12.10.07.

PRINCIPLES AND APPLICATION

OF

LOCAL TREATMENT

IN

DISEASES OF THE SKIN

Principles and Application of Local Treatment in Diseases of the Skin

BY

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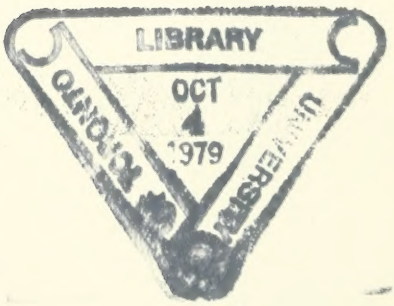
NEW YORK

REBMAN COMPANY

1123 BROADWAY



To

THE MANY PHYSICIANS

WHO HAVE HONORED ME

BY THEIR FAITHFUL ATTENDANCE AT AND INTEREST

IN MY CLINICAL LECTURES ON

DISEASES OF THE SKIN

DURING THE LAST THIRTY YEARS

THIS SECOND VOLUME

IS RESPECTFULLY DEDICATED

PREFACE

This little book does not pretend to be a complete treatise on the local treatment of diseases of the skin; nor is there any attempt to cover all the ground relating to local cutaneous therapy, the principal diseases mainly being mentioned. But it is claimed that it gives practical suggestions in regard to many matters which are not ordinarily found in text books, and which the experience of the writer has shown to be of material service in the daily management of this class of affections.

These four lectures were given to practicing physicians at the New York Skin and Cancer Hospital in the spring of 1906, at the close of the course of Clinical Demonstrations of Diseases of the Skin, during the fall and winter, and are printed in response to requests for them. As was explained in regard to those given during the preceding spring, "On the Relations of Diseases of the Skin to Internal Disorders," it was found that during the course of ordinary clinical lectures it was not feasible to dwell on many points of importance relating to the constitutional relations and treatment of this class of maladies, so in regard to local therapeutics, there were many items which could not be elaborated in the hour devoted to clinical demonstration.

In these lectures, therefore, I sought to develop the principles underlying local treatment, and then to illus-

trate these by applying them to certain of the more common diseases of the skin.

Like the former volume, this is essentially a personal one, and very little reference is made to other workers in the same field. This is, naturally, not from any disregard of the views or practice of others, nor from undue egotism, but is only conditioned by the exigencies of the occasion. In the brief period of a lecture it is impossible to enter into any discussion of various treatments; moreover, I believed that my audience wished to know what I had found effective and best under various conditions, and what remedies and methods of treatment had given the best results in private and hospital practice. As in my lectures of last year, I have endeavored to have my hearers see things as I see them, and to profit by my personal experience in private and public practice.

The knowledge of every one is composed of so many different elements, and acquired in so many different ways, that after a while it is impossible to differentiate as to just where this or that suggestion or idea originated; but as it has become part of the speaker's knowledge or experience, and often has been modified, and as it was desired simply to make matters as clear as possible, in a practical manner, most of the statements are made as though they were wholly the result of personal experience.

The number of the formulæ given is not so very large, and I believe that if all those practically used by any skillful dermatologist were recorded, they would not be so numerous as might be imagined. As remarked

in the lectures, the best way is not to have a great number of remedies, or to change from one to another, influenced by the most recent statements or advertisements, but to have relatively few medicaments and to know well when and how to employ them.

Therefore, in these lectures I endeavored to make plain what was desired to be accomplished, and to establish principles of local therapeutics, as well as to give certain practical hints as to their employment. How far I may have succeeded cannot be known until those not very familiar with dermatological practice have put them into active use. It is sincerely hoped that they may find many of the suggestions given to be of practical value. To aid in the practical utility of the little book I have made a very full index, which will often refer to the same disease mentioned under different topics.

531 *Madison Avenue, New York.*

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PRINCIPLES AND APPLICATION OF LOCAL TREATMENT IN DISEASES OF THE SKIN

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GENTLEMEN:

Last year I gave four lectures on "The Relation of Diseases of the Skin to Internal Disorders," in which I tried to present as simply as possible the immense importance of internal disorders in connection with many diseases of the skin; also to show why local treatment alone did not yield the satisfactory results often desired, and perhaps expected, from the strong statements of those who advocated various applications.

I think that I demonstrated pretty clearly that the truly successful dermatologist must be a thoroughly all-

round physician, and that he must exercise great patience in investigating perseveringly the conditions of those coming under his charge, and possess skill in discovering and rectifying systemic errors which often have the greatest influence on the skin and its diseases. I also entered somewhat fully into matters of diet and hygiene, and attempted to lay down some rules for the same; and after drawing deductions from what had been said, I endeavored to establish some principles in regard to internal therapeutics.

Looking over these lectures as they have appeared in print, I wish to say that I am daily more and more convinced of the correctness and reasonableness of all that I said and printed, and do not wish to retract one iota, but only wished that I could have impressed the matter more forcibly.

I will, however, remind you of a remark which I made last year, in reference to the relative importance of purely local measures, and a proper general treatment, dietetic, hygienic, and medicinal. I said, that, in a considerable proportion of instances, if I were compelled to choose between an exclusively local treatment and one based solely on the facts and principles which I had presented in those lectures, I should very certainly choose the latter, as being most likely to conserve the best interests of the patient, and to secure the best ultimate results in regard to many cases of diseases of the skin.

But you will remember, however, that I also repeatedly stated, that all this presupposed the employment of correct local treatment, without which there could

be no really successful dermatological practice; and I expressed the hope that this year I might be able to give you some special lectures upon local therapeutics; which I shall now try to do.

It is much to do the right thing, but it is also a great deal not to do the wrong thing locally, in diseases of the skin. The reason why the oxide of zinc ointment, popularized by the late Sir Erasmus Wilson of London, has found such great acceptance with the profession, is found, I think, in its bland character; so that, while it often may not accomplish all that could be desired, it has the advantage that it forms a mild and generally unirritating application, which, like the Irishman's holy water, "if it does you no good, it will do you no harm." But I trust that you will see, before the course is over, that, as in the case of the relation of diseases of the skin to internal disorders, so, in the local treatment of these affections, there are many conditions of prime importance to be considered: and you will, perhaps, better understand why the oxide of zinc ointment is not an universal panacea.

The same may be said in regard to the many advertised quack and semi-quack applications, which are so impudently flaunted before the medical as well as the general public, as "good for diseases of the skin." No one remedy or combination of remedies can possibly be of value in all forms of skin affections, nor even in the same eruption in its various stages and in different individuals. A certain amount of personal knowledge and judgment is always necessary to determine the exactly proper application for a diseased surface. And,

as will appear later, the method of making applications and the mode of treating the affected part generally, have a very great bearing on the success attained.

Before studying the principles of local therapeutics, and trying to appreciate the why and the how of making applications for the cure of diseased skin, it is necessary that one should understand rightly the organ or part of the body under treatment. I must, therefore, beg your indulgence while I briefly recall to your attention enough of the Anatomy and Physiology of the skin to enable those of you not specifically familiar with dermatology to grasp the subject well.

I need not weary you with the details of its structure and that of its appendages, which are found in text books; but I must remind you, however, that the skin is not simply a covering for the body, but that it is a marvellous structure, wonderfully adapted for its purpose, composed of many elements, and continually performing a most important part in regulating the heat of the body. An idea of the important and intimate relations of the skin with the rest of the economy is learned from the effects of extensive burns, which are attended with profound shock, and often with ulceration of the intestine, and with suppression of the urine, and are frequently the cause of death.

Although the local treatment of diseases of the skin has, of course, largely to do with its exterior surface, in order to use local remedies intelligently and successfully it is essential to bear well in mind the anatomy of the organ treated, and to some extent the histopathology of its diseases. And I think that if this is done we will

understand why some of the remedies often very highly lauded are not followed by better results.

First, it is well to bear in mind that in reality what we call the skin consists mainly of the deeper, fibrous portion, or true skin, which forms perhaps seven-eighths of its structure, while the *epidermis*, upon which we make our applications, is only a comparatively thin covering of cells, which is relatively inert, and impervious; and, moreover, that this epidermal covering is intended for the protection of more delicate structures beneath, and that by its very imperviousness it serves to prevent the too great loss of heat from the body. We all know that it is the epidermis which protects us from syphilitic and other infection, which readily takes place when it is abraded.

It is well to remember that the outer layers of the epidermis are really dead matter, and are continually being thrown off in health, being replaced by advancing layers from beneath, which undergo cornification. Were it not for the very many openings in the skin at the orifices of its glands and the hairs, it is probable that there would be very little absorption, and even less effect from remedies applied externally than is generally obtained.

While the external layers of the epidermis are practically without life, and can be scraped off without causing sensation, the lower layers, especially the rete Malpighii, are supplied with terminal nerve filaments, and, as all know, may be exquisitely sensitive, whenever the outer or scarf skin has been removed forcibly or by disease.

Pigmentation in the skin, which is found normally in the darker races and on some regions of the body, and pathologically in certain skin conditions, is located in the deeper cells of the epidermis, in the rete mucosum, just above the papillæ of the corium. It is understood, therefore, how difficult it is to remove pigmentary discoloration of the skin, unless the composition of these deep-lying cells can be affected and altered.

Coming now to the *true skin,* or *corium,* we find it quite a different structure. Here we have to do with a live, active tissue, composed of interlacing fibres, closely felted together, making a compact, tough, yet very elastic tissue, which forms the leather of commerce. This is also a very complex structure, whose elements it is well to bear in mind.

The outer portion of it, or *papillary layer,* is thrown into innumerable prominences, between which the epidermal cells of the rete Malpighii extend, and is very important dermatologically, for it is from this that the deeper, succulent cells of the rete Malpighii receive their constant nutriment; and it is here that we find very many of the pathological changes in various diseases of the skin.

The *blood supply* of the skin is exceedingly abundant, as may be judged from the fact that the finest needle cannot be introduced without wounding some capillary. A large share of cutaneous diseases are associated with vascular derangement, and from the blood vessels, of course, come the plastic or other materials of which most skin lesions are formed. It can readily be seen, therefore, that the cutaneous vascular system is one

which must be reckoned with in the local or general treatment of this class of diseases.

As yet we know comparatively little in regard to the relation of the *lymphatic system* to diseases of the skin, but from what has been ascertained as to the very great abundance of lymph channels and spaces in the skin everywhere, they must be of importance in connection with many cutaneous conditions. We all know how readily syphilitic or other infection is taken from the slightest abrasion, and how soon it is evidenced by participation of the lymphatic glands.

The *nerves* of the skin play a very prominent part in connection with many of its diseases, and are to be considered continually in their treatment; their abundance and universal distribution is shown by the pain caused by the slightest prick of a needle, anywhere on the surface.

We need not stop to consider the different nerve terminations which have to do with various tactile and other sensations in the skin, about which there is still much diversity of opinion. But no one can fully grasp the facts in regard to the immense supply of cutaneous nerves, and realize the impressions which may be made on them by various pathological changes in the skin, without better appreciating the difficulties constantly met with in giving relief by local treatment, to the different sensations of itching, tickling, creeping, crawling, burning, or pain which may distress the patient.

The *motor* and *vaso-motor nerves* of the skin also play an important part, the former in controlling the action of the delicate muscles of the skin, especially those which

erect the hairs and facilitate the expulsion of the contents of the sebaceous glands, and the latter which control the capillary circulation. The readiness with which the skin flushes from nervous causes, as in blushing and anger, and blanches, as from fright or from nausea, and also the occurrence of sweating, unconnected with heat or exercise, are all illustrations of vaso-motor nerve action, which same action has much to do with many diseases of the skin. It is readily understood, therefore, why local treatment alone may at times prove very inefficient in controlling certain eruptions.

But the *glands* of the skin are also very essential elements in its structure, and may themselves be the seat of special diseases, or they may also be affected in several cutaneous affections. The sweat glands are deeply seated, in the very lowest portion of the skin, or even in the sub-cutaneous tissue, with long, corkscrew-like excretory ducts; the sebaceous glands are less deeply situated, but still well within the body of the corium or true skin. We all know acne to be a disease of the sebaceous glands, and are familiar with the plugged follicles in comedo; but few realize, however, that the latter are due to imperfect action of the gland cells and want of tone of the tissues, which must often depend upon lowered vitality, while the deep inflammation of acne nodules occurs quite independently of any apparent external influence. One can thus readily see why purely local treatment can never secure great or permanent benefits in these conditions. The deeply seated sweat glands are under nervous control, and while occasionally excessive perspiration will seem to be helped by local

measures, other than local treatment will be required to remove the real difficulty.

The *hair* and *nails* are also important anatomical elements of the skin to understand, and yet very few seem to rightly appreciate the known facts concerning them; some of which I will try to present as briefly as possible:

The relations of the hair and its follicles to the integument can be best understood by imagining the lower or fibrous portion of the skin to be soft and plastic, and the upper or epidermic layers to be pushed down into it, without breaking, around a penetrating hair; the sheaths of the hair are thus seen to be cellular, and to a certain extent correspond to the layers of the epidermis. We need not dwell here on the minute anatomy of the different hair sheaths which have been described, the practical point to be remembered is that they are cellular, like the epidermis, reaching down into and forming the lining of a pocket in the fibrous structure of the corium: this is of great importance in reference to the vegetable parasitic diseases, as the fungus penetrates deeply and lives on epithelial matter, including that of the hair and its follicle. It is well also to remember that there is more or less of a constriction of the hair follicle, just below the line of the papillary layer of the corium, and while the parasite extends as it grows, even to the bottom of the follicle, remedies will not penetrate much beyond this constricted point. Even when iodine is applied to the scalp for some time, and the hairs extracted, they will be found to be stained only part of their entire length, while the fungus will be found far below the line of the stain. Hence epilation is necessary

in order that a remedy may have a chance to enter the follicle more deeply, so that the newly-formed hair may not be attacked.

At the bottom of the cell-lined hair follicle, which in the case of the larger hairs, as on the scalp and bearded face, extends through the extreme thickness of the skin, the fibrous elements of the corium rise and form what is known as the *hair papilla,* which is embraced by the lower portion of the hair: this contains blood vessels and affords nourishment to the hair. The hair itself is composed, like the epidermis, of cells, and is a production of the root sheath proper, at the lowest portion of the follicle. When the healthy hair is pulled out, or falls naturally, a new one begins to form around the papilla, and the hair may thus be reproduced indefinitely, as is seen when superfluous hairs on the face are extracted again and again, only to grow larger. These can be permanently removed only by some method which will destroy the papilla and hair follicle in its deeper portion, as is done by electrolysis. Knowing the anatomy of the hair and its follicle, one can readily understand why the advertised depilatories are utterly worthless; for it has been seen that while the hairs are in place, remedies applied externally cannot possibly penetrate to the depth of the follicle and so cannot reach and destroy the tissues from which they grow. It can also be appreciated why the many so-called hair tonics cannot produce the wonderful effects often claimed for them.

The *nails,* like the hair, are also only another altered form of the epidermal layer of the skin; the *root* is that

embedded portion toward the trunk, from which the nail grows; and the body of the nail corresponds to the section of the hair within the follicle, although it is attached only on one side to the *matrix* or *nail bed;* the free end of the nail, generally kept cut short, represents the free portion of the hair. Affections of the nails are often peculiarly rebellious to treatment, and it can readily be seen that local remedies would have great difficulty in penetrating and affecting such a structure. While the root proper remains intact, however, the nail may with proper treatment be restored, however far the nail body may have been destroyed by disease.

The *physiology* of the skin is important to be remembered in connection with dermatological practice. As a vast excretory organ, with an estimated two million sweat glands, it gives off as insensible perspiration, under ordinary circumstances, between one and three pints of fluid daily, almost as much as the kidneys, and more than the lungs; while under unusual conditions the amount may be enormously increased. When this is completely checked, as by varnishing the whole body, the animal dies; but the application of grease does not act so injuriously; as is seen continually in this hospital, when patients are completely enveloped in ointments for various diseased conditions.

The skin is often found to be dry, hard, and performing its functions badly. Much benefit can then be obtained by proper local measures, such as appropriate medicated or other baths, which will be more fully considered later, and by the judicious use of lubricating ointments. Although, as was stated, the epidermis itself

is more or less impenetrable, external applications can often enter the system through its pores, as is seen in the case of salivation by mercurial inunctions and baths; iodide of potassium can also be made to appear in the urine after its thorough application to the skin, in ointment, and other remedies, such as quinine, belladonna, tobacco, etc., can also be made to enter the body in the same manner; indeed, one must sometimes be careful in using belladonna or tobacco externally, for this reason, and harm has come from the too free use of hydrocyanic acid locally, to relieve itching.

Remembering then the anatomy and physiology of the skin, and the necessary limitations as to the results which may be obtained by local treatment, some of which have been suggested, let us consider, (1) The aims to be accomplished; (2) The principles which are involved; and (3) The effects to be expected from local therapeutics.

1. The Aims to be Accomplished by Local Treatment. Naturally every diseased condition of the skin will not require the same local treatment, and, as far as possible, there should always be a definite idea of the aim to be accomplished by the proposed application.

First it is to be remarked that, although a correct diagnosis is of prime importance in dealing with diseases of the skin, eruptions are not always necessarily to be treated alone according to the name given to them: for it quite often happens that those of quite different name, and perhaps somewhat different nature, will be greatly benefited by the same local treatment, at some stage in their progress: and one continually finds that

the same eruption will require entirely different treatment at different periods. So then we must be guided by something more than simply the diagnosis given to a cutaneous affection, although undoubtedly a correct diagnosis must be the fundamental fact around which local and other treatment centers.

Proper local treatment is undoubtedly called for, and is of decided advantage, in the majority of instances of cutaneous affections, and promotes the restoration to health of a diseased organ, which cannot perform its functions rightly, and cannot successfully resist the various external influences to which it is subjected. It is also often necessary in order to give relief to symptoms such as itching, which may be very distressing. Moreover, if adequate local treatment is not directed, the part will be wrongly treated by the patient, who will endeavor to make some application.

It is well, therefore, to consider the exact condition of the part affected, and what is sought to be accomplished. Thus, whether the application is to be protective, soothing, emollient, astringent, anti-pruritic, anti-parasitic, absorbent, stimulant, or caustic, will call for very different remedies and often very different methods of application, as will be shown later. And it will often require considerable thought and care, as also some knowledge of the action of drugs, in order to determine these matters properly.

