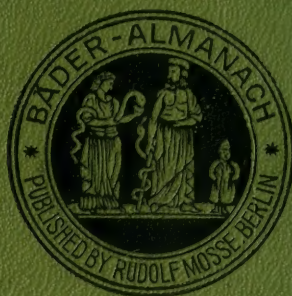




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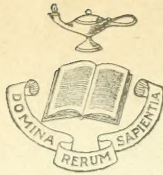


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REPORTS

of

Spas, Climatic Stations and Sanatoria

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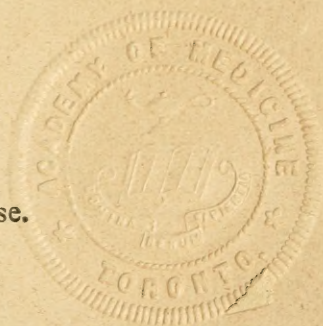
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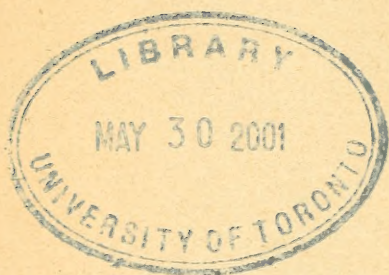
English Edition 1912



BERLIN

Published by Rudolf Mosse.





PREFACE.

The "Bäder-Almanach" issued since more than 30 years by the undersigned publisher is known to be sent in thousands of copies free of charge also to those physicians of foreign countries who are acquainted with the German language. But it has often been suggested to publish the "Bäder-Almanach" in foreign languages, too, in order to supply also physicians abroad, that are not or not sufficiently conversant with the German language, with such a reliable book of reference and information. Now, some time ago, the newly founded "Association of Proprietors of Sanatoria" chose the "Bäder-Almanach" of the undersigned publisher as its "official-organ" for the publication of the prospectus of its members, in order to oppose to the steadily propagating exploitation of this field by so-called "guides". At the same time, it was considered desirable to have editions in foreign languages, too. The undersigned publisher has complied with this demand by issuing a Russian edition in 1911, and now the first English edition which is being forwarded free of charge to practitioners in Great Britain, America, and English Colonies. Compared with the first Russian issue the present edition has been considerably amplified and improved, in as much as the extensive scientific section of the last German edition of the "Bäder-Almanach" (1910) elaborated by prominent balneologists, was added.

We hope sincerely that this book will render valuable service to the addressee, and answer its purpose of being a reliable work of reference and a handbook in the vast field of balneology.

May 1912.

Rudolf Mosse

Publisher of the "Bäder-Almanach".

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Balneotherapy.

A. Introductory Remarks.

By Dr. *O. Thilenius*, Geheimer Sanitätsrat, Soden at the Taunus.

Any health-resort, no matter whether it be only a climatic one, or whether mineral springs are offered for drinking — or bathing-cures, or other therapeutic methods are applied as specialties, is representing an entity with more or less pronounced climatic or social local character. In any case, the usual mode of life of patients or those needing recreation is more or less markedly interfered with by visiting a health-resort.

Whoever encounters the necessity of choosing a health-resort or a mineral-spring for a given case, has to consider above all the fact that the same disease may be treated at very different places with the same good result, and that, on the other hand, the most various affections may be treated most successfully with the same spring.

The explanation of this puzzling fact is, that in all climatic, mineral-water or similar cures we have to deal with an action upon the metabolic processes, upon the nervous functions, in general upon the totality of vital processes, and that acting upon a definite affected organ is very frequently a secondary matter, or can only be attained indirectly. From this follows that for choosing a health-resort it will be of a decisive value to consider the constitution in general, the degree of general irritability of a person, and much more the amount of energy with which the body is able to answer upon the stimulating effect of the applied cure. On the basis of these general considerations, one will be able in the majority of cases not so much to choose a definite climate but in general to determine the group of mineral-springs suitable for the purpose. The local organic affections or serious complications are the next point of consideration for the special choice of a place.

A further decisive factor is the predilection at many stations to treat special affections, the health-resort being thus "labeled" so to speak, and the physicians of those places consequently specialists. In many cases the social and financial conditions will have to enter into consideration.

The last mentioned point especially gives the chief direction for this "Baeder-Almanach" (Guide to Spas, Health and Climatic Resorts, Sanatoria etc.) giving information particularly about conditions that naturally cannot be dealt with especially in the compends and text-books of balneotherapie.

B. Brief Guide for the Choice of Health Resorts and for Determining the Therapeutic Methods.

As to the time of beginning a cure, the official season of most of the health-resorts is from beginning of May to end of September, this time being the most rational indeed for therapeutic purposes. At especially favourably situated stations the cure may begin with end of April. in any case, however, on the first day of May. The cure may also in many cases last up to middle of October. For good reasons health resorts with thermal-waters and favourable climatic conditions have also inaugurated winter-cures, and most of the special sanatoria are anyhow open all the year round.

For alpine stations the season begins, as a rule, at the beginning of June and ends in the second half of September. But year by year the number of health-resorts solely adapted for a summer-season is decreasing. The most prominent of these have sufficient accommodations as to allowing the patients also a stay during the winter with the same effect as in summer. And so at these places the season is going on the whole year. As regards the southern winter stations, one does best to have the patients arrive not before the middle, still better at the end of October, and to have them leave, as a rule, toward the end of April. In all cases it is urgently recommended to have the patients stay for at least 1—2 weeks at one of the so-called transitional stations, on the way there and back, in order to have the patients gradually accustomed to the climatic change.

During the last decade many alpine health-resorts (rising from 3500 to 5250 feet) have particularly developed winter-sport (ski-ing, bobsleigh, skating.) This is in a rational and correctly dosed application a powerful prophylactic and therapeutic aid.

If we now attempt to give a brief guide for determining health-resorts for the various chronic conditions, this can of course only contain general hints: regarding the special data, we have to point to the compends and text-books in balneotherapy of which the "Baeder-Almanach" shall be a supplement, but not a substitute.

I. General Disorders of Nutrition.

A. Anaemia and Chlorosis.

By Dr. *Adolf Seebohm*, Geheimer Hofrat at Pymont.

Although the similarity of principal symptoms of both these groups of diseases does not justify identifying them entirely as regards balneological methods, yet there are essential points of analogy, as for instance in considering the value of iron as the acknowledged principal therapeutic agent.

1. Balneological treatment in a narrower sense.

After many doubts as to whether the introduction of anorganic iron be of any importance for the treatment of anaemia, or whether its reabsorption into the organism may be taken in account at all, it is being more and more unanimously agreed upon that this remedy is indispensable for the therapy of these diseases. This metal, when introduced into the organism in a suitable form, seems to exert its peculiar catalytic influences upon the processes of metabolism, and in a lack of haemoglobin as well as in other anomalies of oxydative energy of the body, to be able to furnish the failing physiologic stimulant (enzyme). Our practice offers day by day new evidence of the intimate relationship between this remedy and the forming elements of the blood. Their number, shape, and the subnormal

haemoglobin content is improved by the ingestion of the remedy, and as a result of this, the albumen and iron-requirement of the organism is reestablished, and the affection cured. In this respect we have to place foremost the observations made at the ferruginous springs the significance of which physicians as well as patients have estimated highly for many centuries, even at times of the most discouraging therapeutic scepticism. — We may also add that, apart from all kinds of favourable secondary influences, as for instance the so-called imponderable factors of a cure, the mode of application of the iron itself, and the subsequent faster stimulation of important functions seem to compete in most cases with the pharmaceutical application of the remedy as regards security and duration of the effect. Furthermore, the iron-therapy has no more been confined to the idiopathic and simple forms of anaemia, as it was customary for some time. To be sure, there are complications with a preliminary contra-indication or an inevitable modification of the iron-therapy more frequently in the treatment of secondary and symptomatic anaemia, but after their disappearance or due consideration, anaemia is still the actual substratum of the treatment.

Let us try then to explain briefly on the basis of our experience the relations of the conditions to balneotherapy, and in particular to ferruginous springs. With chlorosis other typical pictures of idiopathic anaemia enter above all into consideration. We have to adhere for good reasons to the well defined term of chlorosis with its peculiar features, its aetiological relations to the age of puberty, to the years of development of women, to its tendency to relapses and exacerbations up to the period of involution, and beyond this age. On the other hand, unfavourable conditions of life, bad habits, excess of work, strain, excessively active physiological processes etc., give rise to similar pictures of pronounced "idiopathic anaemia" in a primarily less resistant constitution. But we must not forget to mention the separate position of "pernicious progressive anaemia" among these conditions; it reproduces in its symptomatology the picture of a most grave chlorosis, but it differs from the latter in its aetiology pointing more particularly to infectious processes, and in a still more drastic manner, in its sad prognosis. Let us therefore add here that all the former reports on recovery or healing of this affection by mineral or bathing-cures, and by ferruginous-waters especially, have grown silent by and by, and that from the reports still published it can only be gathered with certainty that such patients are extremely sensitive to any thorough cure.

The next for our consideration is the chronic form of simple secondary anaemia, as it is often existing independently after loss of blood or lymph, acute diseases &c., in spite of the cessation of these processes. The milder forms are due to a delayed convalescence.

All the light cases of the above mentioned forms of chronic anaemia yield to the simple curative method of any ferruginous spring, often even to the adoption of more favourable conditions of life. This is, however, different in the obstinate and relapsing cases of these simple and uncomplicated anaemias. The pure and so-called mineral springs of this group are then by all means the most valuable for the treatment: as they are easy of digestion, they may be administered, to be sure, carefully at the beginning even in cases with frequent but light digestive disorders, which mostly disappear readily. But even more troublesome disorders of this kind may be easily helped. In addition to the stomachics of the old school, hydrochloric acid and pepsin may be administered as an adjuvans, and caring for regular bowel-movement is a further aid. The entire mode of life of such patients, their diet especially has to be accommodated to the original irritability of their functions or to the increased irritability brought about by the cure. This ought not to be mentioned particularly, but it is necessary in view of the lax treatment of the diet-question in iron-cures, and the more so in order to oppose a tendency of outdoing the well-tested drinking- and bathing-cures agreeing with anaemic patients, and deteriorating the effect of these methods by specializing modifications in this or any other direction.

