complications attributable to the formation of embolic infarcts in branches of the pulmonary veins." With the insoluble salts he tells us "that absorption is not so certain; it may take place with unexpected rapidity, or it may be slow owing to the solution becoming encysted for a time and then suddenly thrown into the circulation." This latter class of risks may be pretty much avoided by using not the oily but the watery solutions; but there is the objection to the latter that they require to be repeated every day. The importance of sterilising the syringe, the bottle, and the solution, and of keeping the latter in hermetically sealed tubes, is strongly insisted on. It is admitted as regards both preparations that intolerance is sometimes manifested, and that "occasionally attacks of enteritis or nephritis necessitate an interruption of the treatment." The gravamen of the case, however, rests in this, that with the oil preparation you cannot arrest the absorption. How-

ever severe may be the ptyalism, the enteritis, or the nephritis, after the mercury has once been introduced its effects are beyond control. Absorption continues, and from day to day the evil is aggravated. Many fatal cases have occurred, chiefly by ptyalism. In one such the doses which had been used were only small and few in number, but, after the third, violent salivation ensued, and, in spite of treatment, became worse and worse, until death followed. It is not easy to imagine a more painful position for a medical man to occupy than the watching of a case of this kind, powerless to restrain the fatal effects of his own measures. In some instances resort has been had to excision of the portion of muscle containing the oil, and this measure, however unpromising and humiliating, ought certainly to be promptly employed in all severely threatening cases.

It is difficult, however, to see what are the inducements which should lead to a preference for this very risky procedure when it is easy to obtain all its advantages by one which is almost wholly free from inconvenience. In order to emphasise my argument I must make some further quotations.

Stomatitis from a mercurial injection given five months previously.—Ménétrier and Bouchard (*Bull. de la Soc. Méd. des Hôpitaux*, June 22nd, p. 674). A woman, aged thirty-eight, was admitted to hospital on March 22nd, 1906. She was salivated, her breath was fœtid, and mastication was painful. The tongue was furred and swollen; the teeth were covered with tartar; the gums were red and swollen, and there was pus in the sockets between the gums and the teeth. On the left pillar of the fauces was an ulcer with a greyish coating. On the internal surfaces of the cheeks, at the level of the crowns of the teeth, were two or three ulcers. There were no gastro-intestinal symptoms, nor was there albuminuria.

Mercurial stomatitis was suspected, but the patient denied that she had taken mercury. Chlorate of potash was given, and the mouth was frequently cleansed with oxygenated water. The fœtor disappeared, the salivation almost ceased, and the ulcers began to heal.

The patient left hospital on April 1st, but returned on the 12th with another attack of stomatitis more intense than the previous one. She stated that she had not neglected to wash her mouth daily. The whole body was then minutely examined. In the subcutaneous fat of the right buttock a lump of the size of a hazel nut was discovered, and in the left buttock a smaller one. On being questioned the patient stated that she had received an injection in the left buttock in March, 1905, and one in the right buttock in October. The urine was analysed, and was found to contain a trace of mercury. The lump in the right buttock was excised, and the stomatitis rapidly improved. The lump was entirely subcutaneous, and on section showed a greyish and yellowish surface hollowed out into little cavities. Microscopic examination showed that the lump was composed of fibrous tissue, and that the cavities contained fat, crystals of calomel, and globules of metallic mercury.

Fatal effects from small doses and after a short course.—Dr. Le Noir has reported a case of fatal mercurial poisoning after injections of seven drops of grey oil, given at intervals of a week. This preparation—*huile grise*—contains 40 per cent. of metallic mercury, 1 cubic centimetre representing 50 centigrammes, or 7½ grains, of mercury. The signs noted were an intense ulcerative and gangrenous stomatitis, fever, albuminuria, diarrhœa, and, at the autopsy, lesions of enteritis and toxic nephritis.

Death from the use of mercurial injections.—Le Noir and Camus (*Bull. de la Soc. Méd. des Hôpitaux*, January 12th, p. 8). A woman was admitted to hospital suffering from intense ulcerative and gangrenous stomatitis. Two months previously she had a sore on one of the labia. At intervals of eight days, seven drops of "grey oil" were injected into the muscles of the buttock on four occasions. Three days after the last injection salivation began. The following is the abstract given in the *Medical Review*:—

"The gums were red and swollen, and in places

superficially ulcerated, and there was abundant salivation with great fœtor of the breath. The tongue was swollen and painful. On the internal surface of the left cheek was an ulcer of the size of a two-franc piece, with a greyish and sanious coating. There were no signs of syphilis. The temperature was 99·6° in the morning and 100·7° in the evening. The urine was very albuminous. The stools were frequent, fœtid, and blackish. Potassium chlorate was given, and the mouth and teeth were frequently washed. Twelve days after admission the state of the mouth was much worse. The ulcer on the cheek was of the size of a five-franc piece, and was covered with a slough. The ulcer was very fœtid. The temperature did not rise above 98·9°. Nourishment was taken with great difficulty and in insufficient quantity. The diarrhœa persisted and the patient wasted. A mouth-wash of oxygenated water was prescribed. On the following days the condition became worse. On the internal surface of each cheek was a gangrenous patch occupying more than half its extent, and surrounded by a line of demarcation resembling noma. On the external surface of the left cheek the skin was red and œdematous. There were also gangrenous patches on the soft and hard palate and the lower surface of the tip of the tongue. Mastication was impossible, and deglutition and phonation were very painful. The emaciation progressed rapidly, and diarrhœa increased. Vomiting occurred, and in spite of slight improvement of the mouth, the patient became anæmic and weaker, and died in a state of hypothermia, the temperature being only 95·5°.

"*Necropsy.*—The buccal ulcers were in process of repair. On the stomach and intestines were numerous ecchymoses. The colon was congested and covered with a greyish-green gelatinous coating. The kidneys showed acute nephritis, the epithelium being in a state of granular and granulo-fatty degeneration."

Comment.—In this case neither the doses, which were not large, nor any feebleness of the patient could be invoked. Evidently there was some idiosyncrasy to the drug.

Severe poisoning after a short treatment. Excision and demonstration of mercury.—J. A. Sicard (*ibid.*, January 19th, p. 25). A young man was given weekly an injection of "grey oil," containing the regular dose of from 8 to 10 cgm. of metallic mercury. Three days after the fourth injection, severe toxic symptoms—stomatitis, albuminuria, nausea, and enteritis—rapidly appeared. At the site of the injections in the left buttock was a large swelling. Radiography showed the presence of metallic mercury. The swelling was excised and was found to contain lardaceous material in which were the remains of the mercury. Recovery followed.

I might add to the above a large number of similar narratives, but enough has been given to prove that the injection method does not admit of adjustment of dose, and that it has no claim to be considered "more scientific" than administration by the mouth.

See also the *Medical Review*, 1899, p. 234, from which excellent journal several of the above cases have been taken.

In what I have adduced in this chapter in reference to the inconveniences and dangers of the inunction, and more especially of the hypodermic, methods of treatment, I feel sure that there is not only no exaggeration but much understatement. Of the ill results from injection but a small part is ever published. Inunction and the vapour bath are both far more manageable; they are both less liable to cause diarrhœa than is introduction by the mouth, but that is their only advantage, for they are at least equally prone to cause unexpected ptyalism.

CHAPTER LII

SOME OPINIONS OF AUTHORS AS TO THE TREATMENT OF SYPHILIS BY MERCURY

In what I have hitherto written as to the treatment of syphilis it has been assumed that all are now agreed that specifics ought to be used, and that the question simply is as to their mode of employment and dose. Lest we should proceed too fast and too confidently in this direction it may be well to recur briefly to the opinions and teaching of the non-mercurialist school. That school has at the present very few adherents. I should be at a loss to name an anti-mercurialist of note either at home or abroad. The unanimity of opinion in our standard books is very remarkable. Great progress has been made in this direction during the last half-century, and I cannot but think that the introduction of the method by long-continued small doses has had a great influence in assisting it. That I may impartially represent the opinions which used to be prevalent, I venture to extract a page from the excellent work on Medicine published by the late Dr. Aitken.* I quote from the second edition, dated 1863 :—

"There are remarkable variations in opinion as to its influence in curing syphilis. At one time discussion ran high regarding its use; and, of course, extreme statements were made on both sides, while the facts adduced never warranted the extreme conclusions. Consequently at one time mercury has been regarded as capable of absolutely preventing the constitutional affection; at another time it has been accused of giving to the syphilitic virus the impulse which sets up the constitutional affection. It is now quite certain, however, that mercury administered continuously to the extent of

* Dr. Aitken: "The Science and Practice of Medicine," vol. i., p. 719.

salivation, or approaching it, exerts a poisonous influence, and produces constitutional effects very similar to those produced by syphilis (Graves); and Hunter himself says, 'new diseases arise from mercury alone'; while it cannot be doubted that in cases in which mercury has been freely given we are never certain that secondary symptoms may not supervene. Bärensprung, of Berlin, during his most extensive experience, has come to the conclusion that syphilis not only can be cured without mercury, but he avows that under its use the disease is often rendered latent for months and years, and its complete cure delayed. He is of opinion that mercury deteriorates the constitution, and favours the development of destructive local affections. The non-mercurial treatment is slower, but surer; starvation and Zitmann's decoction being the means he employs. He believes that the proportion of cases of constitutional syphilis to those of chancre has been greatly diminished since mercurial treatment has been discontinued. Herman has come to similar conclusions from his experience in the syphilitic wards of the Vienna Infirmary. He believes that the non-mercurial treatment is much more speedy and successful than the mercurial, that no relapses occur, and that cutaneous eruption is much more frequent and severe in patients who have taken mercury. The experience of Diday is less decided. He states that mercury cannot now be said to cure syphilis radically, so as to render relapse impossible. Its warmest advocates do not in the present day claim more for it than the power of delaying only the appearance of certain other lesions. He imputes to it positively, and on sufficient clinical evidence, the following disadvantages: (1) it tends to render the primary ulcer phagedænic; (2) it tends to induce stomatitis and necrosis of the alveolar borders; (3) it produces an acute affection of the gastro-intestinal mucous membrane and dyspepsia; (4) it brings on trembling of the extremities, apoplexy, and insanity. All of these results he has seen supervene, even when the treatment by mercury was superintended and directed by the most competent and attentive practitioners.

"Numerous examples may be seen in museums, which show that the poisonous effects of mercury produce the worse lesions of the two; and when combined with the syphilitic virus, the worst of all. In the extreme of syphilitic infection it ought never to be forgotten that a specific chlorosis results from syphilis, amounting to anæmia, and that mercury will bring about a similar anæmia, while numerous instances are quoted by authors of the poisonous effects of mercury, inducing lesions similar to those of syphilis. Both kinds of treatment (mercurial and non-mercurial) have been extensively tried since 1816, and formal experiments have been organised on the subject, namely, first, in 1822, in Sweden, by royal command, when reports were annually furnished from civil and military hospitals as to trials of the two methods; in the second place, Dr. Fricke experimented in the Hamburg General Hospital,

and published his results in 1828; while, thirdly, in 1833 the French Council of Health published a report on the subject.