From long observation I am convinced, gentlemen, that many members of the medical profession do not put sufficient thought and care into the treatment of diseases of the skin, but are too apt to take up with this

or that local remedy, either one mentioned by some authority or one offered by an advertising drug firm, and when good results are not obtained they blame the remedy or the obstinate nature of "skin diseases" (as they class them all together). Too many are apt to regard the field of cutaneous affections as a *terra incognita,* which it is hopeless to explore and useless to try to conquer.

While all must acknowledge that this branch of medicine is not an easy one to compass, in all the intricacies which have too often been needlessly thrown around it, I assert that, with a reasonable amount of study and thought, applied to individual cases, the general physician can accomplish very much more than is generally thought or effected.

To return to the subject as to the aim or purpose sought to be accomplished by the local treatment which shall be instituted.

The errors which are constantly made in local therapeutics are generally in two directions: too strong remedies are applied to irritated conditions of the skin, and too weak applications to those requiring more decided therapeutic effect; exactly how to decide in every case is, of course, a matter of knowledge and judgment, which are acquired by observation, study and thought.

It is well to bear in mind what was said in regard to the nerve supply and sensitiveness of the skin, when the epidermal coat is disorganized or removed, for I think that far more errors are made in the direction of irritating applications than in that of too weak treatment for more chronic conditions. It is better to err

on the safe side, and it is undoubtedly for this reason that so many prescribe oxide of zinc ointment, which, if properly made, seldom proves irritating.

It may be remarked incidentally, that it is better to have relatively few remedies or combinations, which one shall learn to use well in different conditions, rather than to have a great number, or to take up this or that suggestion of others, and continually change. A good workman does better work with his few tools, of which he understands the use, than a poor workman supplied with any number of tools of which he knows little. We shall see later that the mode of using many applications to the skin has very much to do with their efficacy; I have often seen a remedy act inefficiently, as previously employed, whereas the same article gave good results when correctly applied. In the last lecture I shall hope to make practical application of the principles and ideas of local treatment to many of the diseases which we have been observing this winter, and to give specific directions, which I trust may be of value.

2. Principles Involved in the Local Treatment of Diseases of the Skin. The skin being a delicate, sensitive, living organ, with recuperative powers, intelligent local treatment should be based on certain principles, having relation to the structure of the skin and the manner in which it is affected by disease. While many lesions of the skin are largely the effect of external agencies, and while the skin has a certain power of recuperation, it is a recognized fact that many, if not most, of the cutaneous affections have a great pertinacity, and it may almost be said that they have no tendency to spontaneous

recovery, and are prone to persist until removed by treatment, local or general. In this the skin differs from almost all other portions of the body, largely because of its exposed location and its constant subjection to external irritants—for, even air and water often prove to be such, perhaps largely because of their oxidizing powers and microbic contents.

In considering local applications, therefore, we find that their use is in reality based on certain principles, whether recognized or not: some of these may be briefly stated.

1. Protecting raw surfaces, or those with diseased epidermal covering.
2. Allaying cutaneous congestion.
3. Soothing irritated nerve elements.
4. Neutralizing the effect of the micro-organisms always present on the skin.
5. Stimulating sluggish vascular or lymphatic circulation.
6. Producing absorption of effused products.
7. Exterminating grosser animal or vegetable parasites.
8. Destroying or altering new growths.
9. Minor or other surgical interference.

It would be quite impossible in the time at our disposal to elaborate all the features pertaining to each of these principles, but it is well to consider the list, or the thoughts expressed in it, when prescribing a local application for a diseased surface; for, from what has preceded and will follow, it will be abundantly recognized that there is no one remedy, or combination of remedies,

which can be "good for diseases of the skin," however much the quack or semi-quack advertisements may say. We may now consider briefly, in a general way, the application of these principles to local dermatological therapeutics; the special remedies and combinations, with their applications to particular skin lesions, will be indicated in subsequent lectures.

The conditions involving the first four principles are generally found associated in most acute cutaneous diseases, and the local application made is intended to meet one or more of these in a satisfactory manner.

In affording protection the aim should be to imitate nature as far as possible. Now we find that when there is a raw surface, nature endeavors, by a more or less thick coating, which we call a scale, crust, or scab, to protect the exposed and delicate tissues beneath; which covering, if undisturbed, may quite suffice until the subjacent structures have recovered health. This is seen after a superficial abrasion or scratch, in a healthy person. I may remind you how a blister raised artificially heals quickly and perfectly, if the epidermal covering is left intact, after the serum has been let out: and that in burns, and eruptions presenting bullæ, it is often far better simply to puncture them at the level of the skin and to leave the natural covering, rather than to remove it and attempt to substitute an artificial one.

It follows, therefore, that, First, all applications should be bland and unirritating, and with a tendency to promote healing beneath, and, Second, they should not be disturbed oftener than is necessary for cleanliness or good adjustment. We are learning from surgery;

for here the first dressing, even after a severe operation, may be left *in situ* for very many days, and on removal the wound is found to be quite healed.

Unfortunately, however, in treating diseases of the skin the matter of the local dressing is not so simple, and there are other elements to consider which often interfere greatly with the success of local treatment. Thus, owing to the location of the eruption it is often impossible, or at least infeasible, to make a fixed dressing, beneath which the diseased surface shall return to health. Then, there are often internal conditions, which cannot be discussed here, which continually tend to keep up the cutaneous congestion: furthermore, we have to contend with the nerve elements, irritated deeply in the skin, which external applications too often fail to reach and soothe; also the dressing may be torn off, and the surface further irritated by scratching. And finally we have to reckon with the micro-organisms, always present in great variety and abundance on the skin, which become active as soon as they find the proper *pabulum* afforded by the cutaneous congestion and exudation. In regard to the latter point, it is to be remembered that in the perfect surgical dressing referred to, complete asepsis has been secured by relatively severe treatment to the skin, which could not be practiced in acutely inflamed conditions.

We thus see some of the reasons why local measures do not always yield the satisfactory results desired, and learn some of the elements which have to be regarded and provided against in seeking benefits from local treatment in some diseases of the skin. Later we shall

see more particularly how some of these can be combated more or less successfully, in connection, of course, with proper internal, dietary, hygienic, and medicinal treatment. A few general remarks may be made here, which may not find place elsewhere.

We have seen that surgical experience shows that wounds heal, under proper conditions, when left undisturbed. It should be the aim to leave acutely inflamed conditions of the skin in as quiescent a state as possible, provided, of course, that healing is progressing well: when there is much exudation, and especially if pus is forming, this cannot be done. From long experience I am convinced that much harm is done by the very frequent changing of dressings, and especially by the practice, so common, of washing the diseased part and trying to "keep it clean"; time and again I have had to stop this practice.

Scratching is undoubtedly the cause of a very considerable proportion of the lesions seen on the skin in many eruptions attended with itching. This must be prevented, as far as possible, by will power, and, in the case of younger patients, by mechanical restraint, aided of course, by proper anti-pruritic remedies.

But the latter I have often seen dreadfully abused. One constantly observes cases in which, in the effort to secure relief from pruritus, stronger and stronger applications have been prescribed, until the parts have been brought to a lamentable state of inflammation, with only an increase in the itching and pain.

It is well to recognize the fact that in many cases it is quite impossible to check deep-seated itching promptly

by local measures alone; but it is also a fact that it can commonly be checked by the judicious employment of all known means combined. For there must be a cause, and medical acumen can and should, with efficient thought and patience, reach the difficulty and overcome the cause, more often than is generally supposed.

Returning again to our illustration from the practice of surgery, you will remember that the surprising results of modern days are attained by perfect asepsis: you will, however, remember that we found this to be well-nigh impossible in the case of most diseases of the skin.

But it will be noticed that a large share of the applications used for diseases of the skin contain remedies which are of a more or less antiseptic nature, and it is to this feature that we must ascribe a measure of the benefit accruing from them. The micro-organisms infecting the skin have a relatively low grade of vitality, and as a rule are rather *saprophytic*, living on dead tissue, than really *parasitic;* and it may be observed that the various alkaline constituents so often employed, tend to render the soil less suitable for their development. This, therefore, is a point to be considered in compounding applications for the skin, but care should be taken not to use antiseptic remedies of such a strength as shall irritate delicate tissues, while endeavoring to neutralize the effect of the micro-organisms constantly present on the skin.

Thus far I have been speaking of acute eruptions, and the danger of over-stimulating a sensitive surface. But in a not inconsiderable proportion of the diseased

conditions of the skin there is need of just this stimulant action, as will be seen later: and in this class as well, judgment will be required to carry it far enough and not too far. This relates to the next four principles mentioned in the list. Here mild remedies are of little avail, and yet they may sometimes be required to overcome excessive stimulation: for it is often necessary to have a complete reaction after the employment of local stimulants.

It was seen in our remarks concerning the anatomy of the skin that the blood vessels and lymphatics play an important part in the production of many cutaneous diseases. While we know relatively little in regard to the causes of the changes in the blood vessels and lymphatics, and not much regarding the laws governing their action, we do know that capillary and lymphatic dilatation are constantly found in connection with many of the more chronic skin lesions, and remedies looking toward the stimulation of a healthy action in them are certainly of benefit. Also in many of the more chronic skin affections there are observed histologically great hyperplasia of the rete, as well as effusion of serum and great cell infiltration of the corium, which largely compose the skin lesions; and remedies inducing absorption of these play an important part in local therapeutics.

In exterminating the grosser animal and vegetable parasites of the skin the applications employed are all of a more or less stimulating or irritating character, and care has often to be exercised not to over-excite the living tissue. The same is somewhat true in regard to reme-

dies used for the destruction or altering of new growths in the skin.

We see, therefore, that there are many lines, of quite different character, along which local treatment must proceed, and each must be determined and followed out with care in order to secure the best results—and we see yet more strongly than ever how impossible it is that any one remedy, or combination of remedies, should be "good for diseases of the skin," as the false advertisements say.

3. Effects to be Expected from Local Treatment. When water is put on fire we expect it to go out, if the water is used in sufficient quantities and in the right manner. But, unfortunately, as all know, the human frame does not always respond to remedies in just the manner expected, and this is especially true in regard to the skin: disappointments are only too common, unless carefully guarded against.

But these are not infrequently the result of want of knowledge or experience. Sometimes it is the fault of the patient, who does not follow instructions perfectly, sometimes that of the physician, who does not impress them clearly or insist on them definitely. For, as remarked before, patients are, as a rule, utterly ignorant of these matters, and are frequently called on to use remedies for the first time. Explicit instructions should, therefore, be given, just how to use local applications, and statements made as to how they are to act, and what may be expected of them. This, of course, is not always easy to do, but if a physician has a clear idea as to what he wishes to accomplish, in accordance

with what has already been said, the task is less difficult. Accurate prognosis is always a difficult task.

In a later lecture I will endeavor to give some practical suggestions in regard to the modes of making applications and dressings to diseased surfaces, and as to removing the same, and in regard to the treatment generally of affected skin. I may here give a few indications as to what I mean by the effects to be expected from local treatment.

First. Patients should be made very clearly to understand that local treatment can be but local in its effects, and as very many cutaneous diseases are not purely local affairs, but have internal or constitutional relations, therefore, for their perfect removal, other than local treatment is necessary. This is constantly seen in eczema, acne, urticaria, and many other affections, and of course in syphilis, etc. Patients are very prone, after a little while, to neglect everything but local treatment.

Second. That, with some exceptions, immediate and perfectly satisfactory effects do not necessarily always follow the use even of the best possible treatment. An illustration of this is found in herpes zoster: here the best local measures cannot wholly arrest the eruption; but, on the other hand, they are of the greatest value in giving relief to the burning and pain, and in carrying through the eruption, which is self-limited, to its best termination.

Third. When applications which are intended to be cooling, sedative, and soothing, prove to be the reverse, they should not be persisted in, for sensation is a very sure indication of the progress, for better or worse, of

very many conditions of the skin. Thus, in infantile eczema, any application which irritates the child, and causes it to cry long, will pretty certainly prove harmful to the eruption, instead of beneficial.

Fourth. On the contrary, in certain conditions the local application is calculated to cause greater or less discomfort, for a while at least, and if this is well understood the desired results will be more likely to follow. Thus, in the treatment of a severe case of scabies, there is often considerable burning and pain, certainly if there are any raw places, following the very thorough rubbing in of the appropriate ointment: in some cases of ringworm of the scalp it is necessary to rub in the ointment, with a stiff stencil brush, even until the child can stand it no longer: the pain following the application of Marsden's paste for epithelioma is often very severe indeed, lasting for some hours.

Time fails to give you many practical suggestions which occur to me along these lines, and I must leave them to your own intelligence and judgment. Suffice it to say that while there is often much knack in determining just the right application, and in knowing what may reasonably be expected of it, this can be accomplished much more often than is commonly supposed, if sufficient care and thought are given, such as are applied to disease of other organs than the skin. Here let me again urge you not to try this or that treatment recommended often by those of little experience, but to use relatively few remedies and to become well acquainted with them, so that you may be better able to know about what to expect from their employment.

In the next lecture I shall attempt to classify many of the remedies used externally in treating diseases of the skin, and present desirable combinations of them. In later lectures I shall hope to make satisfactory applications of the principles and demonstrate some of the methods which have been discussed as they relate to particular diseases of the skin.

LECTURE II

Ingredients and forms of local applications: Protective, Soothing, Astringent, Anti-pruritic, Emollient, Stimulant, Absorbent, Anti-parasitic, Destructive—Modes of making applications to the skin, and the removal of the same.—The general treatment of the skin: bathing; soaps.

GENTLEMEN:

In the last lecture I endeavored to give such a glance at the anatomy and physiology of the skin as would enable us to understand the *rationale* of the local treatment of diseases of the skin. I also tried to lay down some of the principles which should govern the relation of external remedies to disease, and explained the aims to be kept in view in approaching a case of disease of the skin, and the effects to be expected from external treatment.

I hope that I made it plain why we could not always obtain the ends we desired by means of local applications, and, referring to my lectures of last year, I emphasized the necessity of complete treatment, by means of internal, dietary, hygienic, and medicinal measures, combined with proper local treatment, in order to secure satisfactory results in many cutaneous disorders.

Bearing all this in mind, I will now try to make practical application of the facts presented and the principles laid down. We will consider the subjects under, (1) Ingredients and forms of local applications;

(2) Mode of making and removing local applications; and (3) General treatment of diseased surfaces.

I. Ingredients and Forms of Local Applications. The actual number of ingredients at times recommended in connection with the external treatment of diseases of the skin is quite large, and may seem somewhat confusing to those unaccustomed to dermatological practice. I shall not attempt to enumerate them all, but shall present mainly those which are in most common use, and those which I prescribe and believe to be of the greatest value; many of them you have seen advantageously employed in the clinic during the past winter.

The character of external applications required was seen in the last lecture to vary very greatly and was briefly mentioned as coming under the following heads:

1, Protective; 2, Soothing; 3, Astringent; 4, Anti-pruritic; 5, Emollient; 6, Stimulant; 7, Absorbent; 8, Anti-parasitic; 9, Destructive.

We will consider the ingredients and forms of local applications with reference to the above classification.

1. *Protective Applications.* In acute skin affections the purpose of protection must always be kept in view; often much harm comes, even with the best applications, from not having the diseased surface properly protected against external influences. On the other hand, much harm can be done by too great outer dressings, heating the parts, when a cooling effect is desired.

A good illustration of what is intended by the above is found in connection with herpes zoster. Here the surface is exquisitely sensitive, and when not properly cared for the friction of the ordinary clothing is in-

tensely irritating. But it does not do to apply plasters or even ointments, for they lead to softening of the epidermal covering of the blisters and often even produce an ulceration, which may be very slow to heal. A most simple and effectual mode of treatment which I have employed for years is to envelop the part firmly with a single thickness of strong muslin, beneath which, both on the affected skin and on the inner surface of the muslin, there is dusted very freely a powder, composed about as follows:

1. ℞ Morphiæ acetatis.....gr iii
Pulv. acidi saliyl.....ʒi
Zinci oxidi.....ʒiv
Pulv. amyli.....ʒi
m. ft. Pulv.

If this powder is thickly applied and the cloth closely fitted, even sewing it on, it affords the greatest relief, and may be left in place even some days, or readjusted as required, and the vesicles dry up without breaking. Such a dressing, of course, would not be suitable where there was a raw surface.

Various ingredients may be used in dusting powders, such as lycopodium, carbonate of magnesia, stearate of zinc, etc., and pure buckwheat flour often forms a most comfortable dressing, especially in acute erythemato-papular eczema; I have often had a hand or an arm put in a muslin bag, in which was placed a handful of buckwheat, which, as the part was moved, applied itself very pleasantly and coolingly to the surface.

Many of the ointments to be mentioned, when prop-

erly applied, afford much of their benefit by the protection given to the altered epidermis, allowing it time for regrowth and cornification.

In many cases of chronic eczema the skin is continually irritated by outside influences, and proper protection is a large element in its cure, and in many cutaneous affections this feature proves an important element in successful treatment.

2. *Soothing Applications.* In our glance at the anatomy of the skin we found that it was an extremely sensitive structure, full of capillaries, and that the nerves and blood vessels played a great part in cutaneous disorders. Consequently remedies of a soothing character are constantly needed in acute eruptions. Powders I have already spoken of, but they have relatively little scope, and applications are made mainly in the form of lotions and ointments. Poultices are very rarely serviceable, and even in boils and carbuncles they have been replaced by better measures. About the only use I ever make of them is in the treatment of epithelioma, after the application of Marsden's arsenical paste, where, renewed every two hours, they secure the complete sloughing out of the mass, and are kept applied until all is perfectly healed.

Lotions are of very great value in soothing many acute conditions of the skin. Lead and opium wash, so commonly used of old, is now relatively seldom employed, but may occasionally be of value where there is burning pain. Carron oil is still of value in burns, although an ichthyol ointment often affords the most relief.

2. ℞ Ichthyol.....3ss–3i
Zinci oxidi.....3ss
Unguenti aquæ rosæ.....3i
m. ft. Unguent.

In acute erythematous or papular conditions a calamine and zinc lotion, made about as follows, is very valuable.

3. ℞ Acidi carbolici.....3ss
Pulv. calamin. prep.....3i
Zinci oxidi.....3ii
Glycerini.....3iii
Aquæ calcis.....3iv
Aquæ rosæ.....ad 3iv
m. ft. Lotio.