Besides these digestive difficulties, the symptomatology of anaemia offers many other functional irritative or asthenic conditions in the muscular and nervous system, in the vascular apparatus of the heart, anomalies of secretion or menstrual processes &c. They yield to the same curative method as above under similar simple conditions. As above, the carbonic-acid chalybeate bath is acknowledged as an equivalent factor in addition to the drinking of these springs, provided that the treatment is carefully individualized. But the matter is different if the severity of the above mentioned functional symptoms and their constant character suggest a greater original or acquired vulnerability of the affected system or organs, and if, as in secondary anaemia, the phenomena remind of residues of latent irritative conditions or of the recrudescence of aetiological processes. Even in most pronounced anaemia, the pure ferruginous cure is not rational. In habitual constipation of a high degree, in severe functional disorders of the digestive tract in general, in a tendency for haemorrhages, in the reoccurrence of haemorrhages, in various forms of haemorrhagic diathesis for example: in extreme psychical irritability, in congestive conditions with erythsm of the heart &c., the interruption or at least modification of this ferruginous cure is indicated: for some anaemic patients it is premature after all. In these cases the daily practice has a field of work, preliminary treatment in clinics or sanatoria is helpful, or going to a more favourable climate; but besides, drinking-cures of bitter-waters of alkaline mineral-springs, or of sodium-chloride acidulous waters have to precede or accompany the careful application of those ferruginous springs. This cure has to be aided by sedative thermal-baths, simple brine-baths and mud-baths &c. — until after some time the chalybeate bath perhaps gains prevalence again. For most of these cases, however, it is more advantageous to refer to the groups of alkaline-brine or muriatic ferruginous springs; these are in the first line more easily adapted to the above described severer disorders, and are of a more preparatory character in cases where the application of pure chalybeate baths seems desirable for a complete annihilation of the anaemic malady, and of the residues of tissue atony.

Let us add some remarks on the recently often mentioned "pseudo-anaemia", with regard to balneological procedures. To be sure, the frequently considerable disproportion between cause and effect, between the pallor of the skin and the weakness of anaemic individuals and their lack of haemoglobin, and also the number and shape of blood-corpuscles were often noticed before, but only the recent general examinations of the blood gave evidence of the relatively frequent occurrence of such "pseudo anaemic" conditions with normal blood-findings. At the same time, the treatment of these forms exhibited their negative behaviour toward the curative effect of iron. These haemoglobin-tests which are very convenient and satisfactory for practice, and can easily be rendered more scientific if necessary, have indeed proved that there is a considerable number of cases among the ordinary anaemic and chlorotic material, in which the condition of the blood is found to be normal, in spite of the marked anaemic disposition. We disregard here cases of pseudo-anaemia in lead-poisoning, nephritis, arteriosclerosis &c. — the general tendency of such diseases to a contraction of the small vessels and of smooth muscle-fibres, and also the chronic angiospasm of the skin-vessels may probably account for the marked pallor in these cases. — Of chief interest, however, are those younger individuals with a delicate organization and all the other characteristics of chlorotic and anaemic conditions. In spite of a treatment of long duration, they show this surprising and remarkable negative blood-picture. They show mostly an originally great nervous irritability, and we also find pretty frequently more serious conditions in individual organic complexes, in digestion, as obstinate constipation with symptoms of gastro-enteroptosis, — of the heart, the genital organs (infantile disposition), or of the naso-pharyngeal sphere. A neurogenic cause, a chronic spasm of the cutaneous vessels can scarcely be denied; it is mostly associated with a gradually increasing subnutrition of the patient. As mentioned above, iron does not prove very efficacious in the treatment of such cases of pseudo-anaemia. It

may be substituted by or combined with other remedies of the pharmacopoea or other mineral-waters. But in the main physical, dietetic, climatic &c. factors, in addition to the wholesome baths will even in pseudo-anaemia allow to recognize the value of visiting the real ferruginous baths, though this appears to be contradicted by a primary negative result.

Similar therapeutic considerations are valid for the group of sulphurated ferruginous springs and arsenious ferruginous waters. Beside the more general indication of ferruginous springs in anaemia, one will feel inclined to ascribe to the content of iron-sulphate a particularly astringent action upon certain functional disorders as well as marked irritations of the intestinal tract. There are perhaps still better reasons for expecting good results in severe and complicated cases of anaemia and nervous affections from the arsenious content of those ferruginous springs — Levice, Roncegno etc.

For the cases of symptomatic anaemia in a narrower sense — i. e. as far as chronic organic affections are still existing — the just mentioned directions for a balneotherapeutic procedure are still more valuable. In some particular forms the aetiology furnishes some hints. Thus for the anaemia of scrofulous and rickety patients, in which of course the brine bath is prevalent in the bathing-cure, not only the for good reasons highly estimated ferruginous springs will be applied, but in addition the sodium-chloride acidulous waters, the ferruginous sodium-chloride springs; in anaemia of malaria-patients, in tropical anaemia similar principles have to be observed, before passing over to a pure iron-cure, and this is far more true of chronic diseases of women, of other kinds of exsudates and infiltrations of such patients. The above made considerations will likewise hold good for gout, uric-acid diathesis. The irregular and atonic forms of these diseases with their serious complications in the general nutrition, and in the nervous and vascular system, are nowadays again preferably treated with ferruginous baths, especially since the introduction of mud-baths. For the anaemia of chronic nephritis, suppurations, fistulae, for the anaemia of leukaemia and pseudoleukaemia, and of Grave's disease, the application of the pure and mineral ferruginous acidulous waters, and far more of the arsenious waters is usually preferred. Even for chronic catarrhs of the air-passages, mostly of a hypersecretory atonic character, for slight consolidations, residues of pleuritic processes etc., and other not very rare complications of anaemia, the use of the ferruginous springs, if rationally selected, is not absolutely contra-indicated. Apart from the value ascribed to carbonic acid chalybeate baths in the treatment of cardiac affections, as has been acknowledged since a long time, the anaemic patients with a heart disease will often successfully obviate the progress of anaemia by a careful cure with ferruginous acidulous waters.

B. Scrofula.

By Dr. *Bardach*, Bad Kreuznach.

The opinions regarding the nature of scrofula have changed considerably in recent times. While scrofula formerly was separated entirely from tuberculosis, one goes nowadays as far as not considering it a special disease at all, and the view is held that it ought to be designated only as a symptom-complex occurring especially in childhood.

The discovery of the tubercle-bacillus has certainly helped to fix the borders between both diseases, and above all, to distinguish the symptom-complexes in which tubercle-bacilli are found, from scrofula. Thus we shall now separate caseated glands, carious osteal foci, which were formerly considered scrofulous diseases, as belonging to tuberculosis, and we shall take in account for the diagnosis the cutaneous reaction as described by *v. Pirquet*.

But nevertheless there remains a pretty great symptom-complex which we may consider scrofula. The picture of a scrofulous child may vary: there may be solely a swelling of glands, or merely irritations of the mucous membranes, a small

or an extended eczema, or all these symptoms coexisting. Most of the scrofulous children look pale, but nevertheless the adipous tissue may be very much developed; at the same time the face is puffed, and the lips and nose swollen. This form is designated as the torpid form in contradistinction to those cases in which the children show a thin face and a remarkably white and delicate, easily reddening skin with vessels shining through. These cases belong to the erethic form.

It is obvious that such a sickly organism will exhibit a lowered resistance to all vicious influences, and will be more exposed to diseases, it will furthermore overcome the latter with much more difficulty, and the diseases will relapse on a much more trifling occasion. Among the injurious influences that may act upon such an organism, the tuberculous infection assumes the foremost rank; for if a scrofulous body is involved by the infection, the latter will gain ground far easier than under normally favourable conditions, the resistance of the body being lowered.

It is little to be wondered at that sickly children of this kind are more exposed to the invasion of tubercle-bacilli. Very likely the port of entrance for the latter are the air-passages, and the numerous bronchial glands are probably attacked first of all. This explains why a number of scrofulous children are tuberculous at the same time, and this is probably the reason why in scrofulous patients tubercle-bacilli are found so frequently. We may therefore have an excuse for the erroneous identifying of both diseases. In choosing the therapeutic method, especially the balneologic form of therapy, we have to take in account the degree and the nature of the disease, and have to consider whether we have to deal merely with a scrofulous disposition or with pronounced symptoms. We must also bear in mind whether we have to deal with the torpid or erethic form, and above all, the status of nutrition and strength is to be taken in account.

If we have merely the question before us of doing away with a pathologic disposition, our aim will be to strengthen the organism in general. In this respect good and pure air, baths, and a careful selection of food-stuffs are the main factors, and it is a matter of course to choose the proper health-resort.

Besides the climatic stations, sea-baths and brine-baths enter into consideration, the former being of value especially for strengthening the organism in general. For a stay at the sea a longer time is required. It takes some time for the organism to get accustomed to the highly stimulating effect of the air, and therefore it will agree far better with adults and older children than with infants. A stay in the mountain at a medium altitude, to the best with good forest-air, is also beneficial. For very debile individuals, older as well as younger ones, and for the latter if they are suspicious of a hereditary predisposition, a longer sojourn at a climatic station (Riviera or Egypt) will be advisable.

For the erethic forms of scrofula the weak brines are indicated, as the cure is to be carried out more carefully; in these cases baths of a short duration ought to be taken intermittently, the particular prescriptions being left to the judgment of the physician practising at the concerned health-resort. For the torpid forms stronger brine-waters are suitable. These baths ought to be of a longer duration and less warm. Regarding the indication of the North Sea or the Baltic, the former being more stimulating and invigorating is indicated for the torpid form, while the latter is more suitable for the erethic form; but, at any rate, the age of the individual is to be considered.

If not merely combating a predisposition is in question, but if affections with marked symptoms are present, a more efficacious treatment is required. Then the strong brine-springs, especially those containing iodine, bromine and potassium chloride are indicated, if necessary with mother-lye. Under these circumstances, even for weak persons powerful baths may be prescribed, and the bathing-cure is to be of a long duration, if an indication is given by the form of the affection, without any danger of a weakening effect. Constipation complicating the scrofulous

affection is almost always most satisfactorily influenced by a drinking-cure; for this purpose the cold springs work better than the warm ones. For the chronic and pertinacious affections of the mucous membranes a stay at the salt-works is indicated; those containing iodine are to be preferred. The alkaline and alkaline-muriatic springs as well as weaker brine-springs may also be applied.

For an after-cure sea-baths or simply a stay at the sea, as well as good forest or mountain air enter into consideration: one should, however, not surpass a medium altitude. Chlorosis and anaemia often complicating scrofula mostly don't require any particular treatment, for they will mostly disappear as soon as the primary affection is cured. For further treatment in such cases a ferruginous spring, if possible situated in a higher altitude, may be taken into consideration.