"From all these accounts more than 80,000 cases were submitted to experiment, and they go to show that syphilis is cured in a shorter time, and with less chance of constitutional effects, by the simple than by the mercurial treatment.

"It is extremely interesting and gratifying to be able to say that long before any of these reports were initiated, the surgeons of the British army perceived the ravages of the combined poisons of mercury and syphilis, and had the boldness to declare themselves against the system of treatment with mercury, and to introduce the milder measure of non-mercurial treatment. The credit of this improvement is mainly due (1) to Mr. Ferguson, who practised it during the Peninsular Wars;* (2) to Mr. Rose, of the Coldstream Guards, at the same time, but independently of Mr. Ferguson; (3) to Dr. John Thomson, the first professor of military surgery who, by lectures and writings, was mainly influential in convincing Scotch medical men of the evil effects of mercury in venereal diseases."

It is strange indeed, in the light of the experience of to-day, to read statements such as those just quoted, and to find names of the highest authority, and statistics collected on the largest scale, arrayed in support of opinions which seem to us so erroneous. A misgiving comes over the mind that we ourselves are, after all, treating our patients capriciously, and in defiance of the verdict of the past.

I cannot, however, for one moment believe that such is the case. The fact is, that the method of administration has changed, and that we now no longer use the drug in the large and injurious doses which were formerly employed. The statistics of the past were collected in respect to cases which had been treated by courses of a few weeks only, and by the rapid induction of pytalism. We now avoid all constitutional signs of the influence of the drug, and are content to see the symptoms fade away, but we continue the administration through very long periods. Thus, so far from the general health being injured, it is usually improved, and of maladies due to the mercury we know almost nothing. That our patients get easily and permanently well as regards the secondary symptoms is unquestion-

* *Med.-Chir. Trans.*, vol. iv.

able; indeed, if the course be commenced early enough, these may usually be wholly prevented. It is to be admitted that the degree of immunity obtained as regards tertiaries is still a question needing further investigation. But respecting this also, I believe that we may regard the small-dose method of the use of mercury in syphilis with considerable confidence. Nor must we forget that in the iodide of potassium the modern surgeon possesses a remedy which enables him to put aside mercury in cases (bone disease, for instance) unsuitable for it.

It is difficult, if not impossible, to construct numerical statements in reference to the treatment of syphilis which are trustworthy. It is very easy to produce those which are very misleading. The period of treatment is prolonged, and the different measures are full of detail. It is not sufficient to chronicle treatment by pills or by injection without stating the stage of the disease at which it was commenced, the doses which were given, and the length of time during which the course was prolonged. Yet, unless all these points are attended to, the facts recorded are not comparable, and deductions from them are worse than useless.

CHAPTER LIII

RECAPITULATION OF TREATMENT

Many questions of treatment have already been discussed in the preceding pages, but the subject is so important that, at the risk of repetition, it may be well to recapitulate and enlarge upon it. The treatment of syphilis has in recent years almost narrowed itself down to the judicious use of two specifics. When we have constructed sound rules for the administration of mercury and of the iodide of potassium, our task is almost done. In former times, various vegetable specifics enjoyed a certain amount of repute. The discovery of the iodide of potassium, and the assignment of its place as the adjuvant of mercury, have, however, so fully reinforced the latter drug that we now seldom hear mention of any other remedies.* It is precisely in the cases in which mercury either fails to cure or definitely disagrees that the iodide is efficient, and few indeed are those which the judicious use of one or the other, or of a combination, will not the employment of these all-important drugs.

Some general rules may be offered for guidance in the employment of these all-important drugs.

Mercury and iodide of potassium. — In the early stages of syphilis the iodide of potassium is comparatively powerless, and mercury should always be used. Thus, the induration of a primary sore will resist the influence of the former, but disappears at once when mercury is given. So also of the secondary phenomena, all of which, excepting, perhaps, sore

* We may admit the claim of arsenic to rank as a third specific in virtue of its parasiticidal power. It had long ago enjoyed reputation in the form of Donovan's solution, and recently in various organic preparations has obtained some renewed favour (atoxyl, soamin, etc.).

throat and sores in the mouth, are best treated by mercury.* The later the manifestation, the longer the period since the primary symptoms, the greater the probability that the iodides will prove efficient. Thus, against all forms of tertiary gummata, whether in muscles, in cellular tissue, or in glands, the influence of the iodide is usually shown in the most rapid and definite manner. A lump in the tongue, in the testis, or in a muscle, will often be absorbed under the iodide with a speed not less remarkable than the disappearance of a large primary induration under mercury. Nor does the precise stage of the gumma appear to make much difference, for the specific power of the drug is shown just as clearly against an open ulcer as against a deeply placed infiltration. From this assertion of the efficiency of the iodide against all tertiary symptoms, it must not be assumed that mercury is not useful in them, nor even that, in many such cases, it is not the better of the two. With some, however, it certainly does not agree; a fact which was abundantly proved by the frequent intractability of tertiary syphilis in the times before the iodide was known.

In forming a comparative estimate of the value of these two drugs, attention must be given not only to the stage of the disease, but to the dose of the remedy and the idiosynerasy of the patient. The iodide has certainly during the last quarter of a century lost some of the repute which it enjoyed, and mercury has correspondingly gained. This gradual change of opinion has been coincident with the employment of mercury in much smaller doses than formerly, and its combination with tonics. In a great number of patients, mercury, if the dose be but small enough, seems itself to act as a tonic, and careful observations have proved that not only does it favour depuration by the glandular system, but that it actually increases the number of red corpuscles in the blood. Everything depends upon the dose. Instances of extreme idiosyncrasy are not common in the case of mercury,

* To this the very rare bullous syphilides are an exception.

but we do occasionally meet with patients in whom the smallest doses disagree, and, conversely, with others who take very large doses for long periods with but little appreciable effect. With regard to the iodide, idiosyncrasy plays a much more important part. Many persons cannot take ordinary doses without poisonous effects; many more, who can take them, yet experience under their influence—curative as regards the malady—a degree of depression of nerve-tone which causes real distress. Whilst, in the case of mercury, tolerance is seldom much increased by habit, the reverse is the fact as to the iodide. With the latter, in almost all persons, without regard to idiosyncrasy in the first instance, it is possible, by gradual additions, to obtain at length tolerance for large doses. It is one of those drugs respecting which the curious statement is true, that the dose does not much matter. We often get as good effects from small doses as from large, and the most severe examples of poisoning have usually been from very small ones. I have often known patients cured in the most definite manner by doses of less than a single grain, and, on the other hand, have known a patient to take, on his own prescription, more than an ounce and a half in the day. If a patient has become tolerant and his symptoms do not yield, it is often wise to increase the dose freely; but, as a rule, it may be doubted whether the very large doses now, or recently, in fashion do anything more than might be effected by much more moderate quantities.

The fear of causing absorption of the mammæ or testes by the prolonged use of iodides exercises but little influence on the minds of modern prescribers. Although, however, these results are very infrequent, yet it must be fully recognised that the iodide does often depress the sexual function very definitely whilst it is in use, and possibly in some instances does permanent injury to it. Many persons become low-spirited and miserable whenever they take the iodide of potassium.

Iodides of mercury.—With many prescribers, and

especially in France, the iodides of mercury enjoy much favour. There can be no doubt that they are exceedingly efficient, but they are for the most part more irregular in their action, more liable to gripe and purge, or even to salivate unexpectedly, than are most of the uncombined preparations of either of their components. It may also be doubted whether their combined salts are in the least more efficient than the simpler preparations, which have the advantage of less variability in effect. Those who aim at simplicity of prescription may, therefore, without any risk of loss to their patients, be well content to learn the details of the use of mercury and the iodide of potassium severally or together, and may venture to pass by their compound salts. It would be most tedious to attempt to describe the modes of use of the latter; and as their doses, etc., may be found in all prescribers' manuals, further reference to them will be omitted.

Mercury.—Mercury may be used in many different ways, and so efficient is it in all that each one has its warm advocates. All that is needful is that it be introduced into the blood and brought into contact with the tissues; and any method which does this, without material interference with the patient's health or disturbance of his digestive functions, is satisfactory. Perhaps we ought, in these respects, to give the palm to those methods (inunction and fumigation) which introduce the drug by absorption through the skin. They are certainly less liable to be followed by purging than when it is given by the mouth. Here, however, their advantages probably end. It may well be doubted whether the claim put forward by their respective advocates, that they are more definitely curative, is borne out by facts. On the other hand, it is very easy to give mercury by the mouth in such a manner that it shall not in the least interfere with the stomach, and this method of treatment is in most instances much less inconvenient to the patient. I may here avow that, after plentiful opportunities for the observation of different methods, I have adopted the practice of keeping the skin methods in reserve for

exceptional cases, and that under all ordinary circumstances I administer the remedy by the mouth. One simple rule appears to be the key to success. It is to give small doses more or less frequently repeated, and never large ones.

Hydrargyrum cum creta is the least variable of all preparations of mercury. It may be made into pills or tabloids of one grain, in combination with one grain of Dover's powder, and of these the patient may take one every six, four, three, or even two hours, according to circumstances. Usually one pill four times a day will suffice to clear away a chancre or a secondary eruption as rapidly and as completely as can be wished. In some cases it may be more convenient to double the dose than to increase the frequency of administration, but the latter is the better plan. If ptyalism should occur with such doses, it will certainly be mild and easily controlled. As a rule, however, all the symptoms of syphilis may be got rid of without any affection of the gums.

During a mercurial course, fruit, green vegetables, all aperients, and for the most part all stimulants, should be forbidden. The patient should carefully wash his teeth and gums twice in the day, and it will be better that he should not smoke. All irritation of the mouth by smoking increases the risk of mucous patches, and tends to make sores in the throat more difficult to cure. The reason for abstinence from fruit, etc., is the risk of causing diarrhœa. A patient taking the remedy in the form and doses just indicated may go to business as usual, and is in no particular danger of taking cold. If he is much out in the fresh air, he must expect some delay in the influence of the specific, and be prepared to require larger doses. If a patient be kept in bed, and on rather low diet, he will yield much more quickly to mercurial influence, and ptyalism may be induced, under such conditions, with half the doses required in one who is about in the fresh air. As a practical matter, however, I may say that I never confine my patients either to bed or to house.

If mercury be given for an indurated chancre in the manner indicated, it may probably require about a month to get rid of all hardness, but the period varies much in different persons, and is perhaps also in relation with the stage at which it is commenced. If it is begun before any secondary symptoms have shown themselves, it is very common for them not to appear at all, or, at most, only in the very slightest form. Sores in the throat are the phenomena least frequently omitted. It is, probably, quite the rule for the skin to escape. If, however, at any period within six months the mercury be suspended, then, within a few weeks of the suspension, a rash may show itself. Such rashes, when they occur, are, however, always mild, and their mildness seems proportional to the length of time during which the mercury has been administered.

Ptyalism.—As regards the production of ptyalism in the treatment of syphilis, we may say that, although often a very rapid disappearance of symptoms takes place when it occurs, it is certainly to be avoided. If it is profuse, and necessitates the suspension of the remedy, the latter should be used again in smaller quantities as soon as the mouth has recovered. Some of the most severe outbreaks that we ever witness occur to those who have been rapidly subjected to ptyalism in an early stage, and have afterwards left off the remedy. It is especially under such conditions that rupia is prone to occur.