Some skins do not bear glycerine well (although this idiosyncrasy is often over-estimated), and gelanthum, tragacanth, quince mucilage, or other demulcent can be employed. Sometimes a more drying lotion, such as the following, acts better:

4. ℞ Magnesiæ carbonatis
Zinci oxidi.....aa 3i
Aquæ flor. aurantii.....3iv
m. ft. Lotio.

A little carbolic acid can be added to this lotion, when more anti-pruritic action is required, and the solid ingredients can be increased in both lotions when a more abundant protective coat is desired.

Ointments are constantly used for soothing effects on the skin, but there are several things to be remembered about them which may greatly affect the results. First, that there are certain skins which do not bear greasy

applications well; second, that it often makes the greatest difference in regard to the base or body employed in the ointment, as well as its mineral or other ingredients; third, that not very infrequently an ointment will be rancid, either from carelessness of the druggist, or by being kept too long, and so may prove intensely irritating; and, fourth, that the mode of application of dressings to diseased surfaces, and the method of their removal, influence the results obtained from the use of ointments, often to a very great degree.

The latter point will be considered fully later on; a word may be said here in regard to the composition of the ointment base.

Lard is the common base of very many of the ointments of the Dispensatory, and to prevent rancidity it is commonly treated with about two per cent. of benzoin, or originally the tincture of benzoin was added. This latter may prove irritating to the skin, and sometimes lard is imperfectly benzoinated, and will not keep.

Wax and oils also often enter as ingredients, which may likewise tend to rancidity; the petroleum products, paraffin, vaseline, albolene, etc., are also used considerably as bases. But it must be remembered that vaseline is not acceptable to every skin; not at all infrequently an ointment made up with it will prove irritating, when the same ingredients combined with another base will be satisfactory.

Vaseline and abolene are often of value when it is desired to have only a lubricant effect, or a soft ointment to penetrate, as in the hairy scalp, but as a protective dressing they do not generally answer, unless

materially stiffened with powder, as in Lassar's paste, or with wax, paraffin, or lanolin.

Lanolin is seldom suitable as a base alone. At one time it was thought that it would be valuable, as promoting absorption, when this was desired, but experiments have shown that it is far inferior to vaseline in this direction. Glycerite of starch often serves excellently as an excipient in irritable conditions, but with some skins glycerine proves irritating.

Perhaps the most serviceable base for most ointments, and the one which I much prefer, is cold cream, or the unguentum aquæ rosæ of the Pharmacopœia: but care must be exercised that it is well made and fresh, as it is liable to become rancid, and the water in it to evaporate. A little carbolic acid, one or two per cent., will preserve it for a considerable length of time. If the odor of the rose water is objected to, this can be omitted, but the same quantity of distilled water should be rubbed into the ointment.

A word in regard to diachylon ointment, so commonly associated with the name of Professor Hebra, of Vienna, and which you have often seen used in the clinic. As directed now to be made, in the Dispensatory, by melting together equal parts of lead plaster and olive oil, it is not as serviceable as that made after Hebra's original formula, for all of the oil is not decomposed in the modern process. Hebra advised that the ointment be made direct from the litharge, olive oil, and water, the two latter in very much larger quantities, and the water double that of the oil, all boiled together, with constant stirring, and the litharge sifted in, the whole being

stirred well, until a good, soft ointment is made. I always insist that what is used in the Hospital and in my private practice be made in this manner, after the following formula:

5. ℞ Plumbi oxidi. . . . . ℥iii + ℥vi
Olei olivarum optimi. . ℥xv
Olei lavandulæ. . . . . ℥ii
Aquæ. . . . . qs

℞. Add the oil to two pounds of water, and heat with constant stirring; the litharge is to be slowly sifted in, while it is well stirred, fresh water being added as required until a soft ointment results. The ointment to be stirred till cold and the lavender then added.

There are relatively few mineral or other substances used in ointments which are of a soothing nature, and of these oxide of zinc undoubtedly stands first, and is used in many combinations. But I rarely use zinc ointment of the official strength, and never order simply the ointment of the Pharmacopœia; I always direct it to be freshly made, with cold cream, ℥ss ad ℥i, generally with one or two per cent. of carbolic acid added. Prepared calamine often forms a valuable addition, as in the following formula:

6. ℞ Acidi carbolici. . . . . gr v–x
Pulv. calaminæ prep. . . . ℈i
Zinci oxidi. . . . . ℥ss
Unguenti aquæ rosæ. . . . ℥i

℞. ft. Unguentum.

Sub-nitrate of bismuth is also valuable, and sometimes suits when zinc fails; it is used in the same strength. Boric acid, if very finely powdered, is also

satisfactory, and may be combined with camphor advantageously, as follows:

7. ℞ Pulv. camphoræ. 3ss–3i
Pulv. acidi borici. 3ss
Unguenti aquæ rosæ. . 3i
M. ft. Unguent.

Goulard's extract, the liquor plumbi sub-acet. fortis, may be added to ointments with a very cooling effect, about half a drachm to the ounce of ointment.

8. ℞ Liquoris plumbi sub-acetatis. 3ss
Magnes. carbonat 3ss
Zinci oxidi. 3ss
Unguenti aquæ rosæ. 3i
M. ft. Unguent.

3. *Astringent Applications.* The remedies already mentioned are all more or less astringent, but in less inflamed conditions remedies which are more active in this direction often serve better, and tannin especially will be found most valuable, especially about the head: thus, a very valuable combination is made as follows:

9. ℞ Acidi carbolici. . . . . gr v
Pulv. acidi tannici. 3ss
Glycerit. acidi tannici. . . 3ss
Unguenti aquæ rosæ. . . . 3i
M. ft. Unguent.

The acetate of aluminum is also useful as an astringent, especially in eczema between the toes.

10. ℞ Alumini acetat. 3ss
Unguenti aquæ rosæ . 3i
M. ft. Unguent.

Resorcin (℈i ad ℥i) also acts as an astringent, and salicylic acid, in what is known as Lassar's paste, has often a wonderful control over sub-acute eczema. I generally use it about as follows:

11. ℞ Pulv. acidi salicylici . . . ʒss
Pulv. amyli . . . . . ʒi–ʒii
Zinci oxidi . . . . . ʒss–ʒi
Unguenti petrolat. . . . . ʒi
M. ft. Unguent.

The various preparations of tar, to be mentioned next under anti-pruritic remedies, also act strongly as astringents on the capillary circulation, although one constantly meets skins which will not bear them at all.

As astringent lotions may be mentioned the ordinary black wash, pure or diluted, which often acts most favorably in ivy poisoning and erythematous conditions; also a boric acid lotion (ʒss—ʒi ad ℥iv).

4. *Anti-pruritic Applications.* Many external remedies have been advocated for the relief of itching, and many are in common use; but it must be acknowledged that at times it is exceedingly difficult to secure satisfactory results in special cases, one after another remedy failing to give relief, and often proving irritating to the eruption. Sometimes this is due to a faulty diagnosis, as, for instance, when scabies or eczema marginatum is present about the genital region, and very often from a failure to use proper general, dietary or hygienic treatment combined with the local. But at the best the problem of itching in many cutaneous conditions is one which often taxes the patience and skill of the physician to the utmost.

The hint may be thrown out here that it is well to begin with very mild preparations and increase the strength cautiously, as occasion demands. Also it is often desirable, when the part has been irritated by attempts to relieve itching, to return to very mild applications.

The calamine and zinc lotion mentioned under soothing applications (Formula 3, p. 30) is often a most valuable application, and its anti-pruritic action may be increased by doubling the amount of carbolic acid in it.

Carbolic acid undoubtedly stands first in our list of anti-pruritics, and when one learns to use it well it will prove of great service in many conditions of the skin; it can be added, one to three per cent., with advantage to most lotions and ointments.

Ichthyol is very valuable, and may be used in solution in water (10 to 25 per cent.) with satisfaction, painted over a surface and left to dry on: and an ointment may then be applied over it, if more protection is desired. It is also serviceable in ointments, as in the following:

12. ℞ Ichthyol..... ʒss–ʒi
Pulv. acidi salicylici... ℈i
Zinci oxidi..... ʒss
Unguenti aquæ rosæ... ʒi
m. ft. Unguent.

The different preparations of tar aid greatly in controlling pruritus, and may be employed in various combinations. In liquid form the "liquor picis alkalinus," which I presented to the profession some time ago, has received endorsement on all sides.

13. ℞ Picis liquidæ . . . . . ʒii
Potass. causticæ. . . . . ʒi
Aquæ. . . . . ʒv
m. ft. Solut. "Liquor picis alkalinus."

It is prepared by dissolving the caustic potash in the water, and then adding this to the liquid tar, in a mortar, with friction, until quite dissolved. This may be used diluted ten to twenty times with water, and bathed over the parts, before applying other dressings. In more chronic conditions it can be employed much stronger, and the part even rubbed with it.

Preparations of tar combined in ointments are often most effective in controlling itching. The following is of especial value:

14. ℞ Unguenti picis. . . . . ʒii
Zinci oxidi. . . . . ʒss
Unguenti aquæ rosæ. . . ʒvi
m. ft. Unguent.

The anti-pruritic effect can be further heightened by the addition of ichthyol, oil of cade, or oleum Rusci, half to one drachm in the ounce: or these can be added to other ointments.

For more general pruritus, where it is mild, the following ointment is often of the greatest service:

15. ℞ Acidi carbolici. . . . . ℈i–℈ii
Lanolin. . . . . ʒi
Boro-glycerine. . . . . ʒiv
Unguenti aquæ rosæ. ʒiii
m. ft. Unguent.

This combination, which I have called "skin food," is applied pretty freely with the palms, and gently

rubbed into the skin, until it is absorbed, leaving the surface soft and supple. Ordinarily for treatment the application should be made both morning and night, but it may be used more frequently if desired, to relieve itching: the anti-pruritic effect of the carbolic acid may be heightened by the addition of about double the quantity of menthol, although some object to the very cool sensation produced by the latter.

Another very good general anti-pruritic is a combination of chloral and camphor in ointment, made as follows:

16. ℞ Chloral pulv.
Camphor gummi.....aa ʒss–ʒi
Unguenti aquæ rosæ.... ʒi
m. ft. Unguent.

The camphor and chloral are rubbed together until liquid results, and added to the cold cream, or the "skin food" just mentioned, or the glycerite of starch, which is a soft, ointment-like substance, very agreeable to many. When the skin is at all raw or broken, this combination of camphor and chloral will smart considerably, but with unbroken skin it is very soothing.

In attempting to control itching, the effect of very hot water, and sometimes of very cold, must not be forgotten. In eczema and pruritus of the anus and genitals, a cloth soaked in very hot water, hotter even than the hand can well bear, is placed on the part and held there for a few moments: it is then heated again and held to it, and so for not more than two or three minutes in all, and then, after quick drying with a hot, soft towel, the appropriate ointment is instantly applied.

The ointment should not be rubbed on the part, as that excites fresh itching, but spread on the woolly side of lint, or a thin layer of absorbent cotton, and closely fitted to the part. This often gives complete relief, certainly for a time. The use of the stramonium ointment, in conjunction with that of tar and zinc (Formula 14, p. 37), is valuable, likewise the addition of a little aconite and belladonna helps greatly: cocaine, two to five grains to the ounce, is also of service.

17. ℞ Tinct aconit..... ℥ss
Unguenti belladon..... ℥i–℥ii
Unguenti picis..... ℥ii–℥iv
Zinci oxidi..... ℥ss
Unguenti aquæ rosæ ... ad ℥i
℔. ft. Unguent.

Voluntary or artificial restraint is often necessary in order to prevent patients from scratching before the anti-pruritic remedy has had a chance to act. The control of children with eczema will be spoken of later.

5. *Emollient Applications.* In many instances the entire surface of the skin will be hard and more or less scaly, the glands acting badly, and more or less emollient applications may be needed for some time. The "skin food" already mentioned (p. 37) is most advisable for this, and the unguentum aquæ rosæ in it can well be replaced by albolene. But where large quantities of such a lubricating ointment are needed, as in the case of ichthyosis in the boy aged 14, whom you recently saw so marvelously changed, and on whom no less than half a pound was used in a single thorough application, at first, it becomes very expensive, and a cheap substitute

can be made at home: you saw this used in that case, and I think it is worth remembering.

For this purpose I have the patient buy five pounds of ordinary mutton suet at the butcher's. This is chopped rather fine and boiled in water some hours, with stirring. It is then set aside to cool, and the cake which forms on the top is again boiled in water, with stirring, and set to cool. The cake again formed is then melted, and when liquid is mixed with a little more than the same quantity of cod-liver oil, or linseed oil, and stirred till cold, a little boro-glycerine, a teaspoonful to each ounce being added; a few drops of oil of lavender, bergamot, or geranium added to each ounce makes it very attractive. This combination, which can be very cheaply prepared, I have found to act quite as well as the more expensive combination just mentioned. Glycerite of starch, with one or two per cent. of carbolic acid, also answers very well for some skins.

The essential thing is that sufficient of the ointment be employed really to affect the skin. It must be used with a lavish hand, and gently rubbed in, until the skin will no longer soil the clothing.

6. *Stimulant Applications.* But all dermatological treatment does not consist merely of these mild measures, calculated to soothe the surface; for in many diseased conditions there is a chronic thickening of the skin, caused by an infiltration of deeper tissues, which will not disappear except under stimulating treatment, and as long as this infiltration persists the disease is not cured.

In using any stimulating applications, however, one

must ever bear in mind the delicate structure of the skin, for excessive or wrong action can produce an irritation of tissue, and an inflammation which may prove troublesome. Stimulating measures should, therefore, be used more or less intermittently, and often with a soothing treatment between.

A good illustration of what I mean is found in the treatment of chronic eczema of the lower leg, which I witnessed many times in Hebra's clinic in Vienna, and which is often practiced in this hospital. Here the thickened tissue is actually scrubbed with a brush dipped in green soap, even until, as I have often seen, the water in the basin may be red with blood. The part is then quickly dried and completely enveloped in the true diachylon ointment of Hebra, already described (p. 33), spread on lint. The scrubbing allays the pruritus, and the consequent exudation helps to relieve the engorged vessels: if the effects are good this rough treatment may be repeated with advantage each day, although it is always better to wait somewhat longer after the first trial of it, until one learns the reactive power of the part.

Hebra also devised the compound tincture of green

18. ℞ Saponis viridis
Olei cadini
Spts. vini rectif.....aa ℥i
m. ft. Tinct. Saponis. Virid. Co.

soap, which may often be used with the best results in stimulating indolent skin lesions.

Another illustration of the value of stimulating local applications is found in the treatment of psoriasis. Here the mild measures with which we began are totally

inefficacious, although they may at times be needed, and all the local applications which are effective are of a more or less stimulant character. The most striking of these is chrysarobin, which, as you know, may excite a very considerable degree of congestion and even inflammation, when used in excess.

Most of the mercurial, sulphur, and other ointments of the Dispensatory are stimulating, and in many instances are far too irritating in the strength there directed. It would take far too much of your time to attempt to elaborate this subject in a thoroughly satisfactory manner at the present time. I hope to speak practically, in the later lectures, in regard to the strength of ointments suitable for many diseased conditions of the skin. I will only say here that great caution and judgment are necessary to properly adapt stimulating local applications to diseased surfaces.

7. *Absorbent Applications.* The next class of remedies to be mentioned are those which produce absorption of effused products in the skin; iodine, mercury, and lead stand prominent among these. The following combination often serves a valuable purpose, but may at times prove too irritating, and must be diluted with from two to four times the amount of cold cream or albolene:

19. ℞ Unguenti hydrargyri
Unguenti iodi.....aa ʒi
M. ft. Unguent.

These are rubbed together, and form, as I believe, a nascent iodide of mercury, which is very penetrating,

and is very efficacious in producing absorption of enlarged glands, also of deep syphilitic deposits and nodes in bones.

The iodide of lead is also most valuable in discussing deep infiltrations of various kinds.

20. ℞ Plumbi iodidi. . . . . ℥ss–℥i
Unguenti diachyli (Hebra) (p. 33). . . ℥i

In certain thickened patches of lichen planus, and also in some conditions of tylosis, the following ointment, suggested first, I think, by Unna, is very efficient:

21. ℞ Acidi carbolici. . . . . gr v–xx
Hydragyri bichloridi. . . . . gr ii–vi
Unguenti diachyli (Hebra) (p. 33) . . ℥j
m. ft. Unguent.

This may be rubbed in, and then the part covered with the same spread on lint.

8. *Anti-parasitic Applications.* The number of parasiticides which have been recommended at various times is very great and quite bewildering, and one hardly knows how to explain the reported successes of many of them in the hands of certain persons, and their failure in the hands of others: except on the personal ground, that one can often work best with a tool with which one is best acquainted. I would advise you, therefore, not to keep trying this or that ointment or application recommended by however high an authority, much less those advocated by advertising firms supported by assertions of unknown men, often of little experience. It is best to select a remedy, or remedies, and use them over and

over again, with modifications if necessary, and so become acquainted with what they can do and the best manner of employing them.

This class of applications may be divided into microbicides, and parasiticides proper. In the former lecture it was mentioned that micro-organisms play a very considerable part in the causation and continuance of many cutaneous diseases, and it is continually necessary to reckon with them. It was also mentioned that many of the well-recognized local remedies had more or less bacteriocidal qualities, and these are often all that is required.

Dermatitis seborrhoica, or seborrhoic eczema, is now pretty generally recognized to be due to a micro-organism, and resorcin seems to be almost a specific against it. On the scalp the trouble is often controlled really remarkably by a lotion composed about as follows:

22. ℞ Resorcin. ..... ʒii
Spts. vini rectif. ..... ʒiii
Glycerini. ..... ʒiv
Aquæ rosæ ..... ad ʒiv
m. ft. Lotio.

This is applied night and morning, by means of a long "hair dropper," and thoroughly rubbed in, with shampooing every week or so.

On other parts of the body resorcin in ointment proves more valuable, with or without a little sulphur.

23. ℞ Pulv. resorcin ..... ℈i–ʒss
Sulph. precipitat. ..... ℈i–ʒss
Unguenti aquæ rosæ. ..... ʒi
m. ft. Unguent.

When organisms causing pus are present and operative superficially, as in impetigo contagiosa, the antiseptic properties of mercury are very efficient, thus:

24. ℞ Acidi carbolici . . . . . gr v
Unguenti hydrag. ammon. . ʒi–ʒiii
Unguenti albolene . . . . . ad ʒi
m. ft. Unguent.