As regards the attempt that has been made in recent times to establish the *status lymphaticus* (lymphatism) as a special pathologic entity, it will suffice here to mention briefly that the signs of the *status lymphaticus* are found almost without exception in scrofulous children. The treatment of scrofula will be different according to the various pathologic symptoms. But we must always keep in mind that persistence and patience are necessary. We do not help the patient by merely sending him to a health-resort for some weeks, and believing that we have done our duty to the last. Many things will have to be considered at home. Much attention has to be paid, above all, to the nourishment in rational limits. In many cases, especially those with a strong predisposition, bathing-cures should be repeated for several continual years, if possible up to the time, when the bodily development is complete. This holds good especially for patients with a hereditary predisposition.

The choice of the health-resort is to be left to the family-doctor, all matters concerning the bathing-cure itself are to be left to the bathing-physician, who can best of all handle these things, judge how the baths act upon the patient, and who can interfere in unexpected events.

C. Rickets.

By Dr. Bardach, Bad Kreuznach.

The real cause of this disease is entirely unknown, but it is an established fact that all unfavourable external conditions interfering with the nutrition and the development of the children, may produce rickets and favour its further progress. This is the reason, why this affection is found more frequently among the paupers and in densely populated cities than in the country. The mode of nutrition in the earliest childhood plays also a part, as artificially and not very well nourished children are more exposed to this disease than those fed with the breast. But nevertheless rickets is also found in children living under the most favourable external conditions. This disease begins in the first months of life, and develops gradually as the bones are growing. According to the view of various investigators, the organism is unable to assimilate the ingested salts: others believe that the cause has to be looked for in an insufficient lime content of the food. Hereditary predisposition might be considered possible, as relatively frequently several children of the same family may be affected. Although the aetiology is still dark, yet there is a uniform agreement in that a successful treatment has to consist of strengthening the general condition. The same principles are valid as have been advanced above all in dealing with scrofula. Of baths chiefly brine-baths and especially such containing iodine and potassium chloride are in order, furthermore sea-baths, or the latter for a cure after using brine-baths. For the intestinal disorders often coexisting with this disease, the internal use of weak muriatic waters is indicated; the springs rich in carbonic acid and the chalybeate waters are also effective, and may be continued for a long time, as the course of the disease mostly extends for years. Much attention is to be devoted to the nourishment. For home-treatment

furthermore malt-baths and herb-baths are recommended, in the winter cod-liver oil, which is not to be considered as a drug but as an easily digestible nutritive preparation. On the basis of numerous clinical observations, calcium phosphoricum and phosphorus combined with cod-liver oil have been acknowledged as being useful.

D. Gout.

By Dr. *Emil Pfeiffer*, Geheimer Sanitätsrat at Wiesbaden.

Gout is partly congenital, partly acquired by unrationed nourishment. The disease is, in the main, a chemical alteration of nitrogen-metabolism, with special reference to uric acid. If the ingestion, especially of carbohydrates, exceeds the requirement, uric acid is combined with salts on account of excessive formation of acids. The excretion of uric acid is incomplete, it is deposited in the well-known manner in the joints &c., and this may give rise to the severe complaints.

The fundamental points of the treatment are a rational regulation of the mode of life, a simple mixed diet with a reduction of carbohydrates and all food-stuffs favouring the formation of acid in the stomach, absolute prohibition of alcoholics, as far as the condition of the heart or the general condition do not indicate the contrary which is seldom the case, and an abundant supply of fresh air.

The principal factors, however, in the treatment of gout are the alkaline thermal-waters and the cold alkaline potable-springs. The latter are especially recommended in the intercurrent renal and vesical affections of arthritic patients. The high value which some authors ascribe to the content of lithium of these springs, is to be referred to the percentage content of lithium of these springs, as lithium does not act otherwise than other alkalis. The group of sulphurated waters, potassium-sulphate waters, and muriatic waters come into consideration for congestions of the liver, haemorrhoids, and catarrhs of the respiratory organs complicating gout. For the chronic catarrhs of the pharynx, the larynx and the trachea in gouty patients, Weilbach is to be mentioned in the first place. The ferruginous springs are indicated in general cachexia and especially in lowering of the heart-power due to the long standing of the disease. In such cases, however, also the alpine thermal springs have an excellent effect.

For gouty joint-affections and residues of these, nowadays as in former times, the highly tempered natural mineral-baths are applied with great success, likewise for subsequent peripheral palsy, neuralgia on a gouty basis &c. In recent times the sulphurated thermal waters, the mineral thermal springs, and the muriatic thermal waters, have been competing successfully with the natural mineral springs. If a more powerful effect is desirable, the carbonic acid muriatic thermal-waters are to be applied.

If the general stimulating effect of the thermal-waters is to be avoided, the mud- and fango-baths, especially the sulphurated mud-baths, are to be used. Favourable results have also been obtained by hot sand-baths, in general or local application. They favour reabsorption not only by their temperature, but also by their compressing effect. If in individual cases a thorough stimulation of the cutaneous excretion is considered necessary, the Roman-Irish, the pine-needle baths, and also certain hydrotherapeutic measures will answer the purpose. All these forms of baths, however, do not only influence the residues of joint-affections, but also the process in general, i. e. the gouty diathesis by preventing new attacks and lessening the intensity and duration of the disease.

E. Diabetes Mellitus.

By Dr. *Jacques Mayer*, Geheimer Sanitätsrat, Berlin (formerly at Carlsbad).

Although by the experimental researches of the last years a number of important data have been added to our knowledge of the nature of diabetes, this can still not be regarded as fully explained by science. To be sure, the great

discovery of pancreatic diabetes in animals is rather a considerable progress in this line, but we are notwithstanding unable to answer the *indicatio morbi*. But owing to various experimental and clinical observations, chances in this respect are best of all in pancreas diabetes, in as much as we may assume that a diminution or an absence of the pancreatic internal secretion which normally stimulates glycolysis, plays a part in diabetes, and that in a number of cases we have to deal with alterations of the Langerhans islands, or an insular insufficiency with an intact condition of the remaining parenchyma.

Owing to the multiform aetiology and the subsequent variability of the progress of the disease, the symptoms occurring in diabetes are of a very inconstant intensity. This is furthermore due to the extremely variable resistance of the organism which, in the main, depends upon the age of the patient, disregarding many other factors. It is in many cases difficult to form a definite judgment as to the progress of diabetes. Cases beginning very mild as it seems, and showing at the beginning a slight impairment of the limit of tolerance for carbohydrates, may sometimes proceed very rapidly and vice versa. The aetiology may best of all give us a clue as to this fact. The following aetiological factors have to be borne in mind. 1. race; 2. age; 3. heredity; 4. occupation or profession; 5. infection; 6. psychological influences; 7. obesity; 8. gout; 9. nervous diseases; 10. infectious diseases; 11. pancreatic affections; 12. syphilis.

It is of great importance to determine exactly the limit of toleration at different intervals during the treatment, in order not to overlook a change for the worse, as it is a matter of experience, that the well-known diabetic symptoms do not always appear parallel to the degree of glycaemia. It is not of minor importance to note carefully a transitory spontaneous glycosuria occurring with a mixed diet, as it is often difficult to decide whether or not it will lead to diabetes. Forms appearing harmless may, to be sure, disappear entirely after a while, but they may also result into permanent glycosuria.

Except the elimination of sugar, however, we must also bear in mind the condition of the circulatory and respiratory apparatus, the nervous system and the chylipoëtic organs, and we have to consider thoroughly the symptom-complex involving these organs. It will therefore be very important in the treatment of diabetes not only to combat glycosuria, but to control early enough all the noxious influences impairing the general condition of the diabetic, and giving rise eventually to the most various complications. If in non diabetic obesity a rapid loss of flesh is, as we know, very detrimental to the organism, this is the more so true with obese diabetics as, on the one hand, a compensatory over-feeding which might sooner or later be urgently indicated, may be restrained considerably on account of the very much limited ingestion of carbohydrates. On the other hand, the store of albumen in the organism is too little protected on account of the considerable loss of fat, and consequently the diabetic is not able to answer the requirements of muscular work. A long continued pure meat-diet is from this point of view not to be recommended for a dietetic treatment; it is only to be applied exceptionally, and if so, for a very limited time, and at the same time, all the harmful effects of such a diet have to be observed as carefully as possible. As a rule, this diet is to be combined with copious amounts of fat and moderate amounts of carbohydrates.

Mental diet is an important factor in treating diabetes. We have to give the diabetics in this respect just as precise prescriptions as with regard to the diet. As a matter of fact, cases are not rare in which psychological emotions, mental strain, influence the progress of the disease far more unfavourably than a faulty diet. From this point of view, it must be warned against occupying the patient permanently with his affection, supervising most carefully and day by day his food by weighing and measuring, and even having the patient himself test for sugar and albumen.

The affections of the heart are in a causal relationship to the diabetic affection, and from this reason they deserve our special attention. Large amounts of alcohol ought to be avoided not so much on account of the toxic effect, but

rather because of the increased work thrown upon the heart. As a matter of fact, the atheromatous degeneration of the vessels and irritations of the kidneys are favoured very much by drinking alcoholics.

Balneo-therapeutic indications are dependent upon the stage of the disease and its complications. Dividing the disease into "light and grave forms" does not fully agree with the actual state of affairs, as according to numerous observations light cases may become severe, and on the other hand, severe forms may become light ones.

The course of the disease may be rapid or slow according as the diabetes occurs in juvenile or old age, according as a sickly, neuropathic, and hereditarily predisposed individual is affected or a strong organism free from any predisposition is involved. Undoubtedly sometimes — which is especially true of childhood and young age — the acquired diabetes runs a quicker course than that based upon hereditary disposition. It is therefore advisable to distinguish an acute and a chronic diabetes.

The acute diabetes cannot very often be subject to balneo-therapeutic treatment. We succeed only exceptionally in strengthening the entire organism by such a treatment and in retarding the course of the disease. In diabetes of children we ought to dispense entirely with using springs, unless they be indicated by definite complications. In the majority of cases the hygienic mental and dietetic cure at home is to be preferred to any medicine. But on the other hand, balneo-therapy may furnish remarkable results in the incipient as well as advanced stages of chronic diabetes.

The most effective in this respect are the alkaline sulphurated thermal waters and the simple alkaline waters.

For the winter in a number of cases with a predominance of complications or sequelae of diabetes, a stay in the south is recommended. It is then our chief aim to increase the resistance of the entire organism, especially of the circulatory and the respiratory apparatus and of the nervous system.

F. Obesity.

By Dr. *Adolf Ott*, a. o. Professor and Geheimer Sanitätsrat, Prague (formerly at Marienbad).