Relapses.—As yet no statistics have been collected which would enable us to speak with any confidence as to the relative efficiency of different methods of treatment in preventing relapses. We do not know with any certainty whether those who have been freely salivated are less prone to relapse than those who have taken such small doses that they have never observed their effects in any other way than the disappearance of symptoms. This remark as to relapses of secondary phenomena applies also to tertiary symptoms. We believe, and probably on good grounds, that those who have taken mercury freely and for long periods in the

early stages of the disease are less liable than others to the subsequent development of tertiary symptoms; but it must be admitted that proof is wanting. With the prevailing unanimity of opinion in reference to mercury, it is very difficult now to get cases for observation in which it has been omitted. Syphilis is in its nature so variable that it is unsafe to assume that what a few cases appear to teach is really the fact. There can be no doubt that very often we meet with severe tertiary symptoms in those who, from the history given, appear to have had very short or irregular treatment in the first instance. Unfortunately, however, there are some cases on the other side which show persistingly recurring reminders, and even severe tertiaries, after specific treatment of the most careful and prolonged kind. As a general rule, mercurial cures in the secondary stage stand good, and a large majority of our patients know nothing more of their disease. But there are exceptions, and these may occur after any one of the various modes of administration.

Small doses.—If we are allowed to estimate relative efficiency by the rate of disappearance of the phenomena, then it is certainly true that the internal use of grey powder in small doses, frequently repeated, is quite as successful as inunction, fumigation, or injection.

To the credit of the method by small doses frequently given, it is to be clearly and strongly stated that patients usually improve in health under them. If purgation be avoided, the patient will often enjoy improved appetite and digestion, and may gain in weight and colour. At the end of a year's course he may allege that he never was in better health in his life. Those who have before suffered from constipation and liability to bilious headaches may get quite rid of these troubles and may continue permanently free. In women who have suffered from painful menstruation, the mercurial course may prove a complete cure of their trouble. These clinical facts, which are matters of frequent observation to specialists

in syphilis, are so definite that they are well worthy the attention of the general physician. It is well known that many distinguished therapeutists have become enamoured of mercury for various chronic ailments, such as scrofula and some forms of dyspepsia, as well as for those in which the liver is more especially concerned. Experience in respect to syphilis would go to show that the drug may be used without any fear of loss to general health, if employed in the way suggested. On the other hand, there is no doubt that severe forms of cachexia and debility may be induced by the irregular and excessive administration of this potent drug.

As regards its mode of influence in syphilis, we may reasonably suppose that it is requisite for it to be brought into contact with the cell elements concerned in the morbid process. Wherever its local application is practicable, we know that it is usually very efficient. Administration through the blood is necessary only when the disease is generalised, as in the secondary stage, or when its manifestations occur in parts which are not accessible. In a general way, it is well to combine local with internal use. For the primary sore an efficient dressing with the black-wash unquestionably expedites the healing and the disappearance of induration, and so also with the secondary eruption, the removal of which is materially helped by the inunction of a mercurial ointment. For this latter purpose, the ammonio-chloride, in the proportion of 15 grains to the ounce of lard, is very convenient. Its use is especially desirable when the eruption affects the face and hands, and thus its early removal becomes a matter strongly desired.

Local treatment. — The remarks just made may fitly introduce more detailed statements as to the efficiency of local treatment in all cases in which the disease has passed the secondary stage. Very remarkable instances of this are not infrequently seen. Cases in which the internal use of specifics has been long continued with only partial benefit may be cured very quickly by local measures. Not only may they be

cured, but the cure may be a permanent one, and thus a very strong argument is afforded in favour of the essentially local character of such phenomena. Respecting all forms of syphilitic phagedæna in the tertiary stage, this is well known. Although the administration of the iodides, or even of mercury, is usually very useful, yet by iodoform, or by cauterisation with the acid nitrate of mercury, the cure may be accomplished in a fifth of the time. So, also, syphilitic palmar psoriasis and syphilitic serpiginous diseases of lupoid type are most efficiently treated locally. An ointment containing one drachm of iodoform to the ounce of lard, if liberally used, will often effect an unaided and rapid cure in such cases. In many it is unquestionably more efficient than any of its competitors. In all syphilitic skin diseases in the tertiary stage, whether ulcers or new growths, its use, if the patient will permit it, should never be omitted. That it is not essential to use a specific is, however, fully proved by the efficiency of caustic applications for the same purpose. A single free application of the acid nitrate of mercury may be sufficient to cure permanently a patch of syphilitic lupus which had resisted much internal treatment. It would appear that the cell organisms of such growths possess but feeble vitality (although persistently infectious *in situ*), and are thus easily killed by any caustic. The point is to destroy every portion, for if the smallest particle be left behind it will suffice to reproduce the malady. From what we see of the efficiency of specific applications and internal treatment, in the case of serpiginous affections of the skin, it is probably fair to infer as to their power in diseases of internal parts and especially of the nervous system. If in the former we stop short of a complete cure, the morbid process will be relighted, and a relapse will follow; but if the local cure be perfect, then it will probably be permanent. In this way may probably be explained the frequent disappointments in reference to disease in hidden parts. We do not push the treatment far enough nor continue it long enough.

After what has been just said, it is clearly impossible to lay down any rules as to the duration of an anti-syphilitic treatment. It will depend upon the method employed and the effects produced. If the case be one of primary or early secondary syphilis, and the treatment adopted be that by small doses of mercury without ptyalism, a year's course will probably be sufficient. After the first two months of this period the patient may probably have been quite free from symptoms. It is safer, however, to prolong it for two years.

Even after several months' treatment, and the complete disappearance of all symptoms, we must be prepared to see, in a certain number of cases, a symmetrical eruption produced within a few weeks after the suspension of the drug. This rash will probably be an erythema of a very mild kind, and will disappear promptly when the remedy is resumed. Some good authorities advocate short intermittent periods of administration, and no doubt excellent results may be so obtained. On the small-dose system, however, there seems but little reason for suspending it, and experience is, I think, strongly in favour of absolutely continuous administration.

Methods of administering mercury.—It may be convenient to introduce here a few details as to the different methods of using mercury for the cure of syphilis. The inunction method is one of very old repute, and still largely used on the Continent. It gives to Aix-la-Chapelle the reputation which brings to that place crowds of patients. At Aix, where the details are so well understood, it is customary to have the ointment rubbed in by trained attendants. These men occupy from twenty minutes to half an hour at each friction, and use for each about half a drachm of the strong mercurial ointment. Everything that is done at Aix can be done equally well at the patient's home. All that is necessary is that he should give himself up to the treatment and observe proper precautions. The ointment should be rubbed into different places on successive days, so as to avoid the production of

eczematous irritation. Generally, it is best borne on the sides of the chest and abdomen, but the inner sides of the arms and thighs are also convenient positions. After the rubbing, the patient should put on a flannel gown and go to bed without washing. In the morning a warm bath may be taken. At Aix a course of rubbing is usually one month, the quantity used and the frequency being modified according to the effects produced. It is usual to advise patients to return after a few months for another course. Excellent results are usually obtained in this way, and now and then patients are cured whose symptoms had been difficult to deal with under other methods. The explanation is, however, usually this, that the other methods had never had a fair chance, owing either to the patient's irregularity in their use, or to inattention to diet and exposure to cold. It may be alleged for the inunction plan that it is less likely to disagree, by causing colic or purging, than the internal administration, and that it is very certain in its effects. It may, however, with good reason, be doubted whether it has any other recommendations, and more especially whether the claim put forward that its cures are more permanent than others is well founded.

At several Continental watering-places of repute for the treatment of syphilis, popular attention is fixed upon the use of warm sulphur baths quite as much as upon the mercurial rubbing. There is no reason, however, to believe that these have any share in the cure.

Another endermic method of administration is by the fumigation bath. Calomel is the form of mercury usually employed. It should be specially prepared, and of great purity. The patient is made to sit over a lamp upon which the calomel, in quantity of from a scruple to half a drachm, has been placed. The calomel is sublimed by heat in company with watery vapour, and is deposited on the patient's skin. When the process is completed he is made to wrap himself in a flannel gown, and without any washing or drying to go at once to bed.

This method has the same advantages as that by inunction, and is exceedingly efficient. The two share in the disadvantage of being much more troublesome than administration by the mouth, and, although less liable to purge, they are at least equally prone to cause unexpected salivation.

Hypodermic injection has of late years come into employment. That it is efficient there can be no doubt, and that it is in one sense of the word the most profitable method of treating syphilis is obvious. It has, however, very great drawbacks, upon which I have enlarged in a previous chapter. It may be recommended in all cases in which the patient cannot be trusted to take pills at home, and can be compelled to attend regularly for the use of the syringe.

In order to prevent irritation and abscess, the injection should be made into muscle and not into cellular tissue. The needle should always be washed after the syringe has been charged, so that none of the fluid may touch the skin during introduction. It is sufficient to inject a third of a grain of the bichloride of mercury, dissolved in twenty drops of water, once a week. Three such injections, made on consecutive days, will usually salivate freely, thus proving the efficiency of the method. The gluteus maximus is the most convenient muscle for the purpose. The solution should always be freshly made when wanted. By many an oil solution is preferred.

Some important memoranda may here be offered as to the use of the iodide of potassium and other iodides.

Iodides.—In some cases the iodide of sodium depresses less than the potassium salt, and acts as efficiently. It is a very good practice to combine the three iodides (sodium, potassium, and ammonium) in the same prescription. Whether the salts are given singly or in combination, some free ammonia, preferably sal volatile, should always be added. It much increases their efficiency. It is never well to begin with a large dose of an iodide. Small ones are, in the first

instance, just as efficient as larger ones, and it is often a great point to go on increasing them. Doses of two or three grains will frequently, at first, do as much as those of ten or more. Every week, if the cure is not progressing rapidly, two grains should be added to the dose.

Coryza is the commonest of all symptoms due to the iodide when it disagrees. This may be very profuse at first, but usually lasts only for a short time. In other cases the patient may suffer from a chronic cold in the head so long as he continues the drug. When this is the case, there is generally definite depression of tone as well, and the surgeon will do wisely to try whether he cannot effect the cure better by small doses of mercury, or small doses of arsenic may be combined with the iodide.

The skin eruptions which may be produced by the iodide are very various in their characters. They are certainly due to idiosyncrasy, and have little or no relation to the dose employed. They usually develop very quickly, and sometimes with great severity after a few doses. When once an eruption is produced, we seldom witness any tendency to its disappearance so long as the drug is continued. Usually the eruption becomes aggravated both in amount and in character. A form of acne is the commonest type of iodide eruption, but hæmorrhages, erythemata, vesicular and bullous eruptions may occur. Now and then we witness the formation of large bossy wheals, which may develop to a very great size. Some of these eruptions may closely resemble, to the inexperienced eye, syphilitic eruptions, and thus the remedy may be further pushed, in the hope of curing that which it is itself producing. In such cases occasionally a fatal event by exhaustion may be brought about. When eruptions occur, either reduction of dose or disuse of the drug is usually definitely indicated.