Peroxide of hydrogen is also a most valuable aid in connection with many suppurative conditions, and may be freely applied, even in full strength, on bits of cotton soaked with it, as on ulcers, before making other proper applications.

Parasiticides proper refer to those destructive to animal and vegetable parasites, and relate to a number of different remedies. Their application to particular diseases will be discussed later. It is proper here only to throw out the caution that they be not made too strong, to irritate the skin unduly, nor yet so weak as to be inefficient. To secure at first the proper strength is sometimes a matter of considerable difficulty.

9. *Destructive Applications.* Finally the remedies which are needed in connection with the local treatment of certain skin lesions may have to be decidedly caustic or destructive in their action, in order to effect the results desired. As examples of this may be mentioned the various caustic pastes, which have been recommended for the destruction of new growths, as epithelioma, lupus, etc., some of which will be mentioned later.

Happily the indiscriminate use of nitrate of silver

as a caustic to the skin, has largely passed away, although it may occasionally be of some value. But the habit of "touching up" local sores on the skin or in the mouth, with a stick of nitrate of silver, has been productive of harm, and has beyond question repeatedly converted what would have been innocent lesions into those of malignant nature, requiring very severe, even surgical treatment. Nitrate of silver is a dangerous remedy in unskilled hands.

I come now to speak, as briefly as possible, upon a very important matter in connection with the local treatment of diseases of the skin, which has already been hinted at a number of times, namely:

2. Modes of Making Applications to the Skin, and the Removal of the Same. In treating a patient with a cutaneous affection, it must be taken for granted from the first, and all through, that the individual really knows nothing as to exactly the correct mode or method of treating the diseased part: in the vast majority of instances it is the first occasion in which the person has had occasion to make such applications. Even in those who have suffered from a cutaneous ailment for some time, the same course must be taken, for one can never be quite sure that the patient will do things just rightly: indeed, owing, I suppose, to the "contrariety of animate and inanimate objects" just the wrong thing is very often actually done, unless specific instruction, and in some instances patient demonstration, is given in regard to exactly the right manner.

Never forget the importance of little things in dermatology. One cannot really be too careful to have just

the right thing done in the right manner and at the right time, and undoubtedly a considerable share of the want of full success comes just from the neglect of the principles stated.

The majority of patients when given an ointment or a lotion will simply rub it over the affected part, whereas very few of them are to be used in this manner; and where they are intended to be applied with friction, few patients will ever use them thus efficiently.

Remember that the first class of local applications mentioned was under what is known as protective measures, and almost all cutaneous lesions require protection from external influences, as well as dressings which shall keep the medication in proper coaptation to the affected part.

The mode of application of an ointment must vary greatly according to the purpose for which it is used. Thus, when an ointment is used for lubricating, as in ichthyosis, xeroderma, or in a slight general eczematous or pruritic condition, the ointment should be taken on the palms and the surface freely anointed, with more or less friction, morning and night, or as often as required, until much of it has been absorbed. Also in the treatment of scabies the appropriate ointment should be rubbed in with the palms, all over the affected parts, and even for half an hour, until it has well penetrated the furrows made by the insect, and a considerable quantity should be left on, so that the underclothing becomes pretty well saturated with it.

On the other hand, however, on a more or less raw eczematous surface, such a procedure would be any-

thing but beneficial, and the ointment should be thickly spread on the *woolly* side of lint (some say on the hard side, but I am sure that this is a great mistake) and firmly bound on the part, with as light a gauze bandage as possible. The same is true when it is applied to such a lesion as pemphigus or any abraded or ulcerating surface.

I wish, however, to call your special attention to the value of absorbent cotton under certain conditions, upon thin layers of which, with a little care, ointments can be spread satisfactorily. These may be made to fit uneven surfaces, and on removal they will come off easier, in pieces, and often do not do the violence to tender surfaces which frequently occurs when the application is made on a continuous sheet of lint. This method is peculiarly suited to eczema about the anus and genitals, and in hemorrhoids, as it can be well tucked in and keeps in position. It is also very serviceable in eczema on the fingers and toes.

Between these two extremes there are varying degrees of the active application of ointments often required, and patients must be instructed just how to make them, or much of the benefit will be lost. Thus, in parasitic diseases of the scalp, after clipping the hair very short, it is often well to apply the ointment with a stiff stencil brush, cut short, with considerable friction, working it well into the follicles; the same mode of application is also valuable in hard patches of psoriasis on all parts of the body.

Again, in old patches of eczema, there is often much benefit from a greater or less degree of friction with

the finger, or often with a bit of flannel dipped in the ointment, after which the patch is covered with the same spread on the woolly side of lint and bound firmly in place. In many cases of eczema and psoriasis about the hands, it is almost impossible to make any progress unless the proper ointment is kept bound on the affected part all the time, night and day, for a while. In eczema in small children, the direction should be to replace it as often as it is rubbed off, or when the dressing becomes at all deranged.

Often one sees very poor results in the use of ointments resulting from the coverings or dressings which are placed over them. Thus, a diseased surface to which ointment has been applied is often found to be covered with old linen or surgical gauze; these readily absorb the greasy portion of the ointment, and leave the affected portion dry, perhaps coated only with the mineral or other ingredient contained in it. Be sure to insist on lint or absorbent cotton being used.

Many errors also continually occur unless careful and explicit directions are given by the physician, in regard to the removal of ointments, and the subsequent treatment of diseased surfaces. Remember that even nurses are not often specially trained in this particular branch of medicine, and also that they may have been wrongly directed by others.

It seems to be the universal idea that diseased surfaces should be frequently washed, and one continually finds healing prevented by the application of soap and water, daily or oftener. Rarely is it advisable to wash surfaces which are at all raw, and all the cleansing

necessary to them can generally be accomplished by the gentlest wiping with absorbent cotton.

Much harm is also often done by a rough removal of ointments and dressings. When the latter adhere too closely it is generally because there has been too little ointment used, or an improper covering made. Let me urge you to insist on a very free, even lavish, use of external applications. If, on the removal of a dressing, there is much ointment on the skin, which it is desirable to remove, this can commonly be best accomplished by means of a dull knife, if gentle wiping with absorbent cotton is not effective.

Quite as many errors also occur in the use of lotions and powders, unless careful, specific directions are given. You have all seen in the clinic the use of the calamine and zinc lotion (Formula 3, p. 30), which proves so serviceable in acute erythematous and papular conditions. Now this does its good by leaving a more or less thick coating of the solid ingredients on the skin: the same is true of the magnesia and zinc, and some other lotions. To accomplish this in the best manner, I direct that, after being well shaken, some of it shall be poured out, into a dish with a cover, and freely sopped over the surface with a bit of handkerchief. Absorbent cotton does not answer, as it holds too much of the powder in its meshes, as does also lint; of course a sponge should never be employed. For the evening dressing I always have two thorough applications made, the second about ten minutes after the first, in order to ensure a sufficient coating. The covered dish, with some of the lotion in it, is then placed by the bed, so

that a little more can be sopped on in the night if needed; or, the bit of cloth dampened with it can be laid on any particular part that itches. In the morning a single coating is generally sufficient, on top of what remains of that applied the night before.

Much the same rule applies to the employment of the lotio alba or other lotions in acne, to be mentioned later.

On the other hand, some applications, as that of ichthyol in solution, or per-manganate of potassa, or the diluted liquor picis alkalinus, already described, (p. 37) give their best results by being lightly patted or wiped over the surface, and left to dry on.

Mistakes are continually made in covering applications to the skin, whether of ointments or lotions, with an impermeable dressing, as oiled silk, or rubber tissue: this often macerates the parts and defeats the very object of treatment. When a covering is needed in order to protect the clothing, I direct the use of one or more thicknesses of good flannel, which does not heat and macerate the part, and does not absorb the greasy matter, as would cotton or linen.

An exception to this avoidance of impermeable dressings is found in *waxed paper,* which sometimes serves a very valuable purpose, especially in chronic patches of lichen planus, eczema, or psoriasis. On the legs, or places where there is not much movement, it often acts like a plaster: after rubbing in the proper ointment well, a trifle can be wiped on the paper, and if this is well pressed down, and air excluded, it will easily stay in place all day.

Another exception in regard to an impermeable dress-

ing is found in the use of the solid rubber bandage in eczema and ulcers of the lower leg, which I shall hope to demonstrate again to you when I come to speak more particularly of the local treatment of special diseases of the skin.

I must call your attention to one very valuable means of keeping dressings in place, on certain parts, and that is what is known as the *circular bandage:* this name was given to it because it was originally sold in circles, or bands, but I prefer to have patients buy the material and make it up in exactly the size required. It consists in an elastic webbing, about three inches wide, like an exaggerated garter, bought by the yard. It should not be made to fit too closely, but just tight enough to grasp the part so that it shall not slip: this is, of course, applicable mainly to the arms and legs. Where a wider surface is to be covered, several such bandages may be used, and I sometimes have them sewed together, making a broad band, but generally it is better to have them separate. Absorbent cotton, in a thin layer, should always be used beneath them, as any ointment will injure the elasticity of the rubber. For years I have employed this means of keeping dressings on the limbs, with most satisfactory results.

A few words may be added, in closing, as to

3. The General Treatment of the Skin, especially in those at all subject to cutaneous affections, including the subject of bathing; and I will first repeat a sentence or two which I gave last year, referring to those lectures for a fuller consideration of the subject.

The tendency of modern times is to the free use of

water *externally*, and in many instances this will be carried to an injurious extent by patients with various affections of the skin. From long observation I have been led to share the view of Hebra, who, toward the close of his life, wrote very strongly to the effect that the matter of bathing was constantly overdone: he stated that he saw more eruptions in those who were active bathers than in those who neglected the skin in this respect. I have very many times heard private patients state that they had much less trouble with the skin when they were traveling, and when they could not secure great bathing facilities, than when they were at home and indulged freely.

It is important, of course, that the surface be kept in a proper condition; although I think that a great deal that is said about "keeping the pores open" is unnecessary and irrational; animals do not bathe, and yet in them the skin performs its functions satisfactorily. A certain amount of bathing for cleanliness is rational, but as sometimes practiced it is unnecessary and very frequently harmful.

I have previously mentioned the harm from washing diseased parts, and especially with castile soap, as is so common.

Soaps. One is constantly asked as to what soap is good for the skin, and especially in regard to some of the medicated soaps so alluringly advertised to the profession and public.

To tell the truth, I believe that it makes very little difference what soap is used, if only it is a good one, with not too much alkali. The ordinary hand soaps.

from the best makers, are, as a rule, all good, and I have direct personal information that one at least of the much advertised special skin soaps is only ordinary soap taken from the general stock of a certain good manufacturer, and specially stamped for the purpose. I spoke a moment ago against castile soap: I object to this, as it is a soda soap, and therefore not as suitable to the skin as one which is made with potash.

I am not a believer in the many medicated soaps put forth by special houses, principally abroad, though, of course, I have used them more or less in my practice. But I do not see how medicaments can be efficient when used in this manner. Tar soap, however, is somewhat of an exception, and seems relatively unirritating to eczematous surfaces, and I employ it more or less.

There is no intrinsic reason why soap should not be used on the face, but in acne I generally advise that the face be washed, in the morning with cold water and without soap, the palms of the hands being used instead of a wash-cloth, and that considerable friction and self-massage be applied: after this the surface is quickly dried, with a soft towel, and the appropriate lotion immediately applied. When we come to speak of diseases of the scalp, I will try to describe what I consider the best method of shampooing.

I cannot quite close this lecture without giving you a suggestion or two in regard to the preparation of the applications which are to be made to diseased skin: for I constantly see many which are prepared in a very bad manner. You cannot be too careful in seeing to it that not only are ointments and lotions compounded exactly

as prescribed, but also that they are free from gritty particles, which will irritate diseased skin. It is well to have the solid ingredients first ground fine in a mortar, and mixed with a drop or two of almond oil, before being mingled with the base: I once saw an ointment of red oxide of mercury which I had ordered for the eyelids, containing large particles of gritty substance like red sand, stirred in the mass. Lotions, likewise, should not have any gritty matter in them. Remember, also, that the least rancidity in the ointment will act very prejudicially. It is well for the physician to frequently inspect all remedies used by the patient, especially those used for local application.

In the next lecture I shall expect to take up the matter of the personal local treatment of certain cutaneous affections, including surgery, and the use of electricity in various forms, X-ray, Finsen light, etc. I shall also begin the consideration of the local treatment of special diseases, and will mention as many of them as possible in that and the following, concluding lecture.

LECTURE III

Personal local manipulation or treatment; Acne, puncturing, curetting, etc.—Dermatological Surgery; tumors, angioma, epithelioma, lupus: Thermal cautery, liquid air.—Use of electrical and radiant energy; Electrolysis, Static electricity, Galvanic current, Faradic current, High frequency currents, X-ray, Radio-activity, Photo-therapy and the Finsen light.—Local treatment of eczema.

GENTLEMEN:

We come now to consider some of the various aids to the local treatment of certain diseases of the skin which may be given by the physician, or under his immediate guidance. These may be divided into: 1. Personal local manipulation; 2. Dermatological surgery; and, 3. Electrical and radial energy.

1. Personal Local Manipulation. There are not many cutaneous affections in which personal manipulation is required, but in certain instances it may be of very great advantage.

Acne will commonly yield to careful internal treatment, with proper dietetic and hygienic care, aided by proper local applications; but in some cases the progress can be very greatly accelerated by right personal procedures, while in occasional instances these are very necessary.

We saw, in our study of the anatomy of the skin, that the sebaceous glands often fail in their proper action,

and that the lining cells instead of undergoing liquid transformation, accumulate, forming cheesy masses or plugs, called comedos or "black-heads"; these from their size cannot escape without aid, and if left *in situ* are not only a disfigurement, but also tend to inflame and cause acne pustules. I do not allow patients to try to remove them, as by a watch key, or pressure, for they invariably bruise the face, and very often do not succeed completely; I prefer to extract as many of them as possible, by means of a small silver tube, whose ends are made conical, sold by the instrument makers under my name; with firm pressure over the little masses, and with a little sudden jolt, they are easily made to extrude and the gland completely emptied: in certain cases the benefit from this little procedure is really very great.

Also in pustular acne, the opening of the lesions, and even the free bleeding of the surface by means of the acne lance, which you have often seen used in the clinic, results in the greatest benefit. In the larger lesions of acne indurata, where there are indolent abscesses in the skin, these should be opened by a horizontal cut, with a good sized acne lance, on a level with the adjoining surface and at the most dependent point; and in some of these cases I scrape the inside of the cavity with a very small curette, to remove the degenerated cells and excite healthy inflammation.

In some cases where there are very many, rather small pustular lesions, the dermal curette can be used with much advantage, scraping off the tops of the lesions, and dragging out the sebaceous plugs, even causing some bleeding. By these means a surprising improvement

can be effected in a very short time. Occasionally it is desirable to bathe the face with warm water, directly afterwards, to encourage the bleeding, although, as you have often heard me say to patients, I believe that the face should generally be bathed with cold water. I do not approve of steaming the face.

These procedures need seldom leave any scars if properly done, for in the main it is only the epidermal layer which is affected by them; the scars so often observed in old cases of acne are the result of neglected lesions, which have already caused destruction of deeper tissues.

Some good may also be accomplished by the proper massage of the face, when there is not much inflammation; but my experience has shown me that, as usually practiced by advertising quacks and uneducated persons, more harm than good is often done. On washing the face, with the hands, a certain amount of self-massage may be practiced with advantage, and the physician can do a certain amount of it and demonstrate the manner of the procedure to the patient.

Personal manipulation can often be utilized in the way of epilation in cases of ringworm and favus of the scalp, where the attendants do not understand the process, or will not do it properly.

The application of the rubber bandage, which you have seen me use in cases of eczema and ulcer of the leg, should always be made first by the physician, both to test the immediate effect of its employment, and in order that the patient may understand perfectly just how it is to be applied: it is often desirable for the physician to readjust it personally, at subsequent visits.

Finally it is frequently advisable for the physician to demonstrate, and even to make the first application of some lotions and ointments, for as I remarked in the last lecture, patients are commonly ignorant of just the best methods of their employment.

2. **Dermatological Surgery.** While not commonly extensive, there may at times be considerable surgery connected with dermatological practice. Operations on epithelioma, sarcoma, and tumors may in some cases be very serious, and considerable surgical skill may be required in plastic operations and skin grafting, as after the excision of lupus and epithelioma. Some cases of vascular nævus, where it is at all deeply seated, or angiomatous, are best treated by complete surgical removal with plastic operation or skin grafting, as are also certain cases of pigmentary nævi. Elephantiasis of the scrotum or penis can only be treated successfully by surgery, and in some cases of ulcers of the leg excision and skin grafting give the best success: the surgical operation of tying or removing varicose veins is also a valuable aid in curing certain conditions on the lower extremities.

Among less severe surgical procedures may be mentioned the curetting of epithelioma and lupus, or boring them out with the dental burr, or with sticks of nitrate of silver, as you have seen me do in the clinic. Warts may also be successfully removed by the curette. The small tumors of molluscum pendulum, seen so often on the necks of females, may be snipped off with the scissors very easily, and the wounds heal readily, leaving no scar; sometimes it may be desirable thus to remove those

of molluscum contagiosum, or bore them out with a stick of nitrate of silver.

Cutaneous or glandular abscesses may also require incision, also boils and carbuncles, although, as I shall hope to show in the next lecture, I much prefer other treatment, and rarely if ever cut the latter.

The thermal or electro-cautery is sometimes of value in dermatology, in destroying small lesions and after curetting operations on epithelioma and lupus. I have also used it successfully on vascular nævi, by making very many superficial parallel linear cauterizations, so as to destroy the outer blood vessels: if this is done very delicately there need be hardly any scar, and often practically none. The dilated and prominent capillaries in acne rosacæ are also often easily obliterated by means of the electro-cautery needle.

Liquid air may be mentioned here, the use of which has often given excellent results in nævus, and also in a number of cutaneous conditions, such as epithelioma, lupus vulgaris and erythematosus, and others.

A clever application of cold has recently been recommended by Dr. Cathcart of Texas.* He cured a number of cases of "creeping disease," due to the burrowing of the larva of a certain species of fly, by freezing the terminal or advancing portion, by means of ethyl chloride: a single thorough application was sufficient in each instance to kill the parasite and cure the disease.