The excessive deposit of fat in the body is designated as obesity. It differs distinctly from the fatty degeneration of organs mostly accompanied by marasm. The disease is mostly acquired by un-rational nutrition and mode of life, due to an increased ingestion of food, disproportionate to the requirements of the organism for work and production of warmth. But it is not rarely dependent upon a congenital disposition, and a pre-existing inferiority of catabolic power as well as a slow protoplasmatic activity of the cells favour the development of obesity considerably. It may develop at any age of life, especially as soon as overfeeding occurs, and the excess of food material is utilized for the formation of fatty tissue. A good appetite and good digestion promote the increased intake of food, and if this has become a habit, obesity will soon develop. At the beginning, it is merely inconvenient and troublesome without interfering considerably with the physiologic functions; but in a longer standing and at a higher degree, the entire organism is exposed to danger, and pathologic disorders of organ-functions ensue which by and by may seriously threaten life, especially on account of disorders and organic alterations of the heart and the kidneys. These complications are observed particularly if the intake of food surpasses the amount utilized for the normal maintenance of the organism, or if a faulty diet and an insufficient working up of the ingested material, an insufficiency of the muscular, cutaneous and pulmonal function bring about a disorder of normal metabolism. Overfeeding and lowered capacity of work are therefore the causes of a decrease of oxydative processes in the tissue cells, and of an excessive formation of fat. The fatty tissue originates principally from the fatty bodies and the carbohydrates ingested with the food, but it is also built up from

excessively ingested albumen, though in a smaller proportion. Obesity is most frequently found in men of 40 years, likewise in women who, with advancing age, especially from the beginning of the climacteric period, furnish an increasing proportion of obese patients. The body-weight may rise up to 30—40 per cent., the corpulence measured above the umbilicus may amount to 140 cm. and above.

We distinguish the plethoric and the anaemic form. The former is found by far more frequently, particularly in men, and almost always associated with a more or less high degree of congestion and an accumulation of carbonic acid in the blood. The latter form, however, occurs more frequently in women of young age, mostly associated with dysmenorrhoea, sterility, and many kinds of nervous symptoms. This form of obesity is not rarely brought about by an unrational nutrition with a scanty or entirely failing ingestion of albumen. Both forms of obesity may be recognized at the first glance. In the plethoric form the more or less pronounced redness of the face, sometimes a colour of the skin passing over into a bluish tint; in the anaemic form pallor as a result of the decrease of red blood-corpuscles and of haemoglobin. Sometimes a transition of one form to the other has been observed. But the plethoric form passes over into the anaemic form more frequently than vice versa. The alteration of the figure may also be brought about by an insufficient blood-supply of the tissue, as it occurs in alterations of the cardiac muscle, in arterio-sclerosis, in renal affections, after profuse loss of blood from the congested areas developed by fatty deposits, and in a reduction of blood due to insufficient supply of oxygen, furthermore by permanent staying in closed rooms, by lack of exercise in the open air, and qualitatively unrational nutrition.

The proper treatment of obesity cannot be successful if it is carried out schematically. Individualizing is the chief point here. Favourable results can only be expected from a most thorough investigation of all conditions of life of the individual patient. But the result will only be permanent if the dietetic prescription is permanently supervised by a physician, not only for a short time, but for a long period. The general condition of the patient is to be considered above all, quite particularly the capacity of his heart-power, in beginning the treatment. All the details of development, age, constitution, the mode of nutrition and mode of life, the degree of obesity, and the symptoms resulting from it, have to be taken in account very carefully, if a favourable result shall be obtained. Thus in the plethoric form we shall have to consider the symptoms of dyspepsia, habitual constipation or a permanent inclination to diarrhoea, haemorrhoidal troubles, irregular excretion of bile, formation of gall-stones, congestive hyperaemia of the brain, the heart, the lung, nose, pharynx, larynx, of the tracheal mucous membrane, the liver, spleen and the kidneys, the genital-organs and the bladder; furthermore alterations of the urine, indicating a disorder of metabolism (uric-acid, oxalic acid, glycosuria), beginning arthritis, arterio-sclerosis as well as changes of the cardiac muscle. In the anaemic form, moreover, the deterioration of blood, the anomalies of menstruation, and nervous disorders will have to be noted very carefully.

From all this follows that the treatment must be adapted to the individual case, according to the various symptoms, and that it will differ according to the one or other form of the disease. As always in therapy the fundamental law is: *Principiis obsta!* We shall succeed more easily in checking an incipient increase of fat in the body than in curing a more or less advanced obesity, especially in young individuals.

Strict reduction cures are not at all indicated in such cases, above all not in children or developing girls. Albuminous food particularly ought not to be reduced considerably, as the total nutrition may be impaired and anaemic conditions may ensue. In a moderate deposit of fat, as it mostly occurs in the middle age of life, it may suffice to regulate the mode of life as regards diet and physical exercise. Real Banting cures are not recommendable in these cases.

In all cures aiming at a reduction of fat, it will be advisable to proceed gradually and never to force too rapid a loss of fat. Reduction-cures continued for more than 4 to 5 weeks are to be avoided, as they threaten health and life. It is better to be satisfied with a moderate result and to repeat the cure after a shorter or longer interval.

The treatment is divided into a dietetic, mechanic, climatic and balneologic one.

The dietetic treatment will always be the main thing, for it is in itself able to accelerate the utilization of the fat deposited in the body, and to prevent a further storing of fat. Without this dietetic treatment, therefore, a permanent and thorough result will not be obtained. But although it is the starting point and most essential basis of treatment, experience has taught that the result inaugurated by the rational ingestion of food and drinks may undoubtedly and most assuredly be promoted by the rational application of other methods. Complications of obesity may be combated and permanently cured more rapidly in this way than by simply changing the diet.

In regulating the diet, the principle to be observed is not to deprive the body of too much organic albumen, not to reduce fat at the expense of the total organism, and not to impair organic function by the reduction of fat. It is therefore most recommendable to give a mixed diet consisting, in the main, of albuminous substances, small amounts of carbohydrates and gluten with little fat. These food-stuffs should not be given in too great quantities, as not only a qualitative but also a quantitative reduction of food are required in order to obtain a favourable result. Quantity will always be the chief thing, while quality is of minor influence. The nutritional value or, as it is designated by von Noorden, the caloric value is the decisive factor. If the intake of calories is inferior to the working up of them, gain of fat will not occur in spite of its being favoured by the quality of meals. Moreover, we want to emphasize especially that the meals should never be copious, that they should rather be distributed over the day in small portions. This is above all recommended to people who use to take a bit more frequently, or who after certain intervals, feel weakness in getting hungry, being consequently induced to take too much with their meals. Allowing a little something between the meals, in the forenoon or afternoon, will help to reduce the quantity of the principal meals. The rigorous reduction of liquids having been in favour during the past years cannot be advocated, as it has been scientifically proved to be insignificant. Yet one will do best not to allow taking too much of liquids, especially not during the meals. The reduction of liquids particularly at the beginning of a Banting-cure, will lead more rapidly to a loss of weight on account of the lowered ingestion of liquids. But apart from this, the reduction of liquids in great eaters who are accustomed to drink between meals, will promote loss of weight considerably and mainly by diminishing the appetite, and thus limiting the quantity of food. But too great a reduction of liquids is to be dissuaded, as it increases the amount of salt in the body, and may consequently lead to serious complications in the kidneys and in the heart. As to the question of taking alcohol, the same need not be eliminated entirely; but in general it will always be better to omit alcohol at all. It will only be indispensable in certain cases, in a threatening weakness of the heart, in patients accustomed to alcohol. But it is only allowed to give light wine in small amounts repeatedly during the day. The chief thing will always be to adapt the diet exactly to the individual case, according to the constitution and to the mode of life.

Thorough observation must tell for how long a time this is to be continued. A dietetic cure of too long duration, especially with too great a reduction, may easily become dangerous. But with careful attention it will not be difficult to state the point of time when to stop the prescribed diet. If a lowering of physical strength is noticed, the diet is to be changed at once. For we know that the same kind of diet is frequently not agreed with for a long time without a detrimental loss of albumen. In such cases insignificant alterations of diet will suffice to reestablish

the desired equilibrium of metabolism. But in order that the result obtained by dietetic measures be not deteriorated, one will do good, especially with patients disposed to obesity, to reduce the diet at once for a longer or shorter period. The schematic-dietetic cures as prescribed by Banting, Ebstein, and Oertel, as well as the milk cure recommended by Tarnier are therefore not suitable for every case, and the continued strict observation of such dietetic prescriptions may have the disadvantage of not rarely bringing about serious or even fatal disorders of health.

The best has proved to be the milk-cure according to Karell recently modified by Brieger, Moritz, Hirschfeld, and Rosenfeld. This cure is cheap, it can be easily adapted to any requirement, eliminates hunger and thirst, and prevents serious complications. It has a very favourable influence, especially on cases of obesity with an involvement of the heart or the kidneys. The same is pretended by Albu as regards the vegetarian dietetic cure recommended by him.

Next to the dietetic treatment stands the mechanic therapy, comprising the application of massage and the performance of bodily exercise. Both these factors promote the loss of fat by increasing metabolism in the way of an intensified working up of material. Massage, either local or limited to the abdomen, or general, extending over the whole body, will stimulate the blood-circulation considerably, diminish congestions and favour thereby the resorption of fat; it will at the same time strengthen the musculature by stimulating the local metabolism. It has, however, no direct influence upon the loss of fat in the body, as is often assumed. In this connection we also wish to mention electromassage that has been recommended recently for stimulating lowered muscular activity. It promotes oxydation in the muscle, and has also a reviving influence upon the nervous system.

The bodily exercise may be accomplished as an active or passive one. In both ways it will contribute considerably to stimulating the muscular function and the gas-exchange. Thus by the increased ingestion of oxygen, the oxidation of fat or rather its splitting up into the end-products, carbonic acid and water, will be accelerated. But the general condition of the body and, above all, the capacity of the heart, are always to be considered, and the degree of exercise is always to be adapted to these in order to avoid strain, especially of the heart, and complications. It is always best to begin with slight muscular work, and moderate exertion in walking and climbing, that is to say, the power at disposal is to be raised first by slow exercise, before greater efforts are asked for. From this point of view, we can explain the favourable influence of increased exercise in a pure air rich in oxygen, especially in the mountains and at the sea-coast, where the metabolism stimulated by a rationally regulated diet can be increased considerably. This is true particularly for cases with a high degree of congestion, due to a lowered heart-power. In these cases the heart-muscle can be strengthened, the circulation regulated, and the general fatty deposit can be reduced by systematic climbing up the mountains as in the so-called Oertel-cures. Climbing promotes the reduction of fat rather than the mere exercise on plain roads, as in climbing the quality as well as the quantity of exercise is increased. As von Noorden has proved, the catabolism of body-substance in climbing is ten times as great as in walking on the plain. By a deeper inspiration the intake of oxygen and the output of carbonic acid are increased, and at the same time, work is taken from the heart by a more active pulmonary circulation. Rationally dosed exercise by climbing will strengthen the heart considerably, and the result will be a regulation of cardiac movements, a gradual slowing of the pulse which is not rarely extremely accelerated, a removal of arrhythmia, and an alteration of the blood-pressure. If this improvement has become marked, and the cardiac action has been restored to a normal state, the basis is given for advancing still more metabolism by a greater amount of work, and for promoting loss of fat. If climbing must be dispensed with, if alterations of the circulatory apparatus contra-indicate more strenuous exercise, a stay at the sea-coast in an air rich in oxygen, will be

recommended with gradually increasing exercise by walking. Swimming, rowing, cycling, athletics, riding and all games requiring a more active exercise in the open air, as foot-ball, tennis, golf etc, will be of the same value as climbing. But always special attention is to be paid to the energetic capacity of the heart, and strain has to be avoided.