Most patients bear the iodides best when in vigorous health, and, in the stage in which they are needed (the tertiary), it is generally wise to employ tonics and fresh air freely. Arsenic has repute as tending to prevent

eruptions, and many persons will bear full doses when enjoying the advantage of sea air who are much depressed by them under other conditions. Quinine and nux vomica are also very useful.

It may be well to append here a few practical memoranda as regards the treatment of special conditions.

Ulcers in the throat and sores in the mouth in the secondary stage.—Give mercury, use black-wash as a gargle, or dust the sores with iodoform. If they prove intractable, touch them lightly with the acid nitrate of mercury or some other caustic. If very painful, it is necessary to consider whether they may not be aggravated by mercury, especially if the latter have been long used. If this appears probable, mercury must be abandoned and the iodide of potassium given. Smoking must always be prohibited.

Ulcers in the throat in the intermediate or tertiary stages.—These are often phagedænic. Iodide of potassium must be freely given, and iodoform applied by insufflation or by means of a camel-hair pencil. If, in exceptional cases, the condition persists, the sore must be freely touched with the acid nitrate of mercury. It is a rapidly destructive condition, and the treatment must be efficient. There is usually no objection to small doses of mercury, but the iodide will generally suffice.

Iritis, retinitis, neuritis, etc., in secondary stage.—Push mercury rapidly to slight ptyalism, and in iritis use atropine very freely. Large doses of iodide of potassium will usually suffice for these affections, but mercury is better.

Ulcerating secondary eruptions of the rupial type.—These usually occur after mercury has been given in too large doses, has disagreed, and been wholly laid aside for some time. Mercury, in combination with the iodide of potassium, is indicated, or mercury may be given alone. The iodide alone is rarely sufficient. Ptyalism is to be carefully avoided, and, if success is not soon obtained by other methods, inunction or fumigation should be resorted to. Sea air is often very

valuable. When once the cure sets in, it usually progresses well, and is in the end complete. Iodoform ointment should be used to all sores.

Phagedæna in all forms and stages.—Iodoform is by far the most convenient, most efficient and least painful agent. Should it not succeed, constant immersion, the acid nitrate of mercury, or the actual cautery may be employed. Mercury and the iodide should be given with opium. If all fail, the patient must be at once sent to the seaside, and the same remedies used there.

Disease of arteries (indicated by cerebral attacks).—Give a long course of small doses of mercury, or (less efficient) of the iodide.

Periostitis and all forms of bone affection.—Here the iodide of potassium is most efficient, and relieves pain more quickly than anything else. If the case resists, however, mercury should be used, and it will often succeed in removing hard nodes which the iodide had failed to influence.

Periostitis and bone affections in the inherited disease.—The same remedies must be used, but much less rapid results are to be expected. Very often nodes in this connection resist treatment for some time, and then suddenly disappear.

Lupoid affections of skin in the tertiary stage.—Rub in iodoform ointment, and apply it on lint; or, if the part be one to which this cannot be conveniently used, or the smell be an objection, apply the acid nitrate of mercury freely. Iodide of potassium may be given, but, if not successful, it should at once be replaced by mercury, which often succeeds when the iodide fails.

Phagedænic lupus of nose and face from inherited syphilis.—The destruction may be very rapid, and the treatment must be prompt. Cauterise freely with acid nitrate, and then dress with iodoform ointment. Give mercury and the iodide.

Interstitial keratitis of inherited syphilis.—Give, together with iodide of potassium, a long course of small doses of mercury with bark. Use atropine or

belladonna fomentations. The use of arsenic has recently been highly commended.

Locomotor ataxy or other chronic and aggressive nerve disease with syphilitic antecedents.—Give mercury in small doses and in combination with nux vomica or quinine over a period of six months or a year. If the treatment does not disagree and the symptoms are in abeyance, continue it for several years. If general paralysis has been threatened, let it be *a life-long course.* Iodide of potassium is sometimes efficient, but probably much less so than mercury.

In cases which resist mercury, and in which it is wished to induce ptyalism rapidly, give the grey-powder pill every two hours or use inunction freely, and insist that the patient shall keep his bed.

In cases of pregnancy in which it is desired to protect the fœtus, administer small doses of mercury (one grain of grey powder three times a day) through the whole period. There is a definite objection to this in the fact that it will damage the child's teeth (first set).

In cases in which marriage is in prospect, let the patient take small doses of mercury continuously during the whole period before marriage. Abstain from the iodide of potassium. However efficient and long-continued the treatment, no one should marry until two full years have passed from the beginning of the disease.

It is best to keep the pills at the uniform strength of a single grain, and to give them more or less frequently as required. There is less risk of intestinal irritation if this be done than if the dose be increased. If the advantages be explained, patients will usually be found willing to acquiesce.

At the beginning of a mercurial course let the quantity of Dover's powder be liberal, but in relation to the tendencies possessed by the patient. If the bowels are reported as habitually constipated, a grain will be sufficient, or it may be wholly omitted. If, however, the patient reports himself as easily purged, then it

will be well to begin with two or even three grains, which can be promptly reduced if it seems desirable. Diarrhœa is to be most carefully avoided.

It is not possible to be too explicit as regards rules of diet whilst giving mercury by the mouth. No soups, fruit, green vegetables, coffee, malt liquors, or wines should, as a rule, be permitted.

Dover's powder has very decided advantages in most cases over equivalent doses of opium, and does not interfere with the digestion. In the early days of the small-dose treatment I used to dissuade from the combination of tonics with the mercury, thinking that they tended to diminish its efficiency. Of late, however, further experience has modified this opinion. For long a favourite pill combined reduced iron in three-grain doses with the grain of grey powder, but of late I have preferred quinine and nux vomica. The addition of one or both of these tonics will often enable a delicate patient to continue mercury not only without drawback but with decided advantage to the general health. Whenever there is the least tendency to debility and a long course is required, I invariably make this combination. The first effect of mercury is usually to cause some loss of flesh, or rather of fat, but after a time any such loss is fully regained, and at the end of a treatment extending over one or two years patients almost invariably report themselves in the best of health.

APPENDIX

The present edition having been unavoidably long under revision and in the printers' hands, I have availed myself somewhat liberally of the courteous willingness of my publishers to allow the addition of an Appendix which may in some sense supplement the work itself. In the pages which follow, the various items are not systematically arranged. They refer to subjects which have been either too briefly treated in the text, or concerning which new knowledge has accrued. As this miscellaneous Appendix is included in the Index, it is hoped that the reader will not be inconvenienced in making his references, whilst he will have the satisfaction of knowing that the work is brought more nearly up to date.

ARE THERE SEVERAL DISTINCT FORMS OF SYPHILIS?

The protozoan parasite which, thanks to the observations of Schaudinn, is now generally recognised as the cause of the early phenomena of syphilis, is one of a large family. The spirochæte subdivision of the spirillum group (to which the parasite of syphilis under the name of *Spirochæta pallida* belongs) comprises many others which have received names and are distinguished from each other by peculiarities as to staining, size, number of spirals, and other conditions. Some of these may occur in association with each other and in great abundance, and without any recognisable influence for ill upon the organism of their host, whether human or simian. They are very minute, and their discrimination requires high powers of the microscope and great skill and patience in their use. Those who have had the most experience will be the readiest to admit that it is very difficult to avoid errors, and that the recorded statements of other observers must be received with some caution.

Such being the fundamental facts, we are prepared

to anticipate that there may be not one uniform type of spirochætal disease to be known as syphilis, but several variants. The parasite itself may assume, without losing its identity, features as widely different as those between the different races of mankind or the different breeds of dogs. We must not hastily impose limits to the possible variations of organisms about which, as yet, our knowledge is so imperfect. Systematic writers on syphilis have at various times suggested that there are really several maladies which resemble syphilis but are not absolutely identical with it. Almost the only one of these which has retained any widely recognised position is, however, that known by the vulgar negro name of "yaws," and even this has never received any exclusive definition. Its most permanent feature is that the original sore and the secondary eruption are prone to papillary hypertrophy and to assume resemblance to a ripe fruit such as the raspberry; and from this feature the disease has been named *frambœsia* or *frambœsia tropica*. As it is now known to occur sporadically in the temperate zone, and to be attended by a spirochæte hardly, if at all, distinguishable from that of European syphilis, it might, perhaps, be best known as frambœsial syphilis. The question would still remain open, whether this syphiloid be not syphilis itself in a variant form. The evolution of the disease is the same as that of syphilis—a primary sore with a non-suppurating bubo, and a generalised eruption with sore throat; all of which yield quickly to mercury, but will disappear without it after a certain duration. It is followed after variable and sometimes long intervals by tertiary symptoms, such as lupoid affections of the skin, and chronic bone-disease, both of which are curable by iodide of potassium.

In the early years of our West Indian colonies, when the demand for labour was supplied by the importation of slaves from Africa, it was expected that many new arrivals would have to pass through this disease. Large plantations had their isolation homes where its subjects were admitted for treatment. These were under the care of matronly negresses who had themselves passed through the disease. A stay of from four to six months was considered to be, as a rule, sufficient for a cure; and as the negro so cured would never contract the disease again, his value

Plates 35, 36.—Frambœsial Syphilis

The eruption which is illustrated in this plate and the next is a form of frambœsial syphilis which occurs chiefly in the tropics, and chiefly on those of dark-skinned races. As stated in the text, it observes the same stages and is followed by the same sequelæ and is curable by the same remedies as is the more ordinary type of European syphilis. It occurs with minor modifications in many and distant regions, being known as yaws in the West Indies, parangi in Ceylon, and thaku in Fiji. In the last-named it appears to exclude the common type of syphilis, and in many other regions the relative prevalence of the two is in reverse ratio, although numerous cases occur which cannot be differentiated. Sporadic examples of it occur in Europe, and small local epidemics have been observed under the names "button scurvy," "frambœsia Cromwelliana," etc. In such circumstances it always returns after a time to ordinary type, and it would even appear probable that in all cases imported into Europe the malady has a tendency to lose its peculiar features. Those features are that the eruption consists of papillary growths which may be covered with crusts, but which rarely ulcerate and very seldom indeed leave scars. These wither under the influence of mercury, but they may disappear spontaneously without treatment after a few months, and leave the patient protected for the most part from future attacks, but very liable to suffer from lupoid ulcerations of the skin, ulcers in the throat, and bone disease. These latter are curable by iodide of potassium, of which large quantities are imported into the countries where the disease is prevalent.

A spirochæte with extreme difficulty distinguishable from *S. pallida* is always present, and, being transferable, the eruption preserves its type for a time. As the primary sore is very usually on one of the limbs, and the bubo is in the thigh or the axilla, it has been doubted whether the disease can be considered a venereal one. No doubt can, however, be felt that the chancre is often on the penis, and may simulate an ordinary induration and may have been the result of sexual intercourse.