The cutaneous punch may be mentioned as at times a useful instrument in removing small moles, and also in securing portions of diseased skin for microscopic

* Texas Medical News, Feb. 1906, p. 167.

examination. The smaller sizes may be employed for removing powder marks from the skin.

3. **Electrical and Radiant Energy.** These relatively new agents which have been introduced into medicine have an ever widening application in dermatology, and often prove of the most signal advantage in many cutaneous conditions. We will consider them under the several heads of, 1. Electrolysis; 2. Static electricity; 3. Galvanic current; 4. Faradic current; 5. High frequency current; 6. X-ray; 7. Radio-activity, and 8. Photo-therapy and the Finsen light. It will be impossible in the time at our disposal to consider any of them at all completely, and I will only indicate some points which I think desirable to keep in mind in dealing with dermatological cases.

1. *Electrolysis.* It is not necessary here to enlarge upon the theory of electrolytic action; suffice it to say that it depends upon well-known laws of electro-chemic action, whereby the tissues of the body are altered and decomposed, certain elements tending to the positive pole and others to the negative. In some conditions, as in nævi, needles attached to both poles are introduced, the bi-polar method: in others the uni-polar method is used, one needle being attached to one pole, while the other is located elsewhere on the body.

This latter method is employed in electrolysis for the removal of superfluous hairs, *hirsuties,* or hypertrichosis, and the needle is attached to the kathode, or *negative pole,* the positive pole being held in the patient's hand, with a moist electrode. After the needle is in position, being inserted about one-quarter of an inch along the

hair, a mild current of about one milliampere is turned on for from 10 to 30 seconds: the current can be made and broken by the patient touching the sponge, but I much prefer to have a small electric button in the circuit, which can be pressed by the operator's foot. When the current is acting, small bubbles of gas (hydrogen) are seen at the orifice of the follicle, and on removing the needle the hair is found to be loose in its socket, and can be removed with the slightest traction.

This process is radically curative, for if the papilla has been reached and destroyed the hair does not regrow. For more details I must refer you to some of the many reports which have been made on the subject in literature.

Bi-polar electrolysis is sometimes serviceable in treating cases of deep-seated vascular nævus, especially about the face, when radical surgical measures might involve too much scar; but in my hands it has not been as satisfactory as might be expected from what has been written about it.

2. *Static Electricity* has its value more in general applications as a nerve tonic, and in relieving pain, and often in checking general itching; the static breeze has also a favorable effect on the scalp in ordinary alopecia, and somewhat so in alopecia areata.

3. *Galvanic Current.* Rockwell* still claims for central galvanization a most profoundly beneficial effect on the general system, "through the brain, sympathetic, and spinal cord, as well as the pneumogastric and de-

* Rockwell, Med. and Surg. Uses of Electricity. New York 1905, pp. 338, 342.

pressor nerve"; he further states, referring to eczema and prurigo, "Under this method of treatment alone, without making any application whatever to the diseased surface, the itching and burning of these diseases are relieved, sometimes immediately, and under a protracted treatment permanent cures are obtained." I am sorry to say that I can give you little personal experience in the matter, and must confess to having neglected some of the uses of electricity too much in my practice. I believe, however, that there is a large field for its usefulness in more lines in dermatology, and hope that next year I can give you more satisfactory personal experience in the matter. In what is said of the value of electricity here, I wish, however, to have it clearly understood that I accept it, in most instances only as an addition to our armamentarium, in suitable cases, and by no means to the exclusion of proper general and local treatment such as I have often detailed.

The beneficial effect of the galvanic current in controlling the pain sometimes attending herpes zoster, is well known, and this I can verify.

4. *Faradic Current.* This also has its value in certain conditions of the skin, as many have testified, and may be used either as general faradization, or applied locally. One good application will very often quite arrest itching, although, of course, it is not expected that brief treatment will be permanent; but as a means of restoring nervous equilibrium it certainly has its value, and locally stimulating applications of it restore tone to weakened tissue.

5. *High-Frequency Currents.* With the rapid march

of science new developments in regard to electricity are constantly presented, and will undoubtedly occur, and we shall understand better the action on the body of the different forms or modalities which this mysterious something may assume. One of the latest of these is what is known as the hyper-static, or more than static, current; that is, it is one of high frequency of alternation, having peculiar features, which have a pretty wide range of usefulness in many cutaneous affections.

It is perhaps a little too soon to attempt to state at all definitely what can be accomplished by hyper-static electricity, but from the strong statements of those who have carefully studied its effects on the nervous system, and through the sympathetic and vaso-motor nerves on the capillary circulation, we can well understand some of the results which have been reported. Thus, one well known observer says: "My use has been chiefly in connection with chronic, infiltrated eczema, rosacea, localized pruritus, pityriasis capitis, the localized eczema seborrhoicum, and seborrhœa oleosum, in all of which resolution of the lesions has been accomplished more rapidly than by any means previously at my command."

My experience certainly confirms much that has been said in regard to the value of the hyper-static electricity; it removes infiltrated patches of eczema and lichen planus, and lupus erythemateous will sometimes yield to it admirably; and with a carbon electrode it is very effective in removing moles, especially from the face, and warts from the scalp, and in two cases of superficial vascular nævus it restored portions of the skin to a normal condition.

6. *X-ray.* I need not detain you to speak of the advantage of the X-ray in dermal therapeutics, for its value has been too definitely shown already to need further evidence at this time. The only danger is that many will use it recklessly or in unsuitable cases. The results obtained by means of it in certain forms of epithelioma, especially about the face, are certainly most remarkable and among the most brilliant achievements in modern science: and you have seen at the clinic some very striking cases where the skin was left in an almost normal condition after the cure of epithelioma by X-ray. But it has been pretty well proved that it has very little value in treating malignant disease below the skin, and time is only lost in attempting to treat cases of cancer of the breast or of other deeper organs, which are suitable for other procedures; although in certain inoperable cases, and especially in those recurrent after operation, it has sometimes been of the greatest benefit.

You have seen in the clinic this winter some of the remarkable results which we have obtained by means of it in ringworm and favus of the scalp, with the luxuriant growth of healthy hair afterward; you have also seen some striking results in removing patches of psoriasis and lupus, likewise the surprising benefit to the man with pigmentary sarcoma of the hands and feet: last year you saw in the clinic a woman with Darier's disease, affecting the feet so badly that she had been in bed for months, helpless, in spite of all treatment; this woman walked well, and left the hospital apparently cured, after X-ray treatment for, I think, about two months.

But the X-ray is a dangerous weapon in the hands of the unskilled, and we must ever remember the serious nature of some burns resulting from it; of these we have had several instances under treatment in the hospital, which, however, were produced outside of the institution, by other hands. We have sometimes had mild burns which healed under the continuous use of dry dressing with the following powder:

25. ℞ Aristol
Orthoform. .....aa ʒii
M. ft. Pulv.

7. *Radio-Activity.* Again time forbids the discussion of this most interesting addition which has been made to cutaneous therapeutics. Radium, which exhibits this agency in the most striking manner, is certainly capable of affecting the skin and tissues, as there have been several instances of severe burns from its prolonged influence. Some of the earlier reports from Paris in regard to the beneficial influence from its use in lupus were very startling, and very much was hoped from it. Some of you may remember our using radium in this clinic year before last, and some cases of lupus and epithelioma were shown, where there appeared to be decided improvement: but I am sorry to say from what I observed during those months I was not convinced that the results were equal to those obtained from the X-ray; recently Dr. Abbe has reported very favorably on its employment. I believe that it has a field of operation in reaching malignant diseases of internal cavities, where the X-ray cannot be made to penetrate.

but where radium, enclosed in a glass receptacle, can be located and left in place the proper time to produce its alterative effects.

8. *Photo-Therapy and the Finsen Light.* I can only mention, in the very briefest manner, the subject of light-treatment, which, while its importance has been sometimes exaggerated by enthusiasts, has elements worthy of careful consideration by those having to do with certain diseases of the skin. I must refer you to literature in regard to the effects of sunlight and electric light, in their entirety, and also as to the effects of red light, blue light, the violet, and ultra-violet rays, all of which have been reported on more or less favorably in regard to various cutaneous conditions.

I wish, however, to say a few words in regard to the use of the Finsen light, which I observed personally for quite a while in Copenhagen. But no words can express fully what it has accomplished for the hundreds of cases of lupus which have been treated there; they are simply astounding, and the many cases which have been brought from Copenhagen to the last two International Dermatological Congresses, in Paris and Berlin, excited the wonder and admiration of all who saw their original photographs and examined the cured patients; there could be no question as to the brilliant results.

I have not time to describe the treatment, but will only say that it is extremely tedious, often lasting several years in extensive cases, requiring daily applications of the light, over a small area, with the constant attendance of a nurse, to hold the lens, for an hour, at each sitting. The trouble and necessary cost are almost

prohibitive here, but while there I saw American patients who were quite satisfied with the continued improvement daily observed. From what I observed I believe that the peculiarly excellent results obtained from this treatment in Copenhagen is largely due to the most careful daily study of each case, by physicians familiar with the treatment and its effects, who directed each application: and a considerable share of the improvement is also due to the various medicated dressings which were put on the diseased surfaces, by competent nurses, and worn all the time, day and night.

You know, perhaps, that sunlight, focused by condensors, was originally employed, but for many years the light is obtained from an electric arc light.

We have thus seen that electricity has an important place in the dermatological armamentarium, but it should always be kept in its proper place, and should be no more over-estimated than under-estimated. I hope that next year I may be able to present the subject very fully, perhaps giving up the four special lectures to a complete study of the value and method of use of electricity in connection with diseases of the skin.

We come now to the more practical and, perhaps, to some, the more interesting portion of our subject, namely, the direct application of the facts and principles already given to the cure of certain diseases of the skin, at least so far as this can be aided by local treatment.

Eczema. We will begin with *eczema*, as you might expect, as it is the most frequent disease of the skin.

forming in dermatological statistics nearly one-third of all cases, and in general practice probably a very much larger proportion.

But there is another reason for taking eczema first. It has been called the "Keystone of Dermatology," and he who understands its treatment will not only relieve many distressing cases, but has also learned much of the principles of dermal therapeutics, which may then be applied to various cutaneous diseases.

But let me again warn you not to put too much trust in local treatment alone, but, on the basis of what I said in the special lectures last year, study the patient in all particulars, and seek by all means, dietary, hygienic, and medicinal, to remove the conditions which predispose to, and often cause, eczema and other diseases of the skin.

As eczema often begins very early in life, let us consider first some practical points in connection with the local treatment of *infantile eczema.*

Remember the exceedingly delicate and sensitive skin of the infant, which, after its warm and moist surroundings for many months, *in utero,* is endeavoring to accommodate itself to its new surrounding circumstances.

First. I think that all babies are washed too much. We all know the harmful results of the excessive use of water and soap on the adult skin, as seen in washerwomen and others; and you will remember that in the preceding lecture, and also last year, I quoted Hebra, the master dermatologist, who, toward the close of his life, asserted strongly that he saw more skin eruptions

in those who bathed freely than in those who rather neglected it. It may seem strange, in this day of countless bathrooms, but I fully endorse Hebra, and have constant occasion in my office to discountenance the too free use of bathing. What then must be the free use of water, and all kinds of soap, on the baby's delicate cuticle? Babies with a tendency to eczema should be especially guarded in this respect; many an eruption has been lighted up or aggravated by injudicious bathing, if, indeed, it has not been caused thereby.

Second. Bearing in mind the delicate skin of the baby, the first applications should be of the mildest character. Fortunately we have in the oxide of zinc a mildly astringent remedy which suits most skins; I use it, half a drachm to the ounce of good, fresh cold cream, with five grains of carbolic acid to the ounce, never just the zinc ointment of the Pharmacopœia. A little finely prepared calamine, twenty grains to the ounce (Formula 6, p. 33), seems to help it. Bismuth subnitrate or boric acid, of either thirty grains to the ounce, suits some skins better (Formula 7, p. 34). When there is much itching, the tarry ointment, mentioned in the last lecture (Formula 14, p. 37), will often be all that is required, or the oil of cade, half a drachm, may be added to the zinc or other ointment. Ichthyol is also valuable for this purpose, half a drachm to the ounce.

When there is more infiltration, or thickening of the skin, other ingredients may be cautiously added, and I have seen the following ointment succeed when others failed:

26. ℞ Pulv. acidi salicyl . . . . . gr x
Resorcin. . . . . ʒi
Ichthyol. . . . . ℈i
Zinci oxid. . . . . ʒii
Lanolin
Unguenti aquæ rosæ. . .aa ʒi
ℿ. ft. Unguent.

It is rarely necessary to employ other remedies than have been mentioned, if they are properly prepared and used in the manner detailed in the last lecture.

But it is very necessary that the applications should be correctly made and kept continuously applied, and that the infant be prevented from displacing them, or rubbing or scratching the affected parts; and this will often be a difficult thing to accomplish.

For many years I have been accustomed to use a very simple yet effective method of controlling infants and preventing them from scratching, which I will demonstrate to you. This consists of a small pillow-case fitted over the child, the head protruding from a hole cut in the closed end. It is drawn down, the arms are pinned into the sides, and the whole is kept in place with a large safety pin, between the legs. Many mothers have spoken in the greatest praise of this method. There is a clever patented device sold, I think, under the name of "Scratch Not," which consists of stiff, celluloid sleeves, attached to the shoulders, which prevent bending the arms, and so reaching the face: much the same can be improvised from heavy cardboard. There is also another patented device recently put on the market under the name, "Hand-I-Hold" babe mitts, which is very effective. It consists of hollow, aluminum balls,

very light, with sleeves attached, which are drawn over the arms and pinned to the clothing: the hands being within the ventilated balls scratching is impossible.

I rarely use a mask on the face, though occasionally it is necessary; I insist that the attendant shall replace the ointment whenever the child rubs it off, on the pillow or elsewhere. Sometimes the ointment can be spread on bits of cotton, as described in the last lecture, and the head lightly bound up if necessary.

On the body and limbs the ointment should be thickly spread on lint, and lightly bound on. Sometimes, when there is a mild general eczema, erythematous or papular in character, the calamine and zinc lotion (Formula 3, p. 30) suits quite as well in children as in adults.

Sometimes the intertriginous eczema of the anal and genital region will be very troublesome, owing to the constant soiling and necessary cleansing of the parts. One constantly sees infants where, in the attempt to dry up the sticky secretion from the red, raw surface, powders have been used, which accumulate and form a pasty mass, keeping up the irritation. The parts should, of course, be occasionally cleansed, but very gently, with a weak borax solution, and an appropriate application immediately made. Ichthyol in watery solution, about ten per cent., bathed over the part relieves the itching and disinfects the surface. The appropriate ointment is then laid on, spread on lint. A mild boric acid solution, or one of acetate of aluminum, two to ten per cent., serves the same purpose.

Occasionally the dressings will be found to adhere to an eczematous surface, and frequently violence is

done to the tender tissues beneath by their harsh removal. If sufficient ointment is used this need seldom occur; when they are adherent they should be softened by free applications of oil, left to soak in, and then be gently removed, and suitable remedies immediately reapplied. It is well to have the fresh dressings already spread, before the old ones are removed.

A word or two now in regard to eczema at the other end of life, that is, in *elderly persons*. In them the skin has undergone changes which make it quite different from that of infantile life; there is more or less of atrophy of all its tissues, and a tendency for the epithelial layer to undergo cornification and the glands to act poorly. For localized patches of eczema the same treatment is applicable, as will be mentioned in regard to various localities in general. But often there is a general irritability of the skin which needs attention, and the very free use of the compound lanolin ointment, described as "skin food" in the last lecture (Formula 15, p. 37), will be found to be most serviceable. When there is a more congested, erythematous or papular condition the calamine and zinc lotion (p. 30) affords the greatest relief. It is well to remember, however, that one can easily get chilled in making watery applications to large surfaces, and, in addition to being in an extra warm room, I commonly direct that the bottle of lotion be heated, and also that the receptacle into which it is poured when used, be likewise warmed; often the skin will be too much dried by the lotion, and it is desirable to alternate it with the use of the ointment. When the itching is considerable, even without much

eruption, ichthyol, in from ten to twenty-five per cent. watery solution, painted over and allowed to dry on, is very satisfactory.

It will perhaps be best to speak of the local treatment of eczema as it affects various localities.

Upon the *scalp,* as you know, we have a great deal of seborrhœic eczema, now called dermatitis seborrhœica; it is really an eczema, of low grade, excited by the presence of a micro-organism. For this condition resorcin in a watery lotion seems to be almost a specific (Formula 22, p. 44).

To be of real service it should be applied with a "hair dropper" night and morning, and gently rubbed into the scalp with the tips of the fingers. If there is some tenderness and inflammation, this may not always suit, and in these cases I have had great satisfaction from the use of the following lotion, applied in the same manner:

27. ℞ Flumbi acetat. . . . . gr x
Olei ricini. . . . . ʒiv
Olei bergamii. . . . . ʒss
Alcohol. . . . . ad ʒiv
M. ft. Lotio.

When there is still a more acute condition, the tannin ointment, of which I spoke in the last lecture (Formula 9, p. 34), is most excellent. This is also of value about the ears.

The scalp should not be washed much, and always very carefully, both in the cleansing and drying. I use almost wholly a tincture of green soap, which is valu-

able also as an ordinary shampoo, in connection with other conditions of the scalp.

28. ℞ Saponis viridis. . . . . ʒii
Alcohol. . . . . ʒi
m. Filtra et adde
Spts. lavandulæ. . . . . ʒss
m. ft. "Shampoo."

This is inserted among the hairs by means of a "hair dropper," and a very little hot water is added, with the tips of the fingers, and gently rubbed until a lather is formed. The scalp is then rinsed in the basin of hot water, and then immediately in cold water, so as to get the shock. I always have it dried with soft, old, fluffy hand towels, which have been baked in the oven for half an hour and kept hot in a blanket, in which the heavy earthenware dish in which they were baked is also included. For a woman's scalp I order six towels, for a man's, four. They are all to be used, for the effect of the heat, they being taken out singly from within the blanket. The appropriate lotion or ointment should be reapplied immediately that the hair is dry, and then morning and night thereafter.

Eczema on the *face* differs in different cases so greatly that it is difficult to state succinctly a treatment suitable to all. I am coming more and more to use the Lassar salicylic acid paste (Formula 11, p. 35), where there is a sub-acute condition, but where there is much congestion the calamine and zinc lotion (Formula 3, p. 30) serves best, for a while at least. A zinc and calamine ointment (Formula 6, p. 33) is very beneficial, if kept well applied, and this is particularly serviceable about

the lips and within the nose. When there is a seborrhœic element in the eczema, a little resorcin, two to five per cent., may be added to ointments with advantage.