If active exercise cannot be accomplished in a sufficient degree, it may be supplemented by passive exercise as it is applied by means of medico-mechanic exercise, especially in institutes equipped according to Zander's device. These procedures should, however, only be performed under the supervision of physicians and in well-ventilated rooms, to the best in establishments in which permanent ventilation is provided for by an uninterrupted supply of fresh air. Only under these conditions the gas-exchange and the catabolism advanced by muscular work will be developed to the highest degree, and the greatest success of a mechanogymnastic treatment of obesity will be obtained. The danger of over-exertion and its detrimental effects are surely avoided by the possibility of adapting all the movements performed by means of the apparatus exactly to the individual capacity and thus dosing exercise so to speak mathematically.

Change of air or the possibility of a longer stay in the open air are not rarely desirable. In as much as this is attained by simply changing the habitation, a further task of treatment, i. e. the climatologic treatment is inaugurated. The influence of such a change of air must not be undervalued, particularly not for the many adipous patients that have lived all the year round in cities. A stay in the mountains, however, or at the northern sea-coasts will only be possible in the summer-months. If in the mean time a long stay in air rich in oxygen, and opportunity for active muscular work by walking and climbing are indicated urgently we have to recommend the more southern places, the climatic stations in a narrow sense. For this purpose the places situated at the southern spurs of the Alps or at the shores of the southern seas are fit best of all. We have to prefer those places in which owing to their ascending mountainous or hilly surface, opportunity is given for climbing and thus increasing work and aiding loss of fat; places as those at the Riviera, the Upper Italian Lakes, the Lake of Geneva, the Southern Tyrol or Abbazia.

The balneologic part of the treatment of obesity comprises the drinking- and bathing-cures. By means of these and by a simultaneous prescription of a proper diet and a mechanic treatment, we are able to bring about a thorough regulation of metabolism, and a diminution of the development of fat, and particularly to do away with the pathologic disorders brought about by the former. As corpulent people much more willingly submit to a strict observance of a prescribed diet and of increased exercise and in general to a more exact observance of medical advice, if they apply a drinking-or bathing cure at the same time, the latter is much more so an indication for the treatment of obesity. It is a matter of fact that every individual case is to be considered most carefully, that not only the fatty deposit in general, but also all the complicating symptoms as well as the whole constitution are to be taken in account, and that balneological measures ought to be chosen accordingly.

Among the drinking-springs, the alkaline-sulphurated waters especially will favour best of all a loss of fat, if they are applied rationally for a long time without having a direct purgative effect. Their action is by no means based upon bringing about very copious and watery bowel-movements. For this would not do for a longer duration as the organism would be weakened too much, although at the beginning it would bring about a slight increase of metabolism. Moreover, the apparent loss of weight rapidly attained by these copious movements, is to be referred mainly to an increased loss of water, which is soon enough replaced again, and is of no essential influence on the diminution of fat. How far the increase of tissue-osmosis by an ingestion of the salts dissolved in the waters, promotes oxidation and

a subsequent decrease of the fat stored in the body, must be made evident by further investigations.

At any rate, it is sure that by using these waters the loss of fat is attained more rapidly and easier. The alkaline-sulphurated springs stimulating peristalsis will be indicated in cases in which the obesity is coexisting with a tendency to habitual constipation, or in which, as is often the case, the prescribed change of the diet the patient was accustomed to produces an intestinal torpor. These waters will also be indicated in those cases of fatty deposit associating digestive or circulatory disturbances in the climacteric period. In a relaxed organism, in tendency to congestions and more advanced congestions, the cold springs of this group are suitable particularly; in an increased irritability of the digestive tract, in a tendency to disorders of bile-secretion, the warm springs are recommended, and in a predominating relaxation of nerve-energy the springs located higher up in the mountains. The fear which often has been pronounced, that by applying these springs the albuminous store of the body were endangered, is entirely immaterial according to recent researches. On the contrary, it has been proved by these researches that the breaking-down of N-containing substances is rather diminished, and that, on the other hand, the splitting up of fatty material is considerably promoted by an increase of the elimination of CO_2 and of a consumption of O.

Bitter-waters are less suitable for a cure, as they weaken the organism too much, if used for a long period. But they are excellent for being used in the house, and for those cases in which the oxydative processes in the organism are to be increased by an increased elimination of water, and a subsequent discharging of the circulation, and furthermore by increased peristalsis. For these cases too is valid what has been said above concerning the use of alkaline-saline springs. Muriatic-waters are sufficient only for cases of a lower degree of obesity, and they are indicated in a predominating tendency to mucous catarrhs associated with a weak constitution. There too we have to decide as to cold or warm springs. The latter are recommended especially if there is a tendency to diarrhoea. The use of these waters will facilitate circulation by diminishing the watery content of the tissues, it will accelerate metabolism by stimulating cellular activity, and at the same time it will reduce the fatty substances in the tissues. In a pronounced locally developed fatty deposit, as e. g. of the breast, and in scrofulous constitution, iodine-muriatic waters are to be applied. In those cases of fatty deposit associated with the symptoms of a more or less pronounced anaemia, that is to say in obesity usually designated as anaemia, mostly occurring in younger individuals, especially in women with dysmenorrhoea or showing sterility, ferruginous springs or the combined use of a ferruginous spring (Ambrosius-Quelle of Marienbad) with the alkaline-sulphurated or (Bockletwasser of Kissingen) muriatic springs are suiting the purpose best of all.

The increase of haemoglobin in the blood and the increase of red blood-corpuses brought about by ferruginous springs, and the subsequent increase of the energy of vital functions, will assist in developing a more sound metabolism, in reducing the deposit of fat, and in combating the tendency to storing up fat by securing a basis for more active exercise and thus combating indolence. The most excellent result in this respect has been obtained by the ferruginous Glauber-salt waters of Franzensbad, Elster etc.

During the use of the drinking-cures as well as without them, the application of the various baths is a powerful agent for raising albuminous metabolism by increasing the function of the skin, and for thus enhancing the breaking-down of fat. All forms of baths exerting a strong stimulus upon the skin, and increasing thereby the peripheral circulation, are suitable for this purpose. The form of bath to be chosen is dependent upon the general constitution and the more pronounced disorders of individual organic functions (heart, kidney, brain).

If an increase of metabolism is aimed at without weakening the organism, as for instance in a drinking-cure with alkaline-sulphurated or muriatic water, the simple acidulous waters or the carbonic acid- muriatic baths will do, the latter

of a moderate temperature not exceeding that of the body and not of too long a duration. The powerful stimulating effect of these baths on the peripheral circulation intensifies the metabolism, and influences remarkably the heart by discharging it and strengthening the cardiac muscle. This is to be considered a most important effect in many cases of obesity. If anaemia, especially with disorders of menstruation (amenorrhoea, oligo-, dysmenorrhoea or profuse menstruation) are predominating, or in sterility, the chalybeate-, brine- and mud-baths of a more tonic action are indicated. Many cases showing at the same time a lowering of nerve-energy, sea-baths as well as those hydiatic procedures which have a tonic effect and cause a not very excessive perspiration, will best of all suit the purpose, when applied simultaneously with or after the other methods. They will aid in intensifying metabolism, in promoting production of heat with an increased output of CO_2 and a simultaneous more active new-formation of red blood-corpuseles. Sea-baths, however, especially those with waves running high, are contra-indicated in all those cases in which, as in atheroma or pathological alterations of the heart, cerebral apoplexy or cardiac paralysis are threatening. In all the hydrotherapeutic measures by which more or less heat is withdrawn from the body, as packings, douches, full and half-baths, the loss of heat is compensated by an increase of the circulation and secretion, and a pure and permanent loss of fat is attained, though not very striking at the beginning. This is especially true if, at the same time, intense muscular work is done which, as a matter of fact, favours the oxidation of fat. The lower the temperature applied, the greater the difference of temperature is in individual parts of the body, the longer the procedure lasts, the more active simultaneous and subsequent exercise is performed, the more intense will be the effect upon metabolism. This is for example the action of the wave-bath according to the system introduced by Höglauer. The thermal as well as mechanic stimuli elicit reflex motions, and a reduction of fat is brought about by intensifying metabolism. Swimming-baths are of the same order. The cold stimulus inciting muscular action will likewise augment metabolism. Vigorous individuals whose organism can stand very intense procedures without any fear of weakening, may reduce their weight most rapidly by means of sudorific hydrotherapeutic measures, steam or Roman-Irish baths, and the recently applied electric-light baths, if at the same time a proper diet and the corresponding drinking-cures are applied. One must, however, not be misled by the striking loss of weight occurring mostly at the beginning of the perspiration-cure, as this does not depend upon a loss of fat, but merely upon the elimination of water brought about by a more active perspiration, a loss which is mostly very soon compensated by a demonstrable increase of weight. In applying this method, the condition of the heart and of the large vessels is to be examined permanently and thoroughly. With all of these methods recommended for obesity the ever detrimental "too much" has to be avoided. We cannot warn enough against a too rapid reduction of fat often asked for urgently and carried out very energetically. Progressive decline of physical strength and spontaneous paralysis of the asthenic heart are not rarely the result of such exaggerated reduction-cures. In conclusion, we wish to mention the often recommended air- and sun-baths, mostly taken in sanatoria for the purpose of reducing fat. It is an established fact that these too are able to intensify metabolic processes by increasing the energy of all organic functions and thus leading to the result aimed at. These methods may advantageously be combined with a dietetic treatment in the sanatorium. This is especially recommended for persons whose home-conditions do not allow observing a strict diet for a long time, or with whom will-power and consistency are lacking.

G. General Weakness and Delayed Convalescence.

By Dr. O. Thilenius, Geheimer Sanitätsrat, Soden at the Taunus.