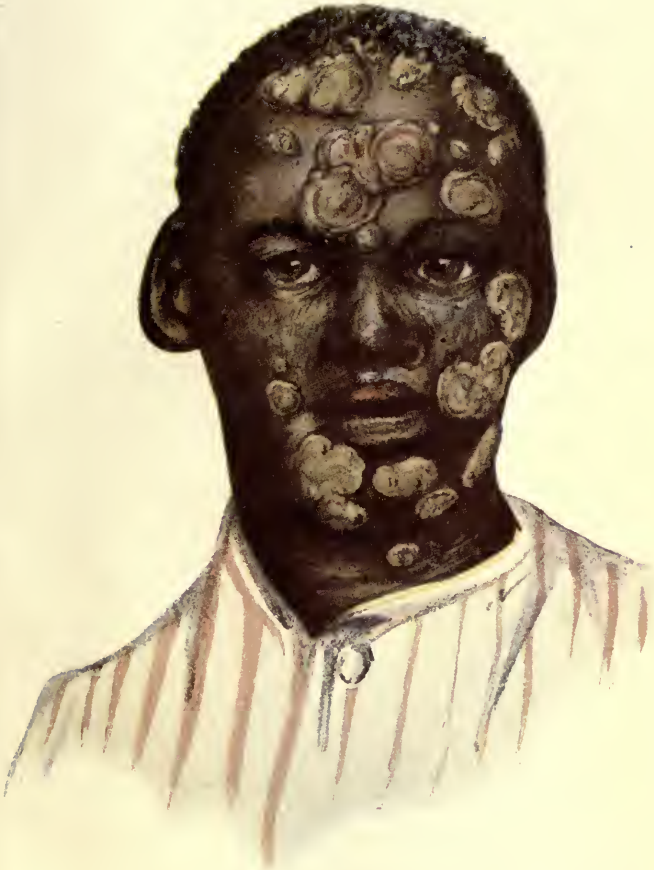

PLATE 35.

PLATE 36.

was much advanced, the more so because a certain number died of the malady. The abundant eruption on the skin assumed the condition of little fungoid excrescences that were compared, as I have said, to raspberries. There were often present swellings of the glands and sores in the mouth and throat. These constitutional symptoms were always preceded by some weeks of what was known as the "mother-yaw." This primary sore might be on any part of the body, and was often, but by no means invariably, on the genitals. No one doubted that the disease was very contagious, or that it was often communicated in the sexual act. No attempt was made to distinguish yaws from syphilis, it being assumed that it was a form of that disease to which the African race was especially liable. Treatment by mercury, pushed, in accordance with the doctrines of the day, to profuse salivation, was a well-recognised measure, but many preferred to rely on a regulated diet, cleanliness, and external applications. After a certain duration the raspberry-like growths would wither and disappear, leaving no scars. The disease affected white persons sometimes, but not commonly, the risks of contagion being carefully avoided. Although it is clear that the imported slaves as a rule had not suffered from the disease in the home of their birth, yet it was believed that it prevailed in some parts of Africa, and also that it had been present in the Indies at the time of their discovery by Columbus.

Such was the aspect of the facts to all observers, with but few exceptions, up to a comparatively recent period. Sydenham and all his contemporaries wrote of "yaws" as syphilis, and even at the date of Dr. Copland's renowned "Dictionary of Medicine" this view was all but universally accepted. This prince of compilers and most sagacious of observers wrote a chapter on "Syphilis Æthiopica," to which he gave the detailed heading "Syphilis vel Lues Æthiopica —Syphilis Africana—Yaws—Sibbeus—Sivveus—Pian—Frambœsia."

It is in the West Indies under the name of yaws, and in Ceylon under that of parangi, that the most discussion as to the nature of frambœsia has occurred. In 1891 I wrote a preface to a Government report by Dr. Numa Rat on yaws, to which, as demonstrating its sameness with syphilis, I may refer the reader.

I enjoyed during some years the much-valued friendship of the late Sir William Kynsey, who had resided long in Ceylon and had written much on the disease there known as "parangi" ("the foreigner's malady").* We had many warm discussions as to whether or not this disease was the same as European syphilis.† In the end I believe that he was convinced by my arguments, but, as he unfortunately is no longer living, I am not entitled to speak positively. In 1901, with the special object of observing parangi, and under Sir William's guidance as to where to go and what to see, I visited Ceylon. In the previous year, with similar objects, I had made a tour of hospital observation in South Africa. The results from these two journeys must be condensed into a few brief statements. Repeatedly I saw in hospital wards and in various other places examples of most characteristic frambœsial eruptions in association with indurated chancres on the penis. I asked everywhere to be shown cases which were recognised as secondary syphilis, and in many instances I found that the eruption partook of the frambœsial type. I had been told whilst in England that in the parangi of Ceylon there was no sore throat, but while I was in Ceylon I found, in cases produced to me as typical, that there were present symmetrical filmy sores on the tonsils, just like those of syphilis.

Although, in a few instances, experiments have apparently succeeded in conveying syphilis to those who have suffered from yaws, it has been a matter of general and widespread experience that the one prevents the other. It is, on the other hand, well known, not only that second attacks of syphilis may occur, but, further, that the interval between the two infections may be very short.

* A fasciculus of the New Sydenham Society's "Clinical Atlas" contains many plates of which the originals with the commentary were supplied by Sir William Kynsey.

† The question as to the identity of yaws and other allied maladies with European syphilis may, perhaps, be best stated in the terms: Are they variants or specifically distinct? That there are differences no one doubts, but are they capable of return to type? It is not enough to prove, as Charlouis did long ago, that an inoculation of syphilis upon one recovered from yaws will sometimes "take," for the same result might occur after ordinary syphilis; and it remains still possible that the one may transform itself into the other, and that mixed or indefinite forms may be plentiful.

The final appeal as to whether there is an essential difference between tropical frambœsia and European syphilis must be the evidence as to their transmutation. Neither microscopic observation, however patient, nor experiments on animals, however skilful, can decide this point. It may be proved that the one does not absolutely prevent the other, but then syphilis does not always prevent itself, and the evidence that yaws does as a rule prevent syphilis is very strong. In the West Indian colonies it was, as already stated, always held that slaves who had been treated for yaws were immune from syphilis, and they were valued accordingly.

The term "yaws" (frambœsial syphilis) is not given to any single disease, but to several variants of syphilis as encountered in different races and regions. Sometimes short epidemics of this variant occur, as in the instances of "sibbeus" and "morula," after a brief prevalence of which the variant loses its peculiarities and returns to the more common type.

Not only may frambœsial syphilis occur in short transitory epidemics ("frambœsia Cromwelliana," morula, etc.), but single sporadic cases may be observed in all countries and all races. Two such in English practice I have recorded, and I have seen others.

As a fact which seems almost conclusive I record the following case in proof that syphilis contracted by a Cingalese in England may be followed by a frambœsial eruption (parangi) :—

A gentleman, whose complexion evidenced his Indian descent, consulted me on account of primary syphilis. He had an indurated chancre of the ordinary kind in the roll of the prepuce, and was also covered by an eruption. He believed that he had contracted the disease five months previously, and he had already begun mercury and iodides. His eruption consisted of raised papillary patches, most of them quite dry, and some flat-topped. Many were about as large as a sixpence, and some were nearly a quarter of an inch high. A few on his scrotum were even yet higher, and looked like dry, foliated papillomata. The patches were scattered over his face, thighs, abdomen, and scrotum. He had no other eruption, and no definite sore throat. The eruption had been out two months. On inquiry I found that he was a

native of Ceylon and by race a Cingalese. The eruption was that known in Ceylon as parangi, but it was definitely associated with an indurated chancre on the penis. I prescribed mercury in my usual formula (described on an earlier page), and when he came a month later scarcely any traces of the eruption remained.

It is important to note that the disease had been contracted in London, and we thus have proof that the influence which disposes a syphilitic eruption to take on the frambœsial type resides in the recipient and not in the source of the virus.

MEMORANDA IN REFERENCE TO THE SPIROCHÆTE

In apes the spirillum may be found in the viscera some days before any chancre is observed (sixteen days after inoculation).

The parasite (a protozoan spirillum?) discovered by Schaudinn and named *Spirochæta pallida* may be now accepted as the cause of primary syphilis, and may, for clinical purposes, be conveniently known as the "spirillum of syphilis."

The detection of Schaudinn's spirillum in living tissues or fluids is a matter requiring much knowledge, skill, and care. Those well entitled to express opinions on the matter assure us that mistakes are constantly being made, and that many untrustworthy observations have found their way into print. Improvements in our methods of observation may yet be expected, and may bring the discovery within the range of everyday diagnosis. For the present its use must be left to the well-trained specialist. As it does not seem the place in the present work to go into detail, I may refer to an abstract in the *British Medical Journal* of February 2, 1907, which gave good up-to-date information. The translated monographs published by the New Sydenham Society are good, but in some respects have been superseded.

Spirochæta pallida can best be observed in the living state by putting on a slide a drop of the fluid to be examined, applying a cover-glass, and then surrounding with wax or paraffin. This plan enables the

movements to be more distinctly seen, and for longer periods. In such preparations, kept at a temperature of 20° to 27° C., Beer found spirilla alive and moving at the end of three weeks. Dilution with physiological saline solution or ascitic fluid is advisable. The spirillum cannot be stained by ordinary reagents; special methods are necessary. When these were carried out Hoffmann found that he could demonstrate spirilla in preparations which had been preserved unstained for four years.

Facts have been recorded by Metchnikoff, Roux, and others giving colour to the belief that the virus of syphilis becomes weakened by being passed through certain of the lower animals. They think it possible that a vaccine for syphilis may be discovered. Experiments in such directions are obviously very difficult, and inferences from them must be accepted with great caution. It is possible, and not improbable, that the different races of mankind in some degree modify the spirillum for themselves.

There are good grounds for believing that mercury is a parasiticide for the spirillum, and that, if applied (either as calomel ointment or black-wash) within a short period of infection, it may wholly prevent the development of a chancre.

One of the most noteworthy facts in the whole history of syphilis is the specific rapidity with which the iodide will cause the disappearance of large gummata. It can hardly be supposed in such cases to act as a parasiticide.

The parasite, when inoculated, does not produce any immediate changes in the part, but at the end of a month (more or less) inflammation supervenes, with a marked tendency to circumscribed induration and central ulceration. The conditions assumed by the chancre vary much in relation to the proclivities of its subject and the part affected.

It is highly probable that the spirochæte can survive desiccation.

In the case of syphilis from circumcision (mentioned at p. 46), the lint which had conveyed the

contagion had dried with the secretion on it, and a considerable period (several weeks) had probably elapsed.

Mr. Campbell Williams mentioned at the Clinical Society the case of a musician who contracted a chancre on his tongue from the mouthpiece of bagpipes which had been used two months previously by a syphilitic subject and then put wholly aside.