Eczema of the *hands* may be very acute and distressing, and it is here that we are most apt to find vesicles, which are commonly so conspicuously absent in a considerable proportion of eczema cases in general. And these deep-seated vesicles will be the source of the greatest suffering, and are sometimes very difficult to check. The patient will frequently tear the surface violently, even using blunt or sharp instruments to reach the deep-seated source of itching, and even tearing off the dressings in order to get at the skin. Ichthyol, in twenty-five to fifty per cent. solution, will sometimes afford the greatest relief in this condition, the hands being kept painted with it all the time.

Patches of eczema on the backs of the hands and fingers will commonly yield to the Lassar salicylicated ointment just mentioned (p. 35), if it is kept on a sufficient portion of the time. It is here that the use of thin layers of absorbent cotton, spread with the ointment and bound on lightly with thread, serves the best purpose. Sometimes, in thickened patches, we can best reach the trouble by frictions with the compound tincture of green soap (Formula 18, p. 41), rubbed well on with a bit of flannel, followed by a proper ointment.

In very thickened chronic patches I have used, with the best results, a lotion containing two or three per cent. of caustic potash, in water, immediately followed by the diachylon ointment of Hebra (Formula 5, p. 33).

In eczema of the *palms* the diachylon ointment of

Hebra often accomplishes more than any other application; three to ten per cent. of salicylic acid may be added with advantage in very chronic cases. The X-ray is sometimes most valuable in removing this condition.

Eczema of the *feet* and *legs* has some features which are worthy of special attention, in regard to local treatment.

First, it is to be remembered that the retarded circulation, owing to the dependent position of the parts, has much to do with the occurrence and obstinacy of the eruption in this location. It is well, therefore, in severe or obstinate cases, to have the affected part elevated as much of the time as possible, and that not simply on a stool or chair, but even higher than the head, that the blood pressure may be relieved; this is accomplished by lying down, or leaning far back in a rocking chair, and placing the feet at as great an elevation as possible above the head. At night this object may be attained by elevating the foot of the bedstead with some bricks or books on the floor; and at this present moment you could probably see one or more beds thus arranged in the wards of this hospital, holding patients with severe eczema or varicose ulcers of the legs.

In the solid rubber bandage, however, we have a most valuable means of overcoming the circulatory deficiency often existing in the lower extremities, and of this you have seen repeated illustrations in many of the cases presented in the clinic during the past year. But I deem this such a priceless measure in some cases that, at the risk of being a little tiresome, I will now apply such a bandage to a patient and speak a little fully in

regard to the matter; for, after an experience with it of nearly thirty years* I find that there are some minor details relating to its employment which are of the greatest importance, but which are not universally understood or carried out.

The bandage should be very thin, three inches wide and about five yards long: I have discarded the tapes which I formerly had attached to one end, as I find it better to pin it, as an ordinary bandage.

Even for a localized trouble it is best to apply it from the toes to the knee, lapping it about one-third of its width; it should never be reversed, and with a little coaxing it can be perfectly applied without even exerting too much pressure anywhere, leaving the heel free. Care should be exercised to have it perfectly comfortable, and I have patients walk around with it, and wait a while in my presence; when rightly applied they will often at once express the greatest satisfaction in the relief to the previous tense, distended feeling of the limb. If at any time it is uncomfortable it should be taken off and readjusted.

The bandage is removed at night, and I commonly direct that this shall be done after the patient is entirely undressed and in bed, and that the foot shall not be put down again until after the bandage has been correctly reapplied in the morning, while still in bed. On removing the bandage it is dropped into a basin of water and left there while the leg is dressed for the night: it is then washed and dried, by drawing it through a towel, and then festooned on the back of a chair, to air

* Bulkley: "Archives of Dermatology." July, 1878.

until morning, when it is rolled and applied as before. When the bandage is taken off at night, the leg is generally pretty wet with the confined perspiration; this is to be lightly wiped off with a cloth dampened with water, in which there is, perhaps, a little soda and carbolic acid, and the proper dressing is applied, and the limb lightly done up for the night. Sometimes there are a few pustules on healthy parts, caused by the bandage, but these soon dry up and cease to be produced.

In putting on the bandage in the morning, care must be exercised that no grease from an ointment is left on the parts, as it readily destroys the elasticity of the bandage. But in removing the night dressings, before reapplying it, undue irritation of diseased surfaces must be avoided; if they adhere, the dressings must not be roughly torn off, but softened, if need be, with oil, or peroxide of hydrogen, and any surplus ointment removed by gentle wiping with cotton, or moderate scraping with a dull knife. It is well then to lay an exceedingly thin layer of absorbent cotton over such a part, indeed over any sore or raw surface, before applying the rubber bandage. There is no such trouble on removing it at night, for the entire surface is moist.

This solid rubber bandage is not only valuable for varicose veins and ulceration of the leg, but, as you have seen in the clinic, is most serviceable in many cases of chronic eczema in this region, whether attended with varicose veins or not. I have indeed applied it, with the most satisfactory results, to cases which might be called sub-acute, and where the propriety of its application might be at first questioned. But in my

long use of it, in many, perhaps hundreds of cases, I cannot recall an instance where it did not do good work, if I could get the patient to rightly grasp the idea and to properly carry out the technique. On the other hand, words would fail to convey to you the expressions of satisfaction and thankfulness which I have had from patients in private and public practice, for the relief and benefit which they had received from the proper use of a rubber bandage. Nor is it a difficult or troublesome matter for patients to learn to use it properly; even the most ignorant of those in hospital practice soon learn to carry out all details minutely, if only a little thought and patience is given to instruct them correctly, often more than once. And when once they have experienced the benefit of it they are very assiduous in its use until cured.

At the risk of further wearying you I must point out some of the advantages of the solid rubber bandages over the other means sometimes employed in its place, such as cotton, flannel, gauze, or even elastic webbing bandages, and the laced, or even the elastic stocking.

There is no comparison between the agreeable elasticity of the solid rubber bandage and the more or less stiff, non-yielding character of all the others. As compared even with the elastic stocking, this bandage has great advantages, as many patients will testify. The stocking is necessarily of a fixed size, often too tight when the leg is swollen and too loose as the swelling goes down, and so may not afford adequate support; whereas the rubber bandage is adjusted to the daily condition of the limb, and by its steady, graduated compression

maintains the requisite support and induces absorption of diseased products.

The woven elastic webbing bandage cannot compare with the solid rubber, as I have repeatedly observed. The rubber bandage does not adhere, and comes off without doing violence, even to a raw surface, as you have seen demonstrated in the clinic. It does retain the secretions, and sometimes these will ooze between its folds, but no harm is done, and the gentle cleansing of the part on removing, with the appropriate dressing for the night, tends to continually heal the affected parts.

One word in regard to the *rationale* of its action.

As all know, the circulation depends for its movements upon heart action, and the return of the blood by the capillaries and veins is the result of this *vis a tergo,* assisted by a measure of contractibility in the vessels, and aided somewhat by the action of the voluntary muscles in various locations, in varying degrees. There is, of course, a constant tension in the blood vessels, large and small, which in the lower extremities is increased greatly by gravitation. We all know how the capillaries and veins lose their elasticity and become distended, and how difficult it is to overcome this so-called varicose dilation, which prevents proper nutrition and the absorption of diseased products.

After employing the solid rubber bandage for nearly thirty years, in hundreds of cases, in private and public practice, I am more and more convinced of its supreme value in a large class of cases often most obstinate under other treatment. By virtue of its elasticity it acts as a

supplementary aid to the circulation, with every muscular movement of the limb; hence it is desirable to have patients walk as much as possible, short of fatigue. In this way I have seen long-standing eczema and ulceration of the leg get well in a remarkably short time. There is rarely if ever any itching while the bandage is on.

The local applications required in the treatment of eczema of the lower extremities do not differ essentially from those employed elsewhere. When the solid rubber bandage is used I am very apt to order, at night, a calamine and zinc lotion (Formula 3, p. 30) to be freely sopped over the affected part twice, at ten-minute intervals, so as to leave a good coating on the diseased surface, which is then covered with an extremely thin layer of absorbent cotton, and bound rather lightly with a gauze bandage. Many ointments serve a good purpose at night, such as salicylicated Lassar's paste (Formula 11, p. 35), or the diachylon ointment of Hebra (Formula 5, p. 33), or, if there is much itching, the tar and zinc ointment (Formula 14, p. 37), if properly applied, gives relief, or even the "skin food" (Formula 15, p. 33) with menthol.

Eczema of the anus and genital region. Before giving you some practical suggestions as to the local treatment of eczema in this locality, I must remind you of what I said in my special lectures last year; namely, that proper internal treatment, dietary, hygienic, and medicinal, is of the greatest importance here, and that local measures are often relatively ineffective alone.

But proper local treatment is most essential, and one

constantly sees far more harm than good done by injudicious applications which have been made, in the endeavor to control the maddening itching which sometimes occurs, and recurs, chiefly at night. Patients will often plead for stronger and stronger remedies until the parts have been brought to a lamentable state of inflammation. Much of what is thought to be eczema of the anus is *pruritus* alone, of neurotic origin—also often most difficult to cure—to which eczema may be added by scratching and unwise treatment.

In eczema of the anus benefit can often be obtained by the right use of hot water: the water should be as hot as can possibly be borne, and applied exactly as follows: A handkerchief is dipped in the water and held to the part for a short time, a minute or less, and then wet again and reapplied, two or three times in all, perhaps not more than two or three minutes altogether: tepid water, too long bathing, or too frequent sopping, etc., may aggravate the trouble. The part is then dried by holding a hot cloth to it, and the proper remedy is instantly applied on its removal. Ordinarily it is best to use the hot water only once in the twenty-four hours, after undressing, and when quite ready to get into bed. The patient must manage not to scratch before applying the hot water, and if the process is well done, and a suitable application made immediately, the relief may last long.

In milder cases a cooling lotion (Formulæ 3, 4, p. 30), thoroughly sopped on, instantly after the hot water, followed by a second application of it alone in ten minutes, will be all that is required. The lotion can be reapplied

later, if there is itching, or a bit of handkerchief wet with it and tucked in often gives relief. It is often desirable to add the lotio nigra to such a lotion:

29. ℞ Acidi carbolici..... ʒss–ʒi
Pulv. calamin. prep..... ʒi–ʒii
Magnes. carbonatis..... ʒii–ʒiv
Glycerini..... ʒiii
Lotio nigræ (U. S. P)..... ʒi
Aquæ rosæ.....ad ʒiv
m. ft. Lotio.

In some cases a mild ointment (Formulæ 6, 7, pp. 33, 34) is more agreeable. This should not be rubbed on the part, but be spread thickly on the woolly side of a bit of lint, cut to fit the part, or, better yet, on a thin layer of absorbent cotton: all applications should be fully ready before the use of the hot water, so that they can be laid on instantly on removing the hot, drying cloths. When a more anti-pruritic action is desired the ointment of tar and zinc (Formula 14, p. 37), or one with ichthyol, oil of cade, or oleum rusci, half a drachm to one drachm in the ounce, is effective, applied in the same manner: a drachm or two of belladonna ointment, or tincture of aconite (Formula 17, p. 39), may be added with advantage, as also cocaine.

30. ℞ Cocainæ.....gr x–xx
Hydrarg. chlor. mite...ʒss
Zinci oleat.....ʒi
Unguenti aquæ rosæ...ʒi
m. ft. Unguent.

If there is much tendency to hemorrhoidal congestion or piles, a tannin and stramonium ointment gives great relief.

31. ℞ Liquor. plumbi sub acetat. fort. . ʒi
Pulv. opii. . . . . gr x–xx
Pulv. acidi tannici. . . . . ʒss
Unguenti stramonii. . . . . ʒi
M. ft. Unguent.

Eczema of the *scrotum*, when mild, will often be most satisfactorily treated by such a lotion as the calamine and zinc (Formula 3, p. 30), or that with magnesia (Formula 4, p. 30), freely sopped on and repeated often enough to keep a coating of the sediment found in them on the parts. When the eruption is more severe, and especially when there has developed much thickening of the skin, the best results are obtained by the use of very hot water, applied as previously directed, and followed especially by the tar and zinc ointment (Formula 14, p. 37). The ointment should not be rubbed on the part, but spread on the woolly side of lint, adapted snugly and kept in place by a well-fitting suspensory bandage.

Eczema of the *female genitals* is sometimes most rebellious unless just the right applications are used in a correct manner. It must be remembered, however, that it is often dependent upon irritating vaginal discharges which must be checked before great benefit can be secured by local treatment. My constant treatment for this is carbolic acid, half a drachm to a drachm, with from two to four drachms of borax, or chlorate of potash, to the *pint* of water, as hot as can be borne: this I have thrown in *forcibly* with a Davison's syringe (and not from a fountain syringe) night and morning.

The local treatment is much as has been described.

The greatest relief is often obtained in milder cases by the free use of one of the lotions just mentioned (Formulæ 3, 4, p. 30), which may often be best applied by means of a bit of handkerchief thoroughly wet with it and tucked deeply in. Very hot water, used as already directed, is of the greatest service, followed by a lotion or the ointments previously mentioned, applied in the same manner. In many cases a very mild ointment of calamine and zinc (Formula 6, p. 33) is most effectual; menthol may be added with advantage, two per cent. When there is considerable itching, without much raw surface, a chloral and camphor ointment (Formula 16, p. 38) gives great relief, although it sometimes proves very irritating, and must be used very weak. Ichthyol in watery solution, twenty-five to fifty per cent., also a watery solution of permanganate of potassium, two to four per cent., are effective.

Eczema of the *crotch* will sometimes be parasitic, manifesting a sharp outline, and rather clearing within, *eczema marginatum*. This will not yield to the measures described, but must be treated with a view to destroy the parasite; this, however, should be done with care, and often it is necessary to use proper eczema treatment conjointly or alternately.

The remedy which I most prefer is the strong, undiluted sulphurous acid, and although this may smart considerably at first, it will arrest the itching and check the disease admirably. To be effective it should be fresh, for when exposed to the air the sulphurous acid H_2SO_3 becomes changed into sulphuric acid H_2SO_4, which is very irritating and not efficient as a parasiti-

cide. For this reason I always have the patient purchase an original, unopened package of a pint, and from this fill a smaller bottle, keeping the other tightly corked. The acid is applied by means of a bit of cloth soaked in it, which is held to the part a while, one or two fresh applications being made to insure the penetration of the remedy. After a few moments of drying, the surface is sopped with a soothing lotion, or a proper ointment (Formula 6, p. 33) is applied, spread on lint. The acid should be applied night and morning, unless there is too much irritation. Other parasiticides may be employed, as mild mercurial, sulphur, or beta-naphthol ointments

32. ℞ Beta-naphthol ..... ℈i–℈ii
Ung. lanolin comp. (formula 15, p. 37) . . . ℥i
M. ft. Unguent.

but great care must be exercised not to over-stimulate this part, where the skin is very tender.

Eczema of the trunk and *general eczema* present some features in regard to local treatment which it may be well to mention.

Beneath the breasts, and in the fold of the pendulous abdomen, as also in the groins, powders are frequently used in the hope of drying up the eruption; but these are often found to be made into a paste by the moisture, and the parts are greatly irritated. If any of the powders are used they must be applied very freely, in quantity to effect the desired result, and it is well in addition to keep a fold of handkerchief between the parts, well dusted on both sides; the old-fashioned home method

of scorching the handkerchief first seems to aid in the result desired.

The following combinations are of service:

33. ℞ Pulv. camphoræ ..... ʒss–ʒi
Magnesiæ carbonatis.
Zinci oxidi
Pulv. oryzæ sativæ.....aa ʒss
m. ft. Pulv.

34. ℞ Pulv. acidi salicylici..... ℈i–ʒi
Zinci stearatis..... ʒss
Pulveris marantæ.....ad ʒii
m. ft. Pulv.

In milder cases the soothing lotions (Formulæ 3, 4, p. 30), with perhaps first bathing with a ten to twenty-five per cent. watery solution of ichthyol, give excellent results. When ointments are used they should be thickly spread on the woolly side of lint and kept firmly bound in place with a gauze bandage.

In the *axillæ* ointments can often be best applied when spread on thin layers of absorbent cotton, which are well pressed into the cavity and held properly in place. For the abscesses often occurring in this region an ergot ointment is most valuable, and is all that is required, from first to last: and this is much preferable to poulticing.

35. ℞ Acidi carbolici..... x–xv
Extracti ergotæ fl..... ʒi–ʒii
Pulv. amyli..... ʒii
Zinci oxidi..... ʒi
Unguenti aquæ rosæ..... ʒi
m. ft. Unguent.

You will remember that I have frequently said that ointments should, as a rule, not be rubbed on or into the skin, in eczema, except in very chronic patches, but there is one form of eruption, formerly known as *seborrhoica eczema,* now called dermatitis seborrhoica, in which the application must be rubbed in, in order to obtain effective results. As seen on the chest and back it will often yield in a surprisingly short time to the thorough application of a resorcin ointment, such as the following:

36. ℞ Resorcin pulv. ..... ℈i–℈ii
Zinci oxidi. ..... ʒss
Unguenti aquæ rosæ. ..... ʒi
m. ft. Unguent.

When rebellious, sulphur may be added to this with advantage (Formula 23, p. 44).

I will close this lecture with some remarks in regard to washing and bathing in eczema. I have several times mentioned the harm that often comes from the too free use of water and soap in this eruption, and you cannot be too careful in seeing that this is done only when directed, and in the proper manner. In some instances, when there is a mass of crusts, or incrustations from old dressings, the free use of soap and water for a single time may be desirable. But as so often practiced by the uninstructed laity, frequently and severely, only harm can result. I think that some of you would be surprised if you could hear my constant instructions to patients on this subject: in some cases of infantile eczema I have kept soap and water from the skin, except in cer-

tain regions, for days or even weeks, and with only the best results.

Also in eczema in adults, where an inflamed and irritated skin is trying to form a healthy epidermal covering, the free use of soap and water only retards the progress, as is seen strikingly in the case of washerwomen: but even in these latter you have seen in the clinic that the harm done can be in a measure neutralized if exactly the right local application is made immediately when the hands are dried, and if it is kept on as much of the time as is possible.