Here climato-therapy is of especial importance: one ought to take care of not sending patients of this group by all means to a so-called "invigorating climate".

The climatic stimulus should always be adequate; and it is consequently advisable to begin with sparing or moderately stimulating climatic stations (valleys, medium altitudes), according to the degree of asthenia and, particularly, to the energy of the nervous-system. Only after a considerable degree of strengthening, the Alps or the sea-climate may follow (see III B, 1. page 38).

For drinking and bathing cures are suitable, above all, the simple muriatic waters, for baths the mild brine, also pine-needle baths, and quite especially the carbonic-acid brine thermal-waters. For a pronounced real deterioration of the blood the chalybeate-springs and the carbonic acid ferruginous springs are of an excellent effect, provided that the digestive organs are in working order. With great debility and sensibility of the skin, great irritability of the nervous system, it is recommendable to begin the cure by tepid natural baths. In any case, the bathing stimulus should always correspond to the power of reaction. For malaria-convalescents places free from malaria, to the best in the high mountains, should be chosen; with these frequently hydrotherapeutic measures are in order.

Milk- and grape-cures are to be prescribed according to general principles, especially in emaciated patients.

II. Diseases of Intoxication.

A. Constitutional Syphilis.

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In the investigation of syphilis at present the *Spirochaete pallida sive luis*, an organism discovered by Schaudinn, is assumed as the exciting agent of syphilis. It seems to be of an undeniable significance in the aetiology of this disease, as this protozoon has always been found in persons exhibiting positive syphilitic symptoms. The sure presence of spirochaete in lesions open to infections, in soft chancres and in herpetiform erosions, is therefore of significance for the diagnosis as well as for the method of treatment. This holds good too for cases in which clinical diagnosis fails, for example recent genital or extragenital primary affections, for the differential diagnosis of syphilitic papules and patches, or for the diagnosis of certain forms of exanthema. In latent syphilis likewise the examinations of the glandular lymph, obtained by puncture, will confirm a dubious diagnosis, and even in congenital syphilis the search for spirochaete in the blood, in the glandular juice and in the nasal secretion, in cases of coryza, will permit of coming to a definite conclusion. As a matter of fact, in animals (apes, rabbits), after a successful syphilitic infection, spirochaete are found in the tissues, at the affected parts, and in the glands, with or without manifest marks of syphilis.

A great significance is to be ascribed to-day to the sero-diagnosis of syphilis for the recognition of a still existing infection. Yet the positive reaction does not give absolute evidence of the syphilitic nature of an ulcer or a tumour existing, as a coëxisting complication with carcinoma or tuberculosis must be taken into consideration. Patients treated insufficiently may, however, often show a positive reaction in the tertiary stage, although for a long time no considerable clinical phenomena may have appeared. On the other hand, the negative result of the Wassermann reaction will not necessarily detain us from carrying out an anti-syphilitic cure. For with many patients who have been treated successfully as regards the symptoms of cerebral, spinal or osteal syphilis, new clinical symptoms will be treated with good results even in a negative reaction of the serodiagnostic investigation, and the patients will be benefited in a considerable degree.

As we know, up-to now but in single cases one has succeeded in obtaining pure cultures of *Spirochaete*, and we are consequently still lacking in successful vaccination and attempts of obtaining by them an antisiphilitic serum. One has,

however, tried by attenuating the syphilitic virus by means of repeated inoculation on susceptible animals, to get a curative serum for syphilis, which has been variously tried on patients. But these results too do not show that in this way a prophylactic or curative method for syphilis will be found, being as yet of any practical value. Thus even nowadays the significance of the old antidote against this disease, i. e. of mercury, is fully appreciated by modern syphilis-therapy, and the value of this drug is based upon the fact of its destructive action upon the Spirochaete, the number of which in the blood is said to decrease constantly in proportion to the duration of the mercurial treatment, and in proportion to the immunity of the organism against the excitors of syphilis, an immunity which is brought about gradually by the introduction of mercury. Hence even from a modern point of view, the old method of mercury-rubbings, known already in 1507, is to be considered justified and is to be regarded as one of the safest methods of treating syphilis. The more specifically active mercury-molecules are able to transgress the body, without developing too strong a toxic action, the greater will be their effect in an antisiphilitic cure. There is no safer way of arriving at this end than by rationally applying suitable bathing-and drinking-cures at the mineral springs, among which the sulphurated and muriatic thermal waters must be mentioned in the first place.

Observations of centuries have proved beyond any doubt that mercury has a remarkable effect upon syphilis. Many attempts have been made to explain theoretically how this effect is brought about. May be that hydrargyrum acts as a katalysator, as all heavy metals do, i. e. as a conveyor of oxygen, promoting thus oxidation and producing a stimulus to the tissues which is necessary for the compensation of lesions produced by the syphilitic virus. On the other hand, it has been held that the syphilitically affected cell exhibits a special tendency for entering into a combination with the mercurial salts dissolved in the body-juices, and that this combination is retained in the cell up to the complete destruction of the virus. The advantage of a mercury treatment together with the simultaneous application of sulphurated and muriatic baths, would then be explained by the intensified metabolism in the body brought about by the baths. We may by a well-conducted bathing-cure combined with inunctions of blue ointment, introduce the mercury into the infected cells in the shortest way and in form of a slowly decomposing double-salt, and on the other hand, the elimination of the metal from the cells and the whole organism, in form of an innoxious sodium-chloride double salt may be attained under a splitting off of the proteid-molecules. We are thus able by combining both methods to keep the syphilitic organism for a long time under the action of mercury. By this way first an attenuation of the excitors of syphilis is arrived at, followed in a shorter or a longer time by a destruction of the poison, without exposing the organism itself to a mercury intoxication.

This axiom of "*non nocere*" is answered most completely, as experience has taught, by an inunction-cure. The method devised by Sigmund is applied most of all. According to this method, after a bath of 35° C (95,0° F) and half an hour's duration an inunction of 4 to 10 gr. of unguentum cinereum is made for 15 to 20 minutes, and the ointment left up to the next day. The order of rubbing the parts of the body, comprising in a course of five days the thigh, the leg, the back, the chest and the arms, is not as important as the manner of performing the individual rubbing. This being the most important part of the treatment must be left to the hands of trained persons, disposing of the necessary persistence and skill. The mercury rubbed in is always to be left on the skin from one bath to the other on the next day: the adherent portion is then washed off in the bath, and is replaced at once by a new inunction.

This method has been approved especially when combined with the internal and external use of the sulphurated-muriatic thermal-waters; and we may state, without exaggerating, that it is equalled by no other antisiphilitic method as regards safety, innocuity, and control. It is indispensable for all cases of malignant and

tardive syphilis, for syphilis of scrofulous, cachectic individuals, and for all cases of syphilis not agreeing very well with mercury. All the other variously recommended methods of introducing mercury, either by internal application or in form of hypodermic or intravenous injections or as an addition to the bath, were found inefficacious in severe cases, and are far inferior to the above mentioned method, concerning their curative power and the permanence of the effect, though the therapeutic value of these methods cannot be denied entirely. To be sure, cases may occur, though rarely, in which the inunction-cure has to be supplemented or aided by the subcutaneous application of mercury, cases in which the skin of the patient does not or not sufficiently reabsorb mercury, which can be demonstrated by examining the urine or the faeces. Such a cure is always indicated if recovery is not obtained by an inunction-cure.

Besides mercury iodine is of an undeniable value in the treatment of syphilis, although its effect is often only momentary and transitory. Nevertheless, iodine is an invaluable remedy for the treatment of tardive forms of syphilis, especially for gumma with ulcerative-necrotic breaking-down of the bones and cartilages, of the mucous membranes, for cerebral and spinal affections. It may be applied internally as a solution of potassium iodide, as Sajodin or Jodipin, or in form of the very powerful Jodipin-injections. The passage of iodine through the body-tissue is accelerated by drinking the proper mineral-waters and applying baths, and these auxiliaries also prevent the uncalled for by-effects of iodine, which in abnormally sensitive patients may often occur most acutely.

Of an undeniable value are furthermore the arsenic-preparations in form of subcutaneous injections, especially arsacetin. acetic. as recommended by Ehrlich in increasing and then decreasing doses. (See farther below.) Good results are obtained with arsenic-preparations in the presence of anaemia, which is often met with in syphilis, even a short time after the infection; but these preparations are also useful in people returning from tropical regions, affected with syphilis in combination with malaria.

As the mercurial treatment combined with a systematic bathing-cure is without risk and nearly the only antidote against syphilis, we may unhesitatingly subject incipient cases of syphilis to an energetic treatment; for experience has taught that this treatment has decidedly decreased the occurrence of the gravest forms of syphilis. If at any place of the body with or without a lesion, infection has taken place, the syphilitic virus is spread all over the body within a few hours. This cannot be prevented, neither can the toxic effect after an inoculation of the syphilitic poison and the subsequent general symptoms be checked by corrosions with carboic acid, by iodoform, rubbings with strong calomel-ointments (25—30%), nor even by a very early excision. This fact shows that an early and energetic mercury-treatment is required, especially if a swelling of the lymphatic glands indicates further spreading of the poison. The treatment should not be postponed until the occurrence of secondary symptoms, as if then it might be considered more effective. To be sure, the virus once introduced into the organism cannot always be overcome by the cellular activity of the organism, nor by the introduction of mercury; but the grave late effects often threatening life are prevented by an early treatment. The severe affections of the nervous system, of the spine, of the intestines, are observed less frequently after an interference at the proper time. If, however, the affection is established, a mercury-treatment has to be carried out frequently and for a long time, in this lingering disease; such a cure is agreed with best of all in combination with a bathing-cure, particularly at the sulphurated thermal-waters. As a matter of fact, the mineral-waters are a fortunate combination of various salts in a very dilute concentration, which in this dissociated form enter into combinations with the mercuric oxide, acting slowly but steadily, and being secreted from the body in a harmless form. Now this mode of action is most conform to the chronic course of the syphilitic affections, and it never gives rise to salivation, gastro-intestinal catarrhs, nephritis, albuminuria, and neuritis. — For how

long a time in chronic and obstinate cases with a tendency to relapses, mercury and iodine are to be given, when they cease to be efficacious, and when treatment should be interrupted, all this is a matter of experience. The positive reaction of the sero-diagnostic method of Wassermann, Neisser and Bruck, makes the existence of lues at the time of the examination very probable indeed. But, notwithstanding, clinical points of view will compel us, according to the individual case, to combat the sensibility of individual patients to mercury or to iodine, to interpose shorter or longer pauses in the treatment, and in the meantime to apply various kinds of thermal baths, hot douches, massage, steam-baths. The body is thereby prepared for a further application of antisymphilitic remedies. As a matter of fact, an organism which has been subject for the first time to mercurial treatment, will be far more sensitive than a case that has undergone long and repeated cures.