THE SERUM DIAGNOSIS OF SYPHILIS

It may be confidently expected that the important investigations initiated by Pfeiffer as to certain lasting changes in the blood, due to parasitic organisms, will eventually throw light on some of the more recondite problems in the history of syphilis. The attempt to employ them for that object has already been made, and has resulted in what is known as the "Wassermann reaction" or "serum diagnosis." It has been made highly probable that the peculiarities described are present in a large number of cases at very long periods after the occurrence of syphilis. Thus they have been found in almost all cases of general paralysis of the insane, and in most of those of parenchymatous keratitis. Their absence, however, goes for little, nor is it proved that when present they assist in prognosis or imply the need for treatment. We must await hopefully the results of further research, and in the meantime continue to put our trust in clinical methods of inquiry, which in the main these seem to corroborate. We must still insist upon long-continued courses of mercury in small doses whenever there is reason to suspect a still active taint of syphilis. The methods of serum investigation are very elaborate, and cannot be carried out excepting by patient hands and in a well-equipped laboratory, and even then not without much risk of error. They may be found briefly but clearly given in English in the *Medical Review* for March, 1909, and more at length in the *Practitioner* for September of the same year, by Dr. McDonagh. Although a host of good observers have avowed their acceptance of the Wassermann test as a valuable aid to the recognition of tertiary syphilis, it may be doubted if it be not rather of retrospective than prognostic value. There is at present no proof whatever that the conditions denoted are modified by

the use of mercury, nor that they are coincident with any display of activity on the part of the virus. They appear to be developed after intervals of almost indefinite length. As just stated, we are told that they occur in almost all cases of interstitial keratitis; and in most of these the subject of the case is several years old, and in some several decades.

ON NON-INFECTING VENEREAL SORES

What are called "soft chancres" are by a general verdict supposed to differ from infecting sores in certain definite features. As these conclusions are based upon the observations of sensible men and have stood the test of several generations, we may believe that, in the main, they are correct. It does not, however, follow that they are exactly so, and it remains quite possible that, if accepted as being definite, they may prove misleading. I will append a few words of comment to each one as I state them in order.

It is supposed—(1) *That the infection of a soft chancre does not require any definite period of incubation, and will usually manifest its effects within a few days.* This is certainly true for the most part; the interval is, however, very variable, and, if we may trust the statements of our patients, it is often prolonged over many days.

The narratives of syphilisation comprise cases in which no prompt results occurred, and some weeks after the punctures had apparently failed they inflamed and ran the usual course.

(2) *That the results are always those of inflammation, and tend to the production of pus and the formation of ulcers.* In these features the difference from the indurated sore is one of degree and not of kind. The most characteristic indurations are attended by the phenomena of inflammation in greater or less degree, and tend sooner or later to ulcerate.

(3) *That the lymphatic glands enlarge early, and that their enlargement is attended by inflammation around them and proneness to suppuration.* Here again the differences from syphilitic glands are those of degree

and not of kind. Alike in the true infecting chancre and the "soft sore," the glands hardly ever escape. It is by the lymphatic channels that the poison travels, and in both not only the glands but the cords may suffer. There is far less tendency to suppuration in the syphilitic cases than in others, but it is not wholly absent in any.

(4) *That the non-indurated sores are often multiple, whilst those of syphilis are single.* In reference to this we must in every case ask whether the sores were multiple from the first or became so by auto-inoculation, and, if by the latter, at what dates.

The indurated chancre may be multiple from the first to almost any extent, the number depending not in the least upon the nature of the virus, but wholly upon the number of separate infections accomplished; there may be two or three, or there may be twenty. For there to be more than one is not at all uncommon. Were I to trust to my own impressions, I should record independent multiplicity as more common in sores destined to prove infective than in others. Nor is the secondary multiplicity of auto-inoculation by any means frequent on any other part of the human skin than the female genitals. Of this class of cases my own experience does not enable me to speak with much confidence, for I have never had charge of special institutions for syphilis in women. What little I have seen would incline me to believe that, even in these cases of acquired multiplicity, there is usually syphilis in the background.

In the collections of drawings which I have recently made at the Polyclinic, and which have been on exhibition, I have been able to produce from Continental atlases only two to which the author has attached the designation *ulcus molle.* Both of these show absolutely isolated sores but very slightly ulcerated or inflamed, and in both the notes record that the patient had passed through syphilis some years previously.

The dogma that the indurated sore is not auto-inoculable is now discarded. It is a question of time. If time be allowed for the full development of the parasite in the blood and tissues, no fresh introduction

of syphilis can probably be effected, although it would be rash to assert even this with certainty. During the earliest periods—ten days or two weeks—it is possible to produce a new chancre, which may indurate; and after that for an indefinite period (as the experiments in syphilisation have proved) infective sores may be produced which may be inoculable for several generations of sores. These usually resemble in character the so-called "ulcus molle."

INDURATIONS IN THE CORPORA CAVERNOSA *

No one has, I believe, attempted to associate the curious indurations sometimes met with in the body of the penis with gummata. They have been usually supposed to be connected with gout. The following case is suggestive :—

A gentleman, aged fifty-three, who was much troubled about lumps of this kind, gave the history of syphilis twenty-five years ago, and of *a recent gummatous ulcer on one leg.* He had never had any continuous treatment. His early symptoms had never been severe, and his wife and a family of six children were all healthy.

The indurations in the corpora cavernosa were two —one not far behind the glans, the other near the root of the organ. They were painless and very hard. He admitted that they made intercourse impossible, by twisting the organ.

The history as to gout was that he had been five times to Buxton for rheumatism, and had suffered from lumbago and sciatica, and that his father, now eighty-five, had recently been laid up with rheumatism. There was true gout on his mother's side. He had for long been liable to herpes.

ON SYPHILIS AND MARRIAGE

Within the memory of some of us, surgical authorities would sanction marriage after a brief treatment and only a few weeks' interval from the disappearance of the secondary symptoms. Next, more cautious counsels prevailed, and a year was insisted upon, then two years, and finally the observation of possibilities has

* Respecting these curious indurations, *see* my *Archives of Surgery*, v. 327.

induced some authorities, chiefly of the Paris school, to suggest five years as a minimum, and to prefer even longer periods. The question under discussion at the present time is whether Professor Fournier's dicta do not take rank as counsels of perfection, and whether the two years' rule, now generally acted upon in British practice, is not sufficient to secure reasonable social safety. It is to be understood that those who are content with this rule advocate continuous treatment by mercury during the two years, or, if this has not been secured, a six months' course immediately prior to marriage. We must not base our general rules on this very important question upon exceptional facts, and inasmuch as I do not purpose to attempt to controvert the statements of authors as to what they have observed, I may simply record the impressions left by my own experience. This experience has been large, and now extends over more than fifty years. It has occurred chiefly amongst the educated classes, and very usually under the eyes of other professional observers. I have never yet seen an infant, born of a marriage which I had sanctioned, who presented infantile symptoms of syphilis, nor a young person who suffered from keratitis or who showed notched teeth. As regards infection between wife and husband I have seen almost nothing, and all the apparent exceptions to my rules which have come under my notice have been duly recorded in my *Archives*. On the other hand, I have been acquainted with the sequels to innumerable permitted marriages, and have been assured that not the slightest reason had arisen for regretting the advice which had been given.

It is important to observe that the two years' rule cannot be trusted in the rare cases in which it is the woman who has suffered. Sperm-communication of syphilis to offspring appears to be possible for only short periods, but it is much to be feared that germ-communication lasts far longer, and, if efficient treatment has been omitted, may last almost indefinitely. In cases in which a woman who has suffered from constitutional syphilis wishes to marry after treatment and an interval of not less than two years, it may be explained to all concerned that there is little or no risk to her partner, but that it is impossible to speak confidently as to her children. It would appear that the parasite finds a refuge in the

ovary, and retains in the ovum efficient vitality long after it has ceased to do so in the other tissues. Some recent writers, relying upon the large size of the spirochæte, assert that it is impossible for it to accompany the sperm. Evidence that it potentially does so is, however, very strong.

In all cases in which a woman bears in succession two, three, or more tainted children, it may be assumed that she has herself suffered from primary and secondary symptoms.

In cases in which the eldest child, or the two eldest, show symptoms of syphilis, and several healthy children are subsequently produced in succession, it may be conjectured that the husband was the source of the taint.

Under the conditions supposed in the above sentence it seems probable that the mother obtains immunity for herself, but does not herself present active symptoms and does not infect subsequent conceptions (Colles' law).

It is to be remembered that although, in fear of syphilis, a surgeon may forbid marriage, he cannot enforce continence. In most cases the risk—often an imaginary one, or at most infinitesimally small—is simply shifted from a wife to a concubine, from one of the richer classes, it may be, to one of the poorer. Procreation is not prevented, and children are brought into the world under less advantageous conditions, whilst women are left to live spinsters who might have been happy wives and mothers.

Counsels of perfection are often not trustworthy. I most unhesitatingly record my conviction—that of an old man who has had much social experience—that, provided the two-years' interval be observed, the dangers to society from needlessly prolonged celibacy infinitely exceed the risks of the communication of syphilis. Such diseases as insanity, tuberculosis, and even gout, are far more real dangers to the race than is syphilis. If in reference to them like rules as regards marriage were enforced as those which some would impose in reference to syphilis, it would be disastrous to social progress and would greatly reduce the sum of human happiness. We must not attempt too confidently to control nature, nor must we bring our imperfect knowledge rashly into predominance in practical affairs.

PATERNAL TRANSMISSION

Paternal transmission without obvious infection of the mother was fully recognised by Ricord (*see* his "Atlas," Plate 46).

I have myself never hesitated in the conviction that in British practice the inheritance is almost always from the father, nor can I now believe that the negative argument based on the measurement of the spirillum is valid. A very large array of clinical evidence is opposed to it.

RARITY OF THE STIGMATA OF INHERITED SYPHILIS

Dr. G. de S. Saxe, of New York, in 1906 made a careful examination of 2,500 school-children. In only twelve out of the number was there any presumptive evidence of inherited taint. Eight showed characteristic teeth, and five eye lesions. The sexes were in equal proportions. Other inquirers have made similar calculations.

THIRD-GENERATION INHERITANCE

During the last stages of the printing of this work a case came under my observation which made me determine to ask Messrs. Cassell and Co. to stop their press that I might insert a recantation of an opinion which I have long held. I take a little credit to myself that I at once determined to do so, and to admit in ample terms that I was a convert to "third-generation syphilis." I am now, however, a more pronounced sceptic than ever. The facts are these: A lady consulted me for an eczematous ulcer on one leg, which she believed to be syphilitic. She reminded me that I knew all about her case, and that I had myself treated both her husband and herself for syphilis thirty years ago. She was delighted at my assurance that her present ailment was not of that nature, but she now added that a daughter had also suffered, and that she, now married, had borne children in whom syphilis had been diagnosed. I, of course, requested that these should be brought to me. A week later the grandmother, mother, and two grandchildren stood in my room. A glance at the physiognomy of the elder of the latter made me feel certain that he was really the subject of inherited taint, and, as I have

said, I already knew for myself what had happened to his grandmother. The bearing of the facts which were then under my eyes seemed indisputable, and for a few seconds I felt that my often-avowed creed must give way. At this juncture I remembered that I had asked nothing as to the boy's father. Inquiry in this direction elicited from the grandmother the information that he was known to have had syphilis severely, and that his marriage had been delayed on that account. This was enough; but further investigation made it exceedingly doubtful whether the wife (and mother) had ever herself suffered, and she certainly bore none of the stigmata of inherited taint. Let the reader only imagine that the father's history had been denied, as in nine cases out of ten it probably would have been : under such circumstances the other evidence would have seemed irresistible. It was a piece of very exceptional good fortune that the grandmother knew that her son-in-law had himself suffered, and was willing to disclose the fact.