If I am asked as to what soap is good for eczema, I have to answer that, as far as I have observed, there is none. I have no confidence whatever in the many advertised medicated soaps, and have failed to see benefits from their use which could not be ascribed to other treatment used conjointly. I might make an exception to tar soap, which can, perhaps, be sometimes used with the least prejudicial results. But do not be led away with the alluring advertisements of regular or irregular business houses into the idea that any special or medicated soap can cure eczema; the eczematous skin is better without much or any soap.

LECTURE IV

Suggestions as to the local treatment of Psoriasis, Lichen planus, Erythema multiforme, Urticaria, Pruritus, Acne, Boils, Carbuncles, Scabies, Pediculosis, Ringworm, Favus, Tinea versicolor, Lupus, Epithelioma, Syphilitic lesions. Importance of proper internal treatment combined with correct local measures.

GENTLEMEN:

In the last lecture we began the application of the principles of local treatment to special cutaneous affections. I took eczema first, both because it is by far the most frequent disease of the skin, and because the principles and methods of its local treatment are widely applicable to many other cutaneous conditions.

In treating of eczema, I commenced with infantile eczema, in order to impress upon you the delicate structure of the skin, and the necessity of fully realizing this fact in connection with many congestive or inflammatory cutaneous affections.

Psoriasis. To-day I turn at once to quite another eruption, namely, *psoriasis,* which often, in chronic cases, manifests exactly the opposite condition of the skin, namely, a resistance to irritation which is sometimes remarkable. But I have to caution you that this is not always so; for in acute and recently developing cases there is congestion of the skin, which quite contraindicates stimulating measures, and the eruption may then yield to mild remedies; while, on the other hand,

even in chronic cases active treatment, as by chrysophanic acid, may light up an irritation requiring quite other remedies.

Psoriasis undoubtedly is one of the most stubborn of all cutaneous diseases, and will tax the patience of physician and patient to the utmost. But I do not hold psoriasis to be incurable; although it certainly is not curable by local treatment alone. The eruption can often be temporarily removed in a surprising manner by external measures, but it is very sure to return, except under the most rigid and continuously prolonged treatment, dietary, hygienic, and medicinal, which cannot be detailed here; we have now to do only with local measures which offer the best prospects of temporary benefit.

The X-ray is one of the most striking of these in certain cases; when used rightly, a few applications may often cause old patches of the eruption to fade away, almost as if by magic, often leaving, however, a pigmentation which may be a little slow in disappearing. But it is by no means suitable to all cases, and I can hardly be too emphatic in protesting against the indiscriminate use, and even the abuse, of this agent which is sometimes practiced. It is entirely unsuitable to very generalized cases, and to those which are acute or exhibit congestion of the surface; indeed it is to be employed rarely, and only to remove chronic patches which resist other treatment. The danger of a burn from it should always be borne in mind.

Chrysophanic acid, or chrysarobin, is another means, the results of the right application of which are fre-

quently surprising, although occasionally it fails to accomplish its object and only irritates the skin unnecessarily. You all know the drawbacks to the use of chrysarobin, and that it stains the skin, hair, and linen dreadfully, and sometimes excites very disagreeable inflammation; so that one tries to avoid its use in private practice. When the patient will stand it, and is in haste to have the existing eruption removed, there is hardly any external application which will generally accomplish the purpose more quickly in suitable cases and in the proper strength.

But all cases are not suitable, and skins differ in the amount of its stimulation which they will stand. When the eruption is developing, or when the surface is hot and congested, chrysarobin may only increase the difficulty and aggravate the eruption. It is well always to begin with a mild strength of ointment, fifteen or twenty grains to the ounce, and increase it as seems proper; in some instances it can be used even up to a drachm to the ounce.

Some substances modify or heighten the action of chrysarobin, and in this hospital we have long used the following combination with excellent results:

37. ℞ Olei rusci..... ʒi
Acidi salicylici..... ʒii
Chrysarobin..... ʒii
Saponis molle
Lanolin (anhydrous)....aa ʒiii
M. ft. Unguent.

The oleum rusci seems to modify the irritating results from the chrysarobin, while the salicylic acid

heightens its beneficial effects, and the green soap aids their penetration.

Pyrogallic acid, thirty to sixty grains to the ounce of ointment, is of more or less value in psoriasis, but inferior to some of the other remedies in use; salicylic acid is also very serviceable, and may well be added to many applications.

38. ℞ Acidi carbolici.....gr v
Pulv. acidi pyrogall.....℈i
Pulv. acidi salicyl.....℥ss
Vaseline.....℥i
M. ft. Unguent.

Ammoniated mercury, white precipitate, is also a remedy of the greatest value in psoriasis, and often suffices to remove the eruption from many localities. I very commonly at first use the pharmacopœial ointment diluted four times, making it of the strength of twelve grains to the ounce, and always add one or two per cent. of carbolic acid, increasing the amount of the mercurial ointment as occasion requires; bismuth seems to aid the action of the mercury.

39. ℞ Acidi carbolici..... gr v–x
Bismuth sub-nit..... ℥ss
Unguenti hydrag. ammoniat...℥ii–iv
Unguenti albolene.....ad ℥i
M. ft. Unguent.

This may be again strengthened, for single patches, by the addition of from two to six grains of the red iodide of mercury to the ounce.

40. ℞ Pulv. hydrag. iod. rub. . . . . gr ii–vi
Unguenti hydrag. ammon. . . ʒii–ʒiv
Lanolin (anhydrous) . . . . . ʒiii
Vaseline. . . . . ad ʒi
M. ft. Unguent.

Beta-naphthol, from half a drachm to a drachm to the ounce of albolene ointment, is also very often an efficient remedy in psoriasis, and has the advantage of being cleanly. To be of service it should be well rubbed into the patches, even with a rather stiff stencil brush.

Chrysarobin, salicylic acid, and pyrogallic acid are also often used advantageously, alone or combined, in a strength of from five to ten per cent., in flexible collodion, or liquid gutta-percha, to paint on isolated patches; but their effect in this form is not equal to that obtained when used in ointment: there is, however, the great advantage of not staining the linen. When applied the surface should be free from scales, and it is necessary to frequently peel off the old application before making it again. They may also be used in a gelanthum paint, being added to it in a strength of from five to ten per cent.

But, as I stated at the outset, all cases of psoriasis are not to be treated in a severe manner. In newly developing cases, with proper internal measures, it is often surprising how the eruption, when developing, may disappear under the free and repeated application of so simple a remedy as the calamine and zinc lotion, or that of magnesia and zinc, already mentioned (Formulæ 3, 4, p. 30).

A good deal of psoriasis is accompanied by *dermatitis*

seborrhoica, and, indeed, some cases which might be called psoriasis are only exaggerated forms of the latter eruption. The value of resorcin, therefore, should never be forgotten in psoriasis, and I am confident that many cases do far better when there is constant attention to the scalp, with the application, morning and night, of the resorcin lotion, mentioned in the last lecture (Formula 22, p. 44). Also, on the face and on other parts of the body, an ointment or resorcin and sulphur, of each twenty or thirty grains to the ounce, will sometimes work wonders on what is apparently psoriasis, and even affect the real disease favorably.

As the object in such an eruption as psoriasis is to obtain penetration of the medicament, vaseline or the solid albolene, perhaps with a little lanolin, are the most useful substances for ointments; it is sometimes desirable to cover it with an impermeable dressing, as waxed paper.

Alkaline baths are often of much service in psoriasis, and may be given quite frequently, even several times a week, the appropriate application being made immediately afterward.

41. ℞ Potass. carbonat..... ʒiv
Sodæ carbonat..... ʒiii
Sodæ bi-borat..... ʒii
m. Use one such powder for thirty gallon bath.

Sea baths are also often of service.

Having now spoken of the eruption which often requires the most delicate handling, *eczema,* and of the one which frequently bears the roughest local treat-

ment, *psoriasis*. I wish to briefly consider some others, perhaps in an ascending scale as regards susceptibility to stimulating treatment: for in the short time at our disposal I cannot, of course, compass all diseases of the skin. I am endeavoring, however, to have you understand the principles of local treatment, that you may the better apply them to any eruption which you may meet.

Lichen Planus, once called by Jonathan Hutchinson, of London, lichen psoriasis, is an eruption which exhibits phases to which all that has thus far been said may apply. In its earlier, acute, developing stage it calls for most soothing treatment, to allay the occasionally great irritation and itching present; while more chronic lesions, in localized patches, will sometimes resist, and finally yield only to a highly stimulating local treatment, including hyper-static electricity and the X-ray. Mention was made in Chapter II, of an absorbent ointment (Formula 21, p. 43) which is often of great value in isolated chronic patches of the eruption. But in the congestive, developing stage all these strong measures only aggravate the eruption, and such things as the calamine and zinc lotion and the like are not only highly acceptable, but very beneficial, and the eruption may disappear under them.

Erythema Multiforme, in its papular form, may bear, and sometimes does require, applications of rather a stimulating character; but if these are applied to its more acute manifestations, especially when there is a tendency to the formation of bullæ, only the direst results will follow.

Urticaria. Here we come to an eruption which is both acute, as far as its lesions go, and also frequently chronic in regard to its continued manifestations. All harsh treatment is only calculated to do harm and to still further excite the already erythrytic skin. But one continually sees mistakes made in attempting to relieve the itching, which is at times intolerable: and what with the often frantic efforts of the patient in rubbing and scratching, even with brushes, etc., and the almost as frantic efforts of the physician to give relief by various applications, the skin is sometimes reduced to a pitiable condition.

The calamine and zinc lotion, so often mentioned, or the like, with an extra amount of carbolic acid, will often prove quite enough to give relief, with suitable dietetic and medicinal treatment. When this is not wholly agreeable, a powder in which chloral and camphor, of each a drachm to the ounce has been rubbed up, will often be most grateful.

42. ℞ Chloral hydrat
Camphor gummi.....aa ℥i
M. Rub together till liquid, and incorporate with
Pulv. amyli..... ℥i
M. ft. Pulv.

When the skin is more dry and an ointment is called for, one containing two to four per cent. of carbolic acid, in what I described as "skin food" (p. 37), is very satisfactory, or sometimes it may be used in the glycerite of starch: menthol, two to six per cent., heightens the effect; this is gently applied with the palm, several times daily.

43. ℞ Acidi carbolici..... gr v–xv
Menthol..... gr x–xxx
Lanolin..... ʒii
Boro-glycerinæ..... ʒi
Unguenti aquæ rosæ..... ʒvi
m. ft. Unguent.

Camphor and chloral, in ointments, as mentioned in an earlier lecture, will likewise give great relief. Alkaline baths are also serviceable (Formula 41, p. 96).

Pruritus. This is another cutaneous condition where local therapeutic measures are often abused. I refer to simple pruritus as a disease, where there is only itching on the skin, without visible lesions except those that have been produced in the efforts to get relief. The measures just mentioned in connection with urticaria are those which, with appropriate general treatment, are most likely to give relief; but if any very strong applications are made they only irritate the surface and fail to reach and allay the excited nerves. For, it must be remembered, that the seat of itching is generally deep in the skin, far below the epidermal outer layer upon which we make our applications.

Localized pruritus, especially that of the anal and genital region, will often prove most seriously rebellious and almost defy relief. Carbolic is here one of the most efficient remedies, and may be used in watery solution, with a little glycerine, or in oily solution, two to five per cent. The tarry ointment already mentioned (Formula 14, p. 37), made a little stronger, if necessary, or with the addition of half a drachm or a drachm of ichthyol or oleum rusci to the ounce, very commonly

gives relief, if continuously and rightly applied. Here it is often very desirable to spread it on thin layers of cotton, as already described. This is especially serviceable after the application of very hot water, in the manner detailed a while ago. In very stubborn cases the addition of cocaine, one to four per cent., as also extract of belladonna, and aconite, may be required (Formula 17, p. 39); with these latter care must be taken that there is not too much absorption, with constitutional effects.

Electricity, both the static and hyperstatic, and also the galvanic current, is sometimes of great value in controlling pruritus; the X-ray has also been favorably reported on, but in using this about the anal or genital region the danger of producing sterility should always be considered.

We will now consider quite another class of cutaneous affections, those associated with the production of pus, and will speak of some practical matters in connection with the local treatment of acne, boils, and carbuncles.

Acne has been already mentioned (page 56), in regard to its personal manipulative treatment which latter can often effect so much, and which should never be omitted when called for. The local applications made in acne have a three-fold object, namely, soothing and allaying inflammation, astringing and giving tone to the weakened skin and its glands, and overcoming micrococcic influence.

In the more inflamed cases, both of acne simplex and rosacea, the calamine and zinc lotion, repeatedly men-

tioned, will often prove most satisfactory for a while. In the general run of cases the lotion now occasionally known as *lotio alba*, which I brought to the attention of the profession many years ago, will give excellent results if used rightly.

44. ℞ Potass. sulphuret.
Zinci sulphatis.....aa ʒss–ʒi
Aquæ rosæ..... ʒiv
m. ft. Lotio.

If this proves too drying to the skin it may be softened by the addition of half a drachm or even a drachm of glycerine in the four ounces. When a more astringent effect is required the amount of the solid ingredients may be increased, or even doubled, and often it is made more effective by the addition of half a drachm, or a drachm, of precipitated sulphur in the four ounces.

When single lesions are more rebellious a lotion of sulphur and ether is very effective.

45. ℞ Sulph. precip.....ʒi
Etheris sulphurici.....ʒiv
Spts. vini rectif.....ʒiiiss
m. ft. Lotio.

In instances where either of these lotions have produced too much drying and scaling of the surface, this may be easily remedied by the free use of a softening lotion, such as the following:

℞ Sodæ bi-borat.....ʒii
Glycerini.....ʒiv
Aquæ rosæ.....ʒiiiss
m. ft. Lotio.

This is applied by means of the palms of the hands, rubbing the face, with some self-massage.

Ointments are not often necessary in acne, but sometimes one of resorcin and sulphur, of each twenty to thirty grains in the ounce, will assist materially in absorbing large lesions: occasionally resorcin is used in much greater strength, even up to ten, twenty or more per cent., applied until it produces some exfoliation; but this harsh treatment I have but rarely used.

The mode of making applications and the general treatment of the face has much to do with success in the treatment of acne. I commonly direct that the lotion be shaken, and some of it poured out in a small covered dish, like the old-fashioned china ointment-box, in which a small bit of linen handkerchief is kept. With this the lotion is freely sopped on the eruption, when first beginning to undress for the night: in ten or fifteen minutes (without washing) a second application is made, so as to form quite a coating of the sediment in the lotion, for the night. In the morning the face is washed with cold water, and without soap, using the hands, as, I say, a man washes his face, and with some friction and self-massage. Immediately after drying with a soft towel, a single application of the proper lotion is made in the manner described. On leaving the room, if desired, any superfluity of the adhering sediment left by the lotion may be removed with a handkerchief, dampened with water; but the face should not be washed, but left under the influence of the lotion as much of the twenty-four hours as possible. If it should require washing during the day, this

should always be done with cold water, and the lotion may be applied to the affected parts.

When there are single lesions which resist this treatment we can get a much more active effect from the lotion by saturating very small bits of absorbent cotton with it, and laying them on each spot; when put on thus at night, these small bits of cotton will often remain adherent until morning, thus keeping the lesion constantly soaked with the lotion.

I do not advocate the use of the X-ray in acne, but in certain cases where hard, indolent masses resist other treatment, I have seen the X-ray cause them to be absorbed in a surprising manner.

Boils. For many years I have not allowed boils to be poulticed, when I could prevent it, as I believe that they can be treated far better otherwise; and I believe also that poultices tend only to increase unnecessarily the amount of suppuration and further the development of new boils; nor do I incise either boils or carbuncles, except under unusual circumstances.

Some years ago I wrote fully in regard to the non-surgical treatment of boils and carbuncles,* and have found no necessity of changing my views then expressed. I must, however, insist that the entire plan of treatment there outlined, constitutional and local, be followed, and not the latter alone, as I find is too often the case, by physicians who have communicated with me on the subject. The local measures only can be here mentioned.

* Bulkley: Notes on the Non-surgical Treatment of Boils, Carbuncles, and Felons. British Medical Journal, Oct. 2, 1897.

The objects aimed at by the treatment are: 1. Protecting and soothing an inflamed area; 2. Exclusion of air; and, 3. A slightly antiseptic and astringent dressing. For this purpose a moderately thick layer of absorbent cotton is taken, several times the size of the inflamed area; for a medium-sized boil a piece one by two inches, with the fibers running the long way. Upon the center of the cotton a considerable mass of the following ointment is spread by means of a table knife, and this is then laid on the boil and held in place by strips of zinc plaster placed across the ends, and *not* passing over the boil, as commonly practiced. The ointment referred to is generally composed about as follows:

46. ℞ Acidi carbolici.....gr v–x
Extr. ergotæ fld.....℥i
Pulv. amyli.....℥i
Zinci oxidi.....℥ss
Unguenti aquæ rosæ...℥i
M. ft. Unguent.

The relief given by this dressing is very marked; the ointment protects and soothes the irritated surface, while the layers of cotton take up the outside friction. If comfortable, and unless disturbed, this dressing remains untouched for twelve or more hours, when it is removed and a freshly-spread piece is immediately reapplied. If there has been any discharge, the surface may be very gently cleansed with absorbent cotton, but I do not allow any squeezing. With proper internal and general treatment the boil frequently aborts and subsides without discharging; when this does not hap-

pen it ruptures spontaneously in a relatively short time, and I practically never find it necessary to incise it.

This treatment I use in all stages of furuncles, keeping the ointment on until the surface is quite healed. If other boils form I direct the ointment to be applied early, and by this means they are frequently aborted. I wish I could adequately express to you the comfort and pleasure given to patients, when thus dressed, as compared with the sensations and results from other treatment which they had previously undergone under other hands.

The ointment may sometimes be modified for individual cases, and sometimes an ichthyol ointment serves very well; but for more than twenty-five years I have followed the plan indicated, with, of course, the thorough internal and general treatment, and many patients have returned for subsequent treatment of boils, with strong expressions of satisfaction with this method, and of preference over any other, both in point of comfort and duration of the trouble.

Carbuncles. As a carbuncle is in reality but a large boil, or a conglomeration of boils (with certain anatomical differences), the general and local treatment of carbuncles, with me, has been much the same as just described. Both early and late in the disease I have put on an ointment like the above, and fastened it at the ends with strips of adhesive plaster, never passing them over the inflamed surface. Not only on the back of the neck, but also on the face and elsewhere, this dressing proves most comforting and serviceable, and

I have not had occasion to incise a carbuncle since November, 1882, nearly twenty-five years ago.