The thermal-baths are applied with remarkable success not only in obstinate forms of incipient or tardive syphilis of the skin, the bones, the nerves, and the intestines, but they are also urgently required for cases of congenital syphilis in the early as well as old age of life. Animals vaccinated with the syphilitic virus harbour the spirochaete often for a long time with or without manifest pathologic phenomena. In man too a similar condition of latent spirillosis may exist, in which the spirochaete remain latent in definite foci of the lymphatic glands and internal organs for a long time without causing general specific symptoms. The descendants of parents who have suffered or are still suffering from syphilis, and are later on affected by syphilis tarda, are under the influence of such a late syphilis. They are often, previous to the outbreak of the above mentioned symptoms, debile and poor in resistance, and are prone to intestinal or bronchial catarrhs or to affections classified under the term of serofula. An objective diagnosis is possible nowadays in as much as the above mentioned serodiagnostic reactions, not regularly to be sure, but sometimes give positive results in these patients. This is confirmed by the result of mercurial treatment at the sulphurated and muriatic thermal springs. The patients recuperate to a new life, they become cheerful and inclined to work and develop their mental faculties. Solely by the mercurial treatment, the congenital virus can be destroyed, the infectious foci abolished. The earlier this is accomplished, the better for the patient. For if we wait until specific lesions and symptoms have become manifest, unfortunate consequences will often enough result for the patient. Though some physicians may consider this view not absolutely proved, yet many have gone this way with the same result as those who finally have been compelled by specific symptoms to apply this method.

Which mineral-baths are best fitted for supplementing an antisymphilitic treatment? — Syphilitic patients all over the world are flocking to the sulphurated baths. This is explained by the experience that such a cure in German, French, Italian, Russian, even Asiatic sulphurated baths, can be carried out most conveniently. The first in rank are those health-resorts in which the bathing attendants have been trained by an experience of hundreds of years, and where the therapeutic methods have been developed in the most minute details. It is an open question whether the sulphurated springs themselves have a proper specific efficacy, which might be explained by the chemical properties of the easily decomposed sulphurated metals protecting the patients against the harmful effects of mercury, and enabling them to stand extremely great doses. The favourable effect of the baths may in part be explained by the experience of the physicians of the health-resorts, by the excellent provisions at the thermal-baths, by the skill and training of diplomated attendants, the confidence with which the patient, rid of his home-affairs submits himself to the treatment of the physician. Each health-resort has indications of its own, so to speak its own speciality, and that of sulphurated springs is, not in the last instance, syphilis. — The conduct of the patient after the cure depends upon individual circumstances. In the most cases, especially in young people, a regular life is the best after-cure. But there is one point to which the attention of the patients

cannot be drawn often enough, and this is, that there is nothing acting more detrimental upon the course of syphilis than an abuse of alcohol.

The question, so often asked by patients as to a definite cure, can be answered to-day more precisely than formerly. First of all, the discovery of the specific cause of syphilis, the spirocheate pallida, confirms the diagnosis in many cases: furthermore, serodiagnosis tells with great probability that a person has or has had syphilis, and we may assume, that syphilis is still existing if the result of the examination turns out positive. We are surely justified in such a case to continue the specific treatment, if we have to deal with parasymphilitic affections, with paralysis, tabes, syphilis of the nervous system, or cases of hereditary lues.

For the consent of marriage the serodiagnosis alone is not decisive. The negative reaction does not prove absolutely that a person is cured, nor does the positive reaction show that infectious syphilis is still existing. Future researches will as we hope throw more light on this problem. For the present, we must consider the absence of manifest syphilitic symptoms an important sign of a definite cure, and that, if during two or three years after the disappearance of the last symptoms no new phenomena of the disease have occurred, and if clinical observation has been supplemented by the result of the serodiagnostic examination. The sulphurated thermal waters and the thorough methods carried out at these places are known to have the faculty of calling forth signs of a perhaps still existing latent syphilis. It is an established fact that the occurrence of secondary symptoms after an infection is accelerated by a bathing-cure. But even in inveterate and hereditary syphilis occasionally conclusive marks are called forth by a bathing-cure, either in form of squamous syphlides, mucous patches, mucous ulcers, psoriasis of the palms, or the reopening of former infectious lesions, symptoms at the bony skull, or at the tibia, accompanied by rheumatic pains. The cure at sulphurated thermal-springs is therefore always of value for ascertaining the existence of syphilis.

Climatic cures are only indicated if tuberculosis is coëxisting. Grape-cures, cures with grape-juice, milk or whey are recommended in suitable cases.

Persons with whom relapses are to be expected within the first two or three years, are to be warned of going to the South, to the Riviera, Naples or Egypt. The warm climate, it is true, is of no effect on the course of syphilis, as is shown by statistics, but the long distance from home, and the neglect so easily occurring in travelling, have frequently caused considerable disadvantages. The same is to be stated of sea-voyages, as unpleasant experiences have taught.

Salvarsan(606)-treatment. Among the various substances in which Arsenic is reduced to a tri-valent combination, in place of a quinque-valent compound, Salvarsan (Dioxydiamidoarsenobenzol) is by far the most powerful remedy. Ehrlich seems to have arrived here at his aim of a *therapia sterilisans magna*, by which one single injection of a remedy shall destroy all the pathogenic agents, spirilla, in the organism, at least in animal experiments. It has also been shown in man that Arsenobenzol does not only combat the symptoms, but, moreover, that it is a true curative agent by which spirochaete may be destroyed in clinically and pathologically anatomic latent foci. If, nevertheless, the results obtained in man are as yet not equivalent to those in animals, we have to bear in mind that the dose the remedy is given in is too small, and the methods of administering the remedy too little elaborated as to allowing a definite judgment. But as a matter of fact, Salvarsan is a valuable auxiliary and a remarkable acquisition of syphilis-treatment. For we often succeed in curing initial ulcers after a few days, and in preventing sclerosis of the lesion by an intravenous injection. Maculo-papulous exanthemata in part with a wet and ulcerative surface may fade or dry and heal, leaving only flat pigmentations. Obstinate tertiary ulcers and gumma show cicatrization and disappear within three weeks. Pertinacious specific

angina with croupous coating become regressive in a remarkable way, and at the same time the general condition shows a noteworthy improvement. These are altogether facts proved by numerous reports in literature. Wechselmann states for example that in primary affections, in roseola, papules, patches, sclerodermatitis, the rapid result after one single injection is absolutely proved, and that the healing of malignant, tertiary or visceral forms (syphilis of the testicles, head-ache, epileptic conditions) is most astonishing. This does, however, not mean that we have to consider Salvarsan a panacea of syphilis. Warm baths, douches, steam-baths will always be of an unquestionable value, especially in combination with mercury. We emphasize especially those cases in which in spite of tabetic symptoms and cerebral affections the Wassermann reaction is negative. In these cases we should not recoil from a powerful mercurial treatment. The result of this procedure will, according to our own experience, fully confirm this view, while Salvarsan-injections often fail entirely. Ehrlich even claims that grave cerebral affections, functional disorders of the heart, angina pectoris, should not at all be subject to the Salvarsan-treatment.

The exclusive treatment of syphilis seems to be abandoned nowadays more and more, and an intermittent treatment with mercury is coming into favour. It is rational to begin with a Salvarsan-injection, and to give further injections in intervals of eight days, applying a mercurial treatment in the intervals. Dioxydiamidoarsenobenzol produces at the place of injection an individually very variable irritation which may persist for a long time, and often lead to a necrosis of the tissue or to considerable general disorders. But very frequently injections, especially intravenous ones are born without any pain, and produce no or no considerable by-effects. All these conditions are influenced beneficially by warm thermal-baths.

To summarize, we may say that Salvarsan is an important auxiliary and a remarkable acquisition of the treatment of syphilis, that, however, other methods of treatment are by no means rendered superfluous. As yet a definite judgment concerning Ehrlich's preparation cannot be formed. We have to take in account the various modes of applying the remedy, its contra-indications, and the duration of its effect. Even in the short time that has elapsed since this remedy has been applied, a good number of relapses and even fatal cases have been reported. The elaboration of the technic and exact dosage of the remedy, the proper *dosis curativa* (the quantity of Hata killing the spirilla with absolute certainty), all these things are still undissolved problems. The numerous publications of modern literature are witness of the zealous endeavours for arriving at a definite conclusion.

B. Chronic Mercurial Intoxication.

Owing to the precautions in the melting-works for quicksilver-ores and in the distillation of this metal, and owing furthermore to the good hygienic conditions of manufactories applying mercury, professional mercurial intoxications are nowadays met with extremely rarely at the health-resorts. In industry (quicksilver-mines, looking-glass factories, in the manufactory of barometres, thermometres, galvanometres, in the gilding-industry, in hat-manufactory) the mercurial vapours are the chief toxic agent, as all these occupations are done at high temperature. The metal adhering to the hands or clothes of the mechanics may give rise to acute and chronic intoxications. The observations made in mines and in industry have added considerably to our knowledge of the nature of chronic mercurialism of syphilis, in which mercury is known to be applied in the most various forms. In industrial poisonings, above all, the digestive organs are involved, and only after a continued incorporation of small amounts vomiting, tenesm, and diarrhoea are complicated by inflammatory swellings and ulcerative destructions in the oval cavity, by salivation, in brief by a *stomatitis mercurialis*. The white infiltrations and poorly healing ulcers are not always easy to be differentiated from specific affections

of the buccal cavity. Stomatitis occurs as an early symptom far more frequently in the medicinal application of Hg, and particularly in people being treated for syphilis. Some of these patients are extremely sensitive to mercury, no matter in which form the remedy be administered, internally, subcutaneously or by inunction. It is well known that a faulty cleansing of the body, the mouth and teeth, and uncleanliness promote the occurrence of a mercurial intoxication considerably. In these sensitive patients, however, the minutest dosis of mercury may produce symptoms, which do not at all involve those organs in which mercury is preferably deposited. Most frequently is to be observed an exanthema spreading over the whole surface of the body and healing only after weeks with a simultaneous profuse desquamation of the epidermis. One observes, furthermore, in the order of frequency, affections of the mouth, salivation, intestinal disorders, nephritis, neuritis. The general constitution, poor nutrition, former diseases do not seem to have any relation to the existence of such an idiosyncrasy. Whether it depends upon a local hypersensibility of the cells of individual tissues to mercury or whatever else, is not known. At any rate, for such patients a well-considered plan of treatment at the sulphurated and brine thermal-springs is required, in order to accustom the patients to the remedy so indispensable for them, and in order to have the molecules of hydrargyrum leave the body rapidly, and in a form not exerting too strong a toxic effect.