Clement Lucas has recorded a not unimportant item of negative evidence on this matter. A husband and wife, both blind from syphilitic keratitis, who had met at a blind-school and thence married, had a child born to them which, during the period that it remained under observation, showed no signs of syphilis. It will be seen that there was here a double risk of third-generation inheritance. Mr. Lucas has some excellent remarks on "The Need of Criticism in Diagnosis," which cannot be too strongly enforced in reference to this question.*

PIGMENTARY SYPHILIS AND LEUCODERMA COLLI

We may accept it as certain that, during the exanthem stage of syphilis, the organs (suprarenal bodies) chiefly concerned in the production of pigment suffer with the rest of the body. Amongst other evidences of their functional disturbance we have a dappled condition of the skin on the neck and shoulders, to which the graphically descriptive but not wholly accurate term of *leucoderma colli* has been applied. It is not part of any other eruption, and it is not influenced by specific treatment, and may last for months,

* See *Brit. Med. Journ.*, Feb. 1st, 1908.

or even years, after all other symptoms have disappeared. Whether it ever occurs independently of syphilis is not known, but all agree that it is most frequently seen in young prostitutes. It is met with also in men, and on other parts of the body, but always avoids the face and hands. Being in a majority of cases inconspicuous, it needs to be carefully looked for. In well-marked cases the pigmented parts take on a network arrangement, the large meshes of which are white. The borders of the white patches (dappling) are not aggressive, and no large area of white is ever produced. The resemblance to the dappled skins of certain animals is very close, and sometimes, as in the latter, a black spot occupies the centre of the white patch. It may be plausibly conjectured that the condition is one of slight general increase of pigmentation,* and that, for some unexplained but probably anatomical reason, the pale spots cannot take the pigment. There occur under similar circumstances, but less frequently, converse cases in which pigmented spots appear on a surface otherwise unchanged in colour.

Good representations of both the leucopathic and melanopathic types of these pigment changes are given by many recent authors, chiefly on the Continent. In Britain they have been described by Radcliffe Crocker, Pernet, and more particularly by Shilleto in the Oxford "System of Syphilis." Some authors prefer to use for them the general name of "pigmentary syphilis." This appears to me to fail in the descriptive suggestiveness of the other names, and to be too wide.

SYPHILITIC HERPES ON SIDE OF TONGUE

Fig. 3 in Plate 38 of Chotzen's "Atlas" represents very exactly the appearances which were present on the left side of the tongue of Miss —— at the date of these notes. The sores in both instances were two in number, alike in size, and placed precisely in the same position. In both cases (Chotzen's and my own) recurrences had occurred through many years and in spite of mercurial treatment. The following is the history of Miss ——'s case, and it proves, I think, conclusively that these sores are of the nature of recurring herpes.

* These changes may be plausibly regarded as a functional or transitory form of Addison's disease.

Miss —— came to me in the first instance in 1902, and was prescribed for by my son. A chancre was recognised, and a long course of mercury was given. The secondary symptoms were very slight. Miss —— remained under the care of her own medical attendant and continued to use specifics for five years. During almost the whole of this period the sores on the tongue were her only symptom, but, as they were regarded as syphilitic, specifics in different forms were persisted with. She took iodides as well as mercury, and the latter was pushed so as to loosen her teeth, and most of them were removed. When she came to me in September, 1908, she was wearing only false teeth in the lower jaw. She said that the removal of her teeth had never had any effect in preventing the recurrence of the sores on the tongue. These, she said, returned so often that she was rarely free for more than a week or two at a time. They always returned in the same place, and never anywhere else. She had no other symptoms of syphilis, and was in good health. I of course diagnosed herpes and prescribed arsenic. She had from childhood been liable to herpes on the lips when she caught cold, but not of late years. She was twenty-nine years of age. (I cannot give the sequel, but my object is not to illustrate the treatment of herpes, but to draw attention to Chotzen's plates.)

Notes on Chotzen's portrait.—Chotzen's patient was a man of twenty-seven, who had a sore on his penis in February, 1890, which was followed in September by the sores in the mouth. He was treated by inunctions and injections of mercury, and internal use of iodide of potassium. He was under treatment for the sores on his tongue in September 1890, April 1891, July 1893, January 1894, and March 1894, and possibly much oftener. No other symptoms are mentioned. At the last-mentioned date chromic acid was ordered as an application, but the final result is not given. The diagnosis was "Lues: Plaques papulosæ opalescentes linguæ."

Two illustrations of the patches are given in the same plate. The author mentions stomatitis herpetica in his discussion of differential diagnosis, but does not associate these cases with it, apparently because they did not conform to the herpes type in number of spots or rapidity of disappearance.

RECURRING ERUPTIONS AFTER SYPHILIS

An interesting example of a recurring syphilitic eruption which assumed the same features on each occasion occurred in the case of ——. I had treated this patient for syphilis four years previously, and he had for long been quite free from symptoms, when in the summer of 1905 large rings and crescents of erythema appeared on his trunk. He attributed the eruption to the hot weather, and told me that he had consulted my son in my absence for a similar one two years previously. On looking up my son's notes, I found that he had recorded "a general eruption of ringed erythema." On each occasion the eruption disappeared very quickly, and during the two years' interval there was no recurrence. The case proves persisting susceptibility of skin rather than persisting syphilis, for on neither occasion were any other symptoms present. Yet the eruption in its tint and in the form and arrangement of the patches was characteristic. It was urticarious, but not common urticaria.

"SYPHILITIC FEVER"

During the secondary stage of syphilis some degree of febrile disturbance is common. In a few instances temperatures may run so high as to occasion difficulty of diagnosis. In very rare instances, in the later periods of the disease, attacks may occur sometimes simulating ague and at others typhoid. For these the designation of "syphilitic fever" has been claimed, and Professor Fournier has added to one group the epithet "typhose."

It is difficult to avoid a suspicion that in some way syphilis does exert an influence on the occurrence and development of the other exanthematic fevers.

ON THE NATURE OF TERTIARY SYMPTOMS

The clue to the right comprehension of the sequelæ, or tertiary symptoms, depends upon recognition of the fact that during the secondary or humoral stage every tissue in the body comes under the influence of the virus. The evidences of this have already been discussed. We have next to accept as a probable law that something is left behind in the tissues, or that

their mode of vitality is permanently influenced, so that they are liable ever afterwards to develop inflammatory or degenerative processes of a peculiar type. The tissues are left, so to speak, with a specific vulnerability, and may, under the varying influences of the subsequent life, take on various forms of morbid action. No limits as to time can be assigned to the occurrence of these manifestations.

Although relapses of syphilitic symptoms are very common, and the microscope has proved that the spirochæte may be discovered in the tissues many years after the original attack, yet it is certain that we never see recurrences of the primary and secondary phenomena, in due order, except from a fresh infection. We no more expect to see a recurrence of chancre, bubo, sore throat, and general eruption than at the close of a civic feast do we anticipate that the oysters and soup will again go round. The persistence of the parasite neither perpetuates nor reproduces the malady syphilis as a whole.

The extraordinarily close simulation of the other exanthemata by syphilitic eruptions has often induced a suspicion that there must be some generic relationship. Roseola and rubeola are of such frequent occurrence as to be almost ordinary events in the early secondary stage. Scarlet fever is often simulated, and shares with the syphilitic counterfeits of variola in not infrequently deceiving even the elect and obtaining admission into special hospitals. All these eruptions, when in association with syphilis, are transitory and seldom recur, but they fade (especially variola) less rapidly than their prototypes. Are they counterfeits, or are they not, rather, modified originals? They all appear to be deprived of infective power.

Not only are the exanthemata simulated, but they in turn simulate syphilis. This occurs chiefly in their sequelæ.

LARGE ABDOMINAL GUMMA MISTAKEN FOR SARCOMA

As additional to what I have written at p. 323 *et seq.* as to gummata which resemble malignant tumours, I feel it a duty to record the following. A married

lady, in whose history there were some facts suspicious of syphilis, but far from conclusive, became the subject of a fixed pelvic tumour. It was diagnosed as sarcomatous and insusceptible of treatment, and she was brought by her husband to England for further advice. Several specialists had been consulted before I saw her. When she was brought to me there was a mass in the right pelvic region as large as an infant's head, and easily examined both through the abdominal wall and by the vagina. It had been recognised for four months, and was growing rapidly. The general health was failing fast. I felt obliged to corroborate the diagnoses already given, and to advise an immediate return home before it became impossible to travel; and I prescribed arsenic. The patient's husband knew something of medicine, and I explained to him that I found it impossible to suppose the case of syphilitic origin. After they had left me, however, the result of further consideration induced me to write to him, and send a prescription for iodide of potassium in place of the arsenic. I did not see the patient again, but five months later I received a letter from her husband telling me that his wife had regained her health and that her tumour had quite disappeared. The improvement had begun soon after the first use of the iodide, and had been progressive.

PREVALENCE OF KERATITIS

The statistics of the renowned Ophthalmic Hospital at Utrecht have for many years been carefully kept. For the year 1907, registering 6,908 cases, there were recorded: Keratitis diffusa (e lue congenita), 18 cases; keratitis ulcerosa, 73; ophthal. scrophul. (phlyctenulæ et ulcera), 324; glaucoma, 93. I give glaucoma as offering a standard of comparison as to numbers. Thus it would appear that interstitial keratitis, in contrast with glaucoma, is not much more frequent than 1 to 5. The report for 1908 shows a still smaller ratio of keratitis.

GENERAL PARALYSIS OF THE INSANE

Dr. James Adam, in an excellent paper in the *Lancet* of November 12, 1898, upholds the opinion which I have expressed, that general paralysis of the insane,

if taken in time, is not so absolutely incurable as some would have us believe, and that it may, in not a few cases, be arrested. He agrees with other observers in finding its average duration to be short of two years, and the average age at death forty-five years. He recognises an early stage during which the patient goes about as usual but has delusions. My own conviction is that, if this stage were more frequently recognised, and mercurial treatment at once commenced, many cases would be arrested. Whether they would be cured would depend upon whether the remedy were continued. In cases of this group I would give small doses continuously for a very long period, practically a lifelong course.

PARAPLEGIA AND THE SEX-CENTRES

In the commonest form of paraplegia which follows syphilis I think it probable that the centres involved in the sexual act are usually the parts first affected. If patients were communicative and candid on such matters we should, I believe, often be told that the symptoms set in after forced or excessive intercourse. Men are usually the victims. The sex-function is invariably damaged, and often permanently lost. This occurs even when the use of the lower extremities is fairly well recovered. The peculiar gait—which is usually permanent—suggests weakness of the glutei and associated muscles rather than of those of the whole limb. Unquestionably the myelitis, when once initiated, may spread both upwards and downwards, although it does not often do so.