This treatment has been applied, under my directions, to some large and formidable carbuncles, and I have always, thus far, found that the pus would find exit rapidly enough, and the healing process take place satisfactorily with this dressing. Occasionally it is necessary to aid the expulsion of pus by very slight squeezing, or by the removal of sloughs with the forceps. On some occasions febrile and other symptoms have seemed to call for more active interference, as with the knife; but although urged to it, when in consultation, I have adhered to this plan of treatment, without incision, and have obtained results which warrant its continued employment. From my previous experience with cutting, and from observing cases thus treated by others, I believe that the method now recommended has the preference, both as to time occupied and the final results; whereas, on the point of pain and general comfort of the patient it is far superior, when carried out with all possible details necessary as to general and constitutional management.

I am quite prepared to admit, however, that possibly from neglect or other cause, a very large, suppurative, carbunculous area might be formed which would demand very active surgical procedure, such as curetting or even excision, with antiseptic dressing; but under the treatment described this has never occurred. I may mention that Sir James Paget, in his "Clinical Lectures and Essays," discountenances strongly the practice of incision; and I may also add that since I first

publicly advocated this plan of treatment in boils and carbuncles, almost twenty years ago, I have had confirmation of its value from dozens of practicing physicians, verbally and by letter.

Parasitic diseases. There is quite another class of cutaneous affections to be now considered, where an entirely different aim or object exists as to local treatment, namely, the parasitic diseases of the skin, animal and vegetable.

While some of the already mentioned principles of local treatment may at times be required in combatting parasitic diseases, our main purpose here is to destroy the foreign elements which have produced the eruption in question, and yet not to destroy or injure the delicate skin affected by them; and sometimes this is a difficult task. To accomplish this many different remedies may be used. I will first speak of the two main animal parasitic affections, scabies and pediculosis.

Scabies. Sulphur, as is well known, will cure scabies; that is, if used properly it will destroy the life of the scabies insect; but it may often inflame the skin, if used in the strength recommended in the Pharmacopœia, nearly three drachms to the ounce; a drachm or two to the ounce is quite sufficient.

There are, however, other substances which destroy the acarus of scabies, and beta-naphthol, half a drachm or a drachm to the ounce of ointment, is very efficient, and has the advantage of being cleanly. Storax, a drachm to the ounce, is also serviceable. Often it is best to combine several ingredients in one ointment,

and in this hospital we generally use what we call *unguentum contra scabiem*, composed about as follows:

47. ℞ Sulphuris precip. 3iiss
Pulv. cretæ prep. 3ii
Zinci oxidi. 3i
Styrax. 3ii
Unguenti picis 3ii
Saponis viridis. 3ii
Adipis. 3x
m. ft. Unguent.

This rather shotgun prescription serves many purposes, and answers very well in the average run of cases. The sulphur and the storax are the active anti-parasitical elements, and the chalk and green soap are thought to help break open the furrows where the insect is hidden, while the zinc and tar ointment aid in allaying any undue irritation.

But the secret of the cure of scabies is the thoroughness of application, and I will briefly mention the method employed in the celebrated Hôpital St. Louis, in Paris, which we more or less follow here. The patient first soaks in a warm bath; the entire surface is then thoroughly anointed with green soap, which is very well rubbed in, especially over the places most infested by the parasite, hands and arms, front folds of the axillæ, abdomen, etc. The patient then enters the bath again for a quarter of an hour, and after drying has the ointment very thoroughly rubbed in, for a long time, even half an hour. The same underclothes are put on, and the ointment freely rubbed in, night and morning, with no bathing till the third day, when, after a bath, the skin may be left untreated, to see if the

cure has been complete. If there are still lesions or much itching, the process should be repeated.

Theoretically scabies should be cured in a very short time, but practically and really this is frequently not the case; the reason is simply because the application has not reached and destroyed the life of all the burrowing insects.

Often in the treatment of scabies an *artificial dermatitis* will be excited by the measures used, which masks the real disease; and sometimes one has to wait, using appropriate soothing and cooling remedies, and then return to the scabies treatment, if needed.

Do not forget that these diseases may be re-acquired from parasites lurking in the clothing, so that the underclothes and bed linen used should be specially boiled and ironed; in the hospital we have them treated by dry heat, in a special oven. I have known a reinfection from gloves which have been heretofore worn, and once, I believe, from a muff. I have the gloves which have been previously worn used in the treatment, the hands being first thoroughly anointed with the appropriate salve and the gloves kept on much of the time.

Pediculosis. While much more common among the poorer classes, one constantly sees both head and body lice among the better-to-do classes, and I have even met them high up in the social scale. Poor kerosene oil, or, better yet, crude petroleum, is the best application for lice in the scalp, as it certainly kills the insects and also destroys the life of the nits, which may hatch out later. One thorough soaking of the head, for twenty-four hours, with frequent re-application of the oil, is quite suffi-

cient; after this a good shampoo, and some bland ointment to any sore places, will generally suffice to eliminate the trouble; the nits are found loosened and may be worked off the hair. White precipitate ointment is efficient in killing the living insects, but it does not reach the nits; the same may be said of stavesacre, in lotion or ointment.

For body lice thorough bathing and white precipitate ointment, with a trifle of carbolic acid, is still the best mode of treatment; with, of course, special attention to the underclothing, to kill any adhering nits.

The vegetable parasitic diseases, ringworm, favus, and tinea versicolor, require quite a different treatment, namely, remedies which will penetrate the epidermal layer of the skin, in which alone the microorganisms live.

Ringworm. On the parts of the body free from large hairs ringworm is a comparatively easy disease to treat. Often simply painting with tincture of iodine or the use of some mild mercurial or iodide of sulphur ointment will soon destroy the parasite, *tricophyton,* and effect a cure.

But on hairy parts, the scalp and bearded face, when the disease has gained any foothold, the treatment is quite a different affair. Remember what was said in the first lecture in regard to the anatomy of the hair follicle and you will better understand why these cases are often so rebellious, and you will better plan your remedies so as to reach deep down among the epithelial elements which form the root sheaths of the hairs.

The X-rays are reported on enthusiastically by some

for the cure of ringworm of the scalp, and I have shown you some cases where this had been very effective. But be careful not to produce too great alopecia, which may be permanent, as has been done occasionally, nor to burn the surface, as has sometimes happened.

For early cases of ringworm of the scalp, when first discovered, the tincture of iodine, with half a drachm of glycerine to the ounce, painted well, morning and night, on the spots, and for some distance around, will sometimes quite suffice to arrest the trouble. But the disease is so insidious that you must not be deceived, or judge too soon that the patient is cured; multitudes of cases are allowed, by imperfect treatment or by total neglect, to run on until the fungus has penetrated the follicles deeply over large or many areas, and in such cases it will require your very best efforts to reach and eradicate it.

Epilation has been spoken of as necessary in ringworm, but unfortunately, if the disease is at all advanced, the hairs are so thoroughly affected that they break off at the level of the skin and leave the follicle still filled with the diseased stump, into which few remedies will penetrate; but it should be practiced to the fullest extent possible, and more or less continuously, even to a slight distance around the area which is evidently affected.

To show the difficulty of securing the penetration of remedies, I may tell you that I have extracted hairs from a region where the tincture of iodine had been freely painted, and the hairs were found stained with it only a little over half way down the root, whereas the

fungus penetrated far below that point. Sometimes in old cases it seems almost hopeless to attempt to effect a cure, but, on the other hand, if left to itself the disease flourishes and is a constant source of infection of others, and patient, intelligent treatment should be insisted on, even over a greatly prolonged period. You all know, however, that with the occurrence of puberty the disease yields more easily, and sometimes disappears spontaneously.

For many years, both at Randall's Island, where I had fully three hundred cases under treatment at once, and in this hospital, where, with the Country Branch, we once had over fifty cases on hand, almost every conceivable method has been tried, under my direction, and I confess that to-day I hardly know what to advise you as the best, in really stubborn cases. I have great hopes, however, that we may learn to use the X-ray in such a manner as to effect a relatively speedy cure in a larger proportion of cases, and that is the method of treatment which we are now pursuing mainly in this hospital, both with ward patients and in the out-patient department.

Most of the ointments containing mercury, iodine, sulphur, and also chrysarobin, or chrysophanic acid, are destructive to the parasite, and may be used with advantage; only care must be taken not to make the applications too strong. Beta-naphthol is also an efficient parasiticide.

48. ℞ Acidi carbolici . . . . . gr v–x
Beta-naphthol. . . . . ʒi–ʒii
Unguenti hydrarg. iod. rub. . . . ʒss–ʒi
Unguenti albolene. . . . . ad ʒi
M. ft. Unguent.

When the disease has reached deep down into the follicle, from what I told you of the constriction about a third of the way down, it is readily understood that the solid particles contained in most ointments cannot penetrate while the broken-off hair is in the follicle. We must then use those remedies which hold the parasiticide in solution, and lotions of bi-chloride of mercury, even two to ten grains to the ounce, repeatedly wet on the parts, will penetrate somewhat: of course great care must be taken in their employment. It has been asserted that these can be made to penetrate the skin by electrolytic action, but after trying this some time I could never satisfy myself of its efficacy.

The oleate of mercury, about ten per cent., is a very good remedy, as also citrine ointment, diluted with vaseline two to four times, both very well worked into the affected area. Also iodine ointment or a compound of equal parts of iodine and mercurial (blue) ointment (Formula 19, p. 42), thoroughly rubbed together; this must be diluted two to four times with vaseline for most skins. Oleate of copper has been highly extolled, but I could never get any great success with it.

One word in regard to making these applications. For many years I have used a stiff stencil brush (and it is necessary to cut off the bristles in order to secure proper stiffness), and at Randall's Island, especially, my directions were to rub the scalp with the appropriate ointment just as long and hard as the child could possibly bear it. In all this treatment, whatever application is used should be kept on the affected areas all the time, and reapplied with friction several times a day: the

child should wear a specially-made muslin cap all the time, which is to be frequently washed.

Favus. Although this is also a rebellious affection, it need not be nearly so refractious to treatment, as ringworm, *trichophytina tonsurans.* In this disease the hairs are not so disintegrated by the fungus, *achorion Schœnleinii,* but can be quite easily extracted, and so the remedies can be made to penetrate the diseased follicles. But practically the disease is most stubborn, partly because few recognize its true character, and often will not secure or submit to sufficiently long and serious treatment to secure a complete cure. It is easy to take off all the crusts, and to keep the surface apparently free from disease, and only reddened; but as long as this redness remains the micro-organisms are deep in the skin, and will surely reach the surface and luxuriate again, if all restraining influences are removed.

The X-ray is also valuable in favus, and you have watched at the hospital, cases in which its wonderful effect was apparent; the scalp was denuded of hair by its action, but was finally covered with a luxuriant growth of fine curly hair, apparently free from all disease, even weeks or months after treatment. I may say that in the hospital we are really relying on the X-ray very largely, both in ringworm and favus, and while it is rather too soon to speak positively, I believe that it will prove to be a great aid in the future in managing these heretofore very rebellious diseases.

For many years I have used with good results the compound mercury and iodine ointment already mentioned (Formula 19, p. 42), in conjunction with com-

plete and persistent epilation. This is generally too strong as it is, and should be diluted with equal parts of vaseline at first, increasing the strength as needed. It should be well rubbed in with a stencil brush, at least twice daily. The following ointment, well rubbed in, may also be used with advantage:

49. ℞ Olei cadini. 3i
Unguenti hydrarg. oxidi rub. 3i
Unguenti hydrarg. nitrat. 3ii
Unguenti albolene. 3v
m ft. Unguent.

Tinea Versicolor. This third chief vegetable parasitic disease of the skin is a very different affair, and its treatment is relatively simple; for the fungus, *microsporon furfur,* has relatively little vitality, and effects principally the external layers of the epidermis.

But let me caution you against believing that all cases are entirely cured when there seems to be no longer any of the brownish patches on the surface. For the fungus does penetrate the hair follicles somewhat, and when treatment is of too short duration the eruption will crop out again. Also there may be re-infection from spores which have been retained in the underclothing; so that in reality many patients will often have the eruption over a period of many years, in spite of more or less energetic treatment at times.

The treatment is exceedingly simple, and there is really but one remedy that is often used for it, and that is hyposulphite of soda in watery solution, one to two drachms to the ounce. The surface should be

frequently washed, pretty severely, with soap, and the lotion freely applied night and morning. In rebellious cases sulphur vapor baths may be taken, and sulphur soap, or one with naphthol may be used. Also any of the mild mercurial, sulphur, or iodine ointments will remove the eruption, but some treatment should be continued for a long time after the skin seems perfectly normal.

We come, finally, to still quite a different class of cutaneous affections, where the treatment has yet another aim or object from any that has preceded: I refer to what are called dermatologically *neoplasms,* or new growths in the skin, and for them we require destructive agents and methods. The principal diseases referred to are lupus and epithelioma.

Lupus. In the last lecture (p. 59), I alluded to the semi-surgical treatment of this disease, by the curette, dental burr, and the nitrate of silver stick, which latter I demonstrated on a patient at a recent clinical lecture. I also mentioned the use of the X-ray and radium, which are often most valuable, especially the former. I likewise touched upon the Finsen light, as used in Copenhagen (pp. 67, 68).

In former times ointments of various kinds were used, but be assured that no mild ointment will ever cure the disease. A strong iodide or mercury ointment will sometimes reach down into the crypts formed in the skin and destroy the disease, but this is a very painful and tedious process, and I think that few who know much of dermatology ever attempt now to cure the disease with ointments.

Epithelioma. Most of you have seen, in the clinic, some of the really brilliant results which we have had with the X-ray in epithelioma; in suitable cases, where it acts efficiently, and is rightly employed, it leaves really nothing to be desired in the way of treatment, especially in epithelioma about the face.

But now and again the disease seems rebellious to this agent, and in certain classes of cases experience has shown that it is not best to employ it. Thus, epithelioma of the lip is not, as a rule, reached by it, if it be at all far advanced, and most observers agree that surgery offers the best prospect. Time forbids telling you much that I would like to, and I must refer you to literature.

I have already mentioned curetting in epithelioma, which, in certain cases, if thoroughly done, is certainly very satisfactory. I will only mention that, after soaking the scraped surface with peroxide of hydrogen for a minute or two, or touching it with pure carbolic acid, I fill the cavity with powdered pyrogallic acid, and, with a trifle of cotton over it, I leave it untouched for a week or more; when the crust falls I have frequently found the surface perfectly healed, and the disease eradicated, if the curetting has been thorough enough.

Marsden's paste, made of equal parts of powdered arsenious acid and gum arabic, wet with water, is an efficient remedy to destroy epithelioma; a single thorough application, left on long enough, is often quite sufficient to eradicate a small lesion. The constant poulticing every two hours or so, until it heals, is rather a troublesome process, but, I believe, is the surest way

to secure a perfect result, with practically no tendency to recurrence.

Before closing, I would like to say a word in regard to the local treatment of syphilitic lesions.

Syphilis. For the primary sore I believe the black wash to be still the best remedy, kept on all the time, on absorbent cotton. When there is much discharge it may be dusted first with calomel; I believe that no one advocates now touching such sores with nitrate of silver. Black wash is also best for mucous patches about the anus and genitals.

Mucous patches in the mouth yield very well to a watery solution of bi-chloride of mercury, one to three grains to the ounce; this should be applied with a bit of absorbent cotton, on a toothpick, several times daily. Chromic acid, ten grains to the ounce of water, is excellent for more chronic lesions in the mouth.

One can often modify very greatly the early, acute eruptions of syphilis, especially on the face, neck and hands, by the free use of applications which are of service in congestive, non-specific eruptions, namely, such as the calamine and zinc lotion (Formula 3, p. 30), freely and repeatedly applied. Indeed, many of the cutaneous lesions of syphilis are best treated by remedies which are of value in similar ordinary skin affections, and do not, as a rule, require mercurial treatment.

In ulcerating syphilitic lesions, when the patient is under full and sufficient anti-syphilitic treatment, very little local treatment is needed, and that often of a very simple kind; I want to remind you of the remarkable results which we saw in one of the clinical lectures this

winter, simply from the application of absorbent cotton on the gummy ulcerations about the knee and leg. This plan of treatment I have employed for many years, and time and again I have seen surfaces which had previously failed to heal under various ointments, which were judged appropriate, cicatrize kindly and rapidly when only cotton was used. This should not be changed too often, nor torn off from raw surfaces; if it adheres, the dressing is to be soaked with water, and when it comes off an application of peroxide of hydrogen is made, and the absorbent cotton, in thin layers, replaced.

In deeper lesions, gummata which have not broken externally, and in periosteal nodes, very excellent results may be obtained from the rubbing in of a mixture made of equal parts of blue ointment and iodine ointment, well rubbed together (Formula 19, p. 42); this is a little strong for some skins, and may be required to be diluted, to avoid irritating the surface.

In this necessarily hurried glance over the subject of the local treatment of diseases of the skin, in these lectures, there are very many matters which could not be touched on, and many others which were only mentioned, which could well be elaborated greatly. But, gentlemen, my aim was not so much to attempt to give you a perfect knowledge of the local treatment of all cutaneous diseases, but rather to afford material for thought, and principles of treatment which you can apply in many directions. You realize, perhaps, a little more clearly than before that the proper local treatment of diseases of the skin covers a pretty large field, and

calls for thought and judgment, as well as knowledge of the action of remedies. And you see, perhaps, somewhat more clearly, how impossible it is for the various quack and semi-quack preparations, which are advertised, to be of any real value in skin diseases in general. Undoubtedly they each may be of service in special cases, as they probably all have originated in various prescriptions of physicians, which have seemed peculiarly valuable to some case or cases. You also see that oxide of zinc ointment, while excellent for certain purposes, has its limitations.

Finally, in closing, I must repeat what I said at the beginning, that local treatment, in the large majority of cases of cutaneous affections, is only a part of proper dermatological therapeutics, and to be really successful one must study the patient in all directions, as indicated in my lectures of last year, and apply all the medical acumen possible, in order to reach and rectify the errors of system or of some of its component organs, which are at the bottom of most diseases of the skin. I would as soon expect to succeed in plowing well with one handle to my plow, or in driving safely with one rein to my horse, as I would to be really successful in treating diseases of the skin by relying on local measures alone.

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