Nowadays, the mercurial stomatitis with its affections of the gums, the severe subjective complaints, the salivation, the foetor ex ore, and in high degrees with angina, ulcers of the tongue and buccal mucosa, and occasionally with necrosis of the maxillary margin, is found far more rarely and by far not in so dreadful a picture as in the first days of mercurial treatment of syphilis. Cleansing the mouth and the teeth, exercise in the open air, and a rational mode of life will always help in preventing this tormenting condition. Slight mercurial irritations of the gums and the mucous membrane of the mouth will disappear readily after omitting mercury, and still more rapidly after applying a suitable gargle, the most useful of which are alum, acetic acid, and potassium chloride in a 5 per cent. solution, dilute extract of gallnuts and hydrogenium peroxide (Merck). Painting the swollen gums with tincture of myrrh and Ratanhia at equal parts, with 5—10 per cent. silver-nitrate solution, painting epithelial defects and small ulcers with dilute chromic acid, with 5—10 per cent. cocain or eucain-solution or applying alcoholic emulsions of Anaesthesin will bring about healing and mitigate especially the subjective complaints. After a previous sluggishness of the bowels and disorders of appetite, severe colics, tenesms with haemorrhagic stools may set in unexpectedly during a mercurial cure. This uncalled for event will be checked by an immediate cessation of the treatment, by a thorough cleansing of the skin from adherent residues of mercury in a bath, if possible in a steam-bath, by a non-irritative diet, and by opium.

People with a poor nutrition, with a lowered resistance due to previous chronic diseases, and persons handling mercury may experience a considerable emaciation, become pale and extremely exhausted on account of the gastric disorders and the stomatitis aggravating the ingestion of food. For this condition a stay in a richly wooded region with a pure atmosphere, and the application of ferruginous waters are indicated.

In a repeated incorporation of small amounts of mercury in any form, the picture of a pronounced mercurial cachexia may arise, manifesting itself by an increased respiratory frequency, by anxiety and albuminuria. Symptoms of the central nervous system are often prevailing, especially tremor and paralysis of individual muscular groups of the face, of the extensor muscles of the arms and finally also of the legs (Tremor mercurialis). At the same time disorders of the mental condition of the patient are noticed, as a sensation of anxiety, restlessness, and hallucinations, a condition designated as "erethismus mercurialis". If these disorders of the nervous system are not too far advanced, a recovery by a bathing cure is possible.

Professional mercurial poisoning may be prevented by a good ventilation of the work-shops, by a stay in the open-air, careful cleansing in baths, and changing clothes before the meals, cleansing the mouth, and regulating the bowels; protecting the mouth during work by sponges supplied at the outside with a coating of finely distributed tin is also recommended. — For all cases of chronic mercurial poisoning thermal-baths, especially sulphurated thermal-baths are indicated. They answer a double purpose: firstly, they transform the metal in the organism into an innocuous form, secondly, they stimulate the entire metabolism and thus bring about a rapid elimination of the metal. The powerful forms of baths (douches, steam-baths) as applied in these health resorts, and the perfect bathing-technic at these places, particularly massage are, according to impartial opinions, advantages rendering these baths in chronic mercurialism superior to similar springs.

The value of an internal application of sulphurated waters and of muriatic springs can also not be denied. The mercurial albuminate deposited in the cells is transformed into combinations of a smaller molecular structure, and the elimination from the cells into the tissue-juices is facilitated not so much by the easily decomposed sulphurous alkalis, as by the hyposulphurous and sulphurous salts of these waters. The chlorides introduced excessively by the thermal waters, especially the sodium chloride, form in the blood, in the secretory organs, in the stomach, intestines, liver etc. solid salts with the mercury-molecules present in excess, which are not dissociated and, therefore, rendered chemically inactive.

C. Lead Poisoning.

In spite of the various technical applications of lead, chronic intoxications with this metal occur very rarely, and are still more rarely treated at bathing-places. The symptoms occurring in consequence of a long continued incorporation of small amounts of lead consist most frequently of disorders of the gastro-intestinal function, the so-called lead-colic, more rarely of disorders of the nervous system as lead-palsy, muscular tremor and anaesthesia. The cachexia of saturnism (*Tabes saturnina*) and lead-gout are rare forms of chronic saturnism of great pathological interest.

Sodium-chloride is the most rational and innocuous remedy for combating chronic lead-poisoning, and the content of such salts in a dissolved and dissociated form in most of the mineral waters renders them most suitable for treatment. The sulphurated-muriatic waters are, moreover, recommended especially, as very likely the lead in the organism is transformed into the harmless lead sulphide, by the internal use of these waters. — Part of the good result may, however, be due to the satisfactory bathing-technic, to the douches combined with massage and to the steam-baths.

III. Diseases of the Respiratory Organs.

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A. Diseases of the Naso-Pharynx, of the Larynx and the Trachea.

1. Chronic affections of the Naso-Pharyngeal Mucosa.

The chronic catarrh of the posterior pharyngeal wall with its follicular and acinous glands does almost without exception involve the nasopharynx and the nasal mucosa to a great extent. Hence these parts need particular consideration in therapy.

These catarrhs, though harmless in themselves, are distinguished by their being pertinacious and troublesome on account of the complaints they give rise to.

The treatment requires a thorough experience, and good results will only be obtained by physicians who know how to individualize. To be sure, a permanent result is mostly rendered doubtful by the reoccurring detrimental effect of the habitual mode of life, and a permanent cure is therefore not very frequent.

Anticipating here the knowledge of the pathological findings, and of the clinical symptoms of the various forms of atrophic, hyperplastic and transitional affections, we only wish to point to their relationship to the general constitution of the patient and to the condition of the respiratory organs. Therefore, the most favourable results will be obtained in a health-resort in which the local as well as general condition of the patient can be considered in therapy. If a local treatment has preceded the cure at a health-resort, in many cases a simple drinking-cure with or without inhalations may suffice as an after-cure, because the organism needing rest after exhaustive occupation may be benefited indirectly more rapidly and safely, than by a continued local treatment. In general all colleagues will agree with the following words of B. Fraenkel: "Above all, the local treatment is to be preferred. Nevertheless, I should not like to dispense with bathing-places and health-resorts. The results of colleagues practising at such places are superior to ours, even on account of the air. Moreover, they treat patients that are rid from their daily grievances and joys and have no other occupation than subjecting themselves to a cure. He who knows how to treat pharyngitis locally in the proper way at a suitable health-resort, will surely get good results. And this is the reason why local therapy should not be neglected in health-resorts, and physicians of these places should definitely quit confining themselves to the prescription of springs and the number of glasses the patient should drink. It is, therefore, decidedly a progress that nearly in all health-resorts measures have been taken to make use of the natural factors for the local treatment of pharyngitis."

The group of alkaline and alkaline-muriatic springs has proved especially useful in simple catarrhs of not too long a standing, if at the same time gastric catarrh and the condition of the abdominal organs indicate the application of these springs.

The muriatic drinking-waters are recommended preferably in a great irritability of the affected mucous membrane and in scanty secretion, which is stimulated in a mild way by the sodium-chloride, while at the same time the swelling of the inflamed mucous membrane is reduced; these waters are furthermore indicated in individuals of a lymphatic-catarrhal constitution, if dyspepsia, abdominal stasis, habitual constipation or simple hyperaemia of the liver are coexisting. At the same time the thorough application of muriatic baths, especially of carbonic-acid thermal brine-baths, are recommended in all cases for an inurement of the skin and for preventing frequent relapses by catching cold. In anaemic patients, too, the muriatic springs give as a rule better results in treating pharyngitis than ferruginous springs. This is true for the simple as well as the follicular pharyngitis.

The chalybeate springs are indicated only in pronounced anaemia or chlorosis with a distinct relaxation of the mucous membranes, provided the gastric digestion be intact.

Sulphurated springs are preferred if the pharyngeal catarrh has developed on the basis of a pronounced plethoric constitution, and if haemorrhoids, slow circulation and stasis in the portal circulation with subsequent congestive conditions, and great irritability of the vascular system are coexisting.

Very good results are obtained by applying sulphurated springs in some cases of inveterate dry pharyngeal catarrhs, and in follicular pharyngitis, after the atony of the mucosa has developed to some degree, and an abnormal irritability is existing. Sea-baths or continued influence of the sea-climate are advantageous for an after-cure.

Mineral-waters are in a very high degree adapted for inhalation-cures, in as much as they dilute and loosen the adherent sticky and tenacious mucus causing irritations and, by a direct and prolonged effect upon the mucous membrane influence favourably the tone of the relaxed vessels, the glandular apparatus, and the local metabolism of the mucosa.

The climate of a health resort is chosen according to the general condition. Atrophic processes, of course, require a moist air. In particularly obstinate cases even a winter-station in the south is indicated.

In the treatment of ozaena the primary disease, tuberculosis or syphilis, is decisive for the choice of a balneo-therapeutic method. The more powerful brine-baths and the muriatic iodine-springs are especially suitable for the tuberculous forms: a corresponding disinfecting local treatment cannot be dispensed with in this form, nor an antisiphilitic treatment in the other form.

2. Chronic catarrh of the larynx.

The alkaline and alkaline-muriatic springs are applied most advantageously in the simple chronic laryngeal catarrhs, occurring independently of a pronounced general affection on the basis of neglected acute catarrhs and of the gradually increasing relapses, particularly in singers, teachers, preachers, officers, barristers, in general in persons who have much to speak.

If the catarrh is of a longer standing, and a powerful stimulation of the mucous secretion and an increase of intestinal evacuation are indicated, the light sodium-chloride springs are recommended, and in case that the laryngeal catarrh is maintained by disorders of the abdominal organs, the same springs with a more purgative effect. At the same time, in such cases ample use is to be made of sodium-chloride baths.

For the chronic laryngeal catarrh in individuals with a lymphatic-catarrhal constitution or scrofulous disease, the muriatic springs and baths, especially the simple and carbonic acid brine-baths are recommended, as in these cases chief stress is to be laid upon preventing relapses by strengthening the skin. For complications with anaemia, chlorosis of development and anomalies of menstruation, or for reflex-affections of the larynx due to uterine diseases, the cautious application of chalybeate drinking or bathing-cures may be required, particularly if muriatic springs and baths, which are to be tried first in the majority of cases, have failed.

The sulphurated waters are recommended in cases for which the irritation of sodium-chloride or sodium-carbonate upon the affected pharyngeal mucous membrane may appear to be too strong in