ARSENIC IN TREATMENT

Atoxyl and *soamin* are "arylarsonates" which differ chiefly, if not solely, as to purity. Their base is arsenic, and they are liable to all the disadvantages of that drug, more especially to that of giving predisposition to cancer. They are often beneficial in syphilis. They are praised as useful in causing mucous patches to heal and preventing their recurrence. This fits well with the suggestion which I have made, that these patches are usually herpetic in their nature and will resist mercury. It is doubtful, however, whether these salts are in any way superior to small doses

of Fowler's solution. They should be resorted to in cases where other remedies have failed, and never used as substitutes for mercury. We are told that "the great interest of these organic preparations lies in the fact that much larger quantities of arsenic can be administered, when given in the form of an organic salt, than was formerly possible, and its remedial efficacy is consequently enhanced." But the last sentence involves a gross fallacy. It is probable that they are less energetic, and that Fowler's solution in proper dosage can do everything that arsenic can effect. Witness its effects in pemphigus. I am often impressed with a suspicion that the laudatory notices of new preparations of arsenic are written by those who have but little knowledge of what Fowler's solution can do, and who would be more profitably employed in studying the powers of our old-established and simpler forms of drugs than in urging the claims of new ones. Why should the attention be wearied and the memory burdened with details as to soamin and atoxyl, when, after all, nothing is claimed as to their powers which has not been amply proved for liquor arsenicalis, and the probability is not disputed that for general use, although efficacious, in comparison with mercury they are only second-best?

In praise of atoxyl it may suffice to quote the words of one of its warmest advocates. The following are some of Professor Hallopeau's conclusions :—

"It would very probably be possible to cure syphilis by injections of atoxyl if it were possible to repeat them for a long enough period at sufficient doses.

"Unfortunately this is not possible, and the injections have to be stopped after a varying number have been given owing to symptoms indicating intolerance."

Atoxyl contains two energetic poisons, arsenic and aniline. The arsenic often causes polyneuritis, and the aniline, optic neuritis. The latter is irrecoverable. The *Medical Review* records that Koch alone has published twenty-two cases of this kind, and adds that "the elective action of atoxyl on the optic nerve is as striking as that of lead on the radial nerve." With a remedy at hand so efficient and so free from risk as mercury, it is difficult to find a motive for continued experiments with one so dangerous as atoxyl is admitted to be.

ABORTIVE TREATMENT AND ANTICIPATIVE TREATMENT

The expression "abortive treatment" and its equivalent "suppression" were first employed when the idea was mooted that it was possible and perhaps advisable to prevent altogether the development of the secondary stage. This was to be done by the use of mercury as soon as the specific character of the chancre was recognised. Although much opposed at first, this practice has become general, and is fully sustained by results. I would now propose the term "anticipative treatment" for the use of the specific for sores contracted under suspicious conditions but not as yet showing characteristic features.

Although the practice of anticipative treatment may be very slow to receive professional recognition, it is safe to foresee that it will force itself upon our adoption. Our patients will demand it; and if, as is very possible, it should become evident that its result was a vast reduction in the prevalence of developed syphilis, it would soon become the ordinary rule. Much must depend upon our estimate of the inconvenience or possibly injurious influence of a long mercurial course. If it be seen that these are, as I contend, reduced to a minimum under the small-dose and tonic plan, or even transformed into gain, the adoption of the new rule will soon have but few opponents. It is quite possible that further development of diagnosis by aid of the microscope may simplify the problem.

DANGERS OF THE NON-MERCURIAL TREATMENT

In 1834, Moreau at a sitting of the Royal Academy of Medicine asserted that—"Never has so much hereditary syphilis been seen as since the antiphlogistic (*i.e.* non-mercurial) method has been so generally employed against the venereal lesions of adults."

CURABILITY OF SYPHILIS

It is a cruel dictum, and surely a senseless one, which declares, within hearing of the public, that syphilis is never cured. In a sense it is indisputable, but in the light of intelligence it involves a very gross

misstatement of the truth. It is impossible that the "has been" can ever become the "not been"; and almost all forms of illness, certainly all specific fevers, leave their remote effects. Those of bygone syphilis are more conspicuous, but probably by no means more constant, than those of the other maladies. The gross exaggerations entertained on this subject by both the profession and the public are, it may be believed, the cause of much more social misery than is due to the actual disease. There are thousands whose lives are blighted not by anything which the disease has caused, but by the belief—often an error—that they have suffered from it.

A source of much error has been the acceptance of what is very exceptional as if it were common. It is the uncured cases which remain long under observation, whilst the cured pass out of recognition. If it were possible to compel all who in former life had suffered from syphilis to wear on any given day a distinctive form of hat, the revelation would vastly modify the popular estimate of the terrors of syphilis. Men esteemed by their friends as models of good health, the husbands of prospering wives, the fathers of vigorous sons and daughters, would make up an overwhelming majority of those who thus bore the badge of follies long ago forgotten.

DECREASE OF ENGLISH MORTALITY FROM SYPHILIS

I quote statistics of the mortality from syphilis with much misgiving, knowing well that numerous pitfalls await the incautious inquirer. So far, however, as I have been able to estimate the facts, it appears certain that the mortality has very definitely declined during the last quarter of a century. Making allowance for increase of population, it would appear that, if the mortality in England from syphilis had been in the same ratio in 1904 that it was in 1874, there would have been 3,000 deaths, whereas there were only 1876. These figures include all ages.

During the decennium prior to the year 1875 the mortality registered in England and Wales as being caused by syphilis had been steadily increasing. This may have been in part due to the recognition of visceral syphilis as a cause of death about which but

little was known in the early part of the century. With the year 1875, however, although this increased recognition was doubtless progressive, the highest point was reached, and since then there has been, with some variations, a steady decline. Thus, in 1875 the mortality for all ages was 2,140, and in 1904 only 1,834. Allowing for increase in population it ought to have been at the latter date nearly 3,000. The figures, as regards congenital syphilis, are of the same tenor. The deaths in 1875 were 1,554, and in 1894 only 1,229, whereas, allowing for population increase, they might have been 1,888.

Concurrently with these statistical results a general impression has, I believe, been gaining ground to the effect that syphilis is becoming a milder disease, and confidence in the efficiency of treatment to control its effects has vastly increased. That these results are not due to any real change in the malady itself, or to any hypothetical immunity acquired by the race, is made evident by the fact that up to the date mentioned there had been a steady increase from the first date at which statistics became fairly trustworthy. We are left, then, to the conclusion that the victory has been gained by a better knowledge of the nature of the malady, and, above all, by the introduction of a better method of treatment.

It is possible that in the Registrar-General's reports the mortality from syphilis may stand at a lower figure than it ought to do, owing to reluctance on the part of family practitioners to record it. This source of fallacy is, however, wholly removed—indeed, possibly turned somewhat in the opposite direction—in the case of public institutions. From the annual report of the medical officer of health for the borough of Marylebone for the year 1907 we learn that, out of 503 deaths occurring in the Notting Hill Infirmary, 2 only were ascribed to syphilis, whilst 27 died of old age. In the Middlesex Hospital, out of a total of 418 deaths, only 2 were from syphilis; and in Queen Charlotte's Lying-in Hospital, out of 51—all probably of infants—only 1 was assigned to syphilis.

In the general population of the same district, the total infantile mortality for the year was 264, and of these deaths only 7 were attributed to syphilis; little more than 1 in 40. I quote without any selection.

At a recent meeting of a medical society, Sir Felix Semon stated that a majority of those who came under his care for syphilis affecting the throat had been treated by the small-pill method, and he appeared to think that this was an objection to it. He was, however, promptly met by another speaker, who reminded him that in English practice, during the past twenty years, almost all cases of syphilis had been so treated.

NOTES ON THE TEETH

We owe to the late Mr. Moon (*see* p. 460), at that time dental surgeon to Guy's Hospital, the interesting observation that, in the mouths of those who show the notched incisors characteristic of inherited syphilis, the first permanent molars are also often deformed. In them the deformity is produced by suppression of the central tubercle of each cusp, and the consequent falling together of the lateral ones so as to produce more or less of a dome-like contour. The accuracy of the observation has been confirmed by others. The condition is not, however, one which can be implicitly trusted, and I still give confidence only to the "test teeth," the notched upper central incisors.

An illustration given by Dr. Mott, and copied from a photograph, shows very conspicuous and characteristic central notches in the four *lower* permanent incisors (*see* p. 47 of Mott's "Archives"). The upper incisors (the central pair) are also notched characteristically. I have seen many examples of defective formation of the lower incisors, and have figured some of them, but none so characteristic as those here given. Other observers have also seen them, and one very like Dr. Mott's is figured in Bryant's "Manual of Surgery." I have endeavoured to restrict diagnostic observations almost wholly to the upper set and the two "test teeth," from fear of causing mistakes.

"ESTHIOMÈNE"

The term "esthiomène" has been applied to certain examples of a spreading ulceration on the genitals, bearing close resemblance to lupoid syphilis but not curable by specifics. Severe forms of it are seen in

India, and the term "infective granuloma" is used. It is sometimes mistaken for epithelial cancer. It is possibly due to the association of tuberculosis with tertiary syphilis.

COLLES' LAW

It is worthy of note, as bearing on the question of Colles' law, that Buschke and Fischer found spirilla in fluid obtained by aspiration from an inguinal gland, in the case of the mother of a syphilitic fœtus, in spite of the fact that she did not show any signs of syphilis whatever. The suggestion is that the mother obtained the parasite from her fœtus, but in a stage or condition incapable of developing the full disease in herself.

TABES IN CHILDREN

Cases of tabes, as well as some of general paralysis, have been recognised in children the subjects of inherited syphilis. A good *résumé* of facts, with some original cases of tabes, from the pen of Dr. Ernest Jones, will be found in the *British Journal of Children's Diseases* for April, 1908.

The proportions of the two sexes in juvenile tabes and general paralysis appear to be equal, with a slight preponderance in females.

The occurrence of tabetic symptoms as a result of inherited syphilis has been recorded as being first observed as late as the fortieth year. A parallel statement is true as to interstitial keratitis.

SUPPURATION EXCEPTIONAL

In syphilis the tendency is to plastic exudations and selerosis, even to overgrowth, and not to suppuration. Ulceration and suppuration are exceptional, but may occur at all stages.

INGUINAL BUBO

The rarity of the absence of inguinal bubo in cases of infecting chancres is well known. Ricord's axiom was, "*Pas de chancre infectant sans bubon*"; and other authorities have given it almost entire support. It is, however, certain that in a few cases of true chancre no enlarged glands can be discovered.

THE PLACENTA

It must be noted that observers have only infrequently detected spirilla in syphilitic placentas, and those but sparsely distributed.

The spirilla are found almost exclusively in the fœtal portion. They are abundant in the umbilical cord.

Their recognition may much help us in the diagnosis of inherited syphilis, since they are very abundant in the viscera of the fœtus.

ON THE TERM "VIRUS"

We have for long been using with confidence the expression "syphilitic virus," and one of our best pathologists advises that it should be continued rather than that of the name of the supposed parasite.

THE SEMINAL FLUID AND GENITAL ORGANS

The spirochæte has not been found in the seminal fluid. The saliva is said to contain it sometimes in abundance.

"The female genital organs are the home of other forms of spirilla which may at times be mistaken for the *Spirochæta pallida*."—Metchnikoff.

The parasite is not present in "parasyphilis."

It has been found "not only in the stroma of the ovary of an infant aged one month, but in the protoplasm of the young ova themselves."—Levaditi and Sauvage.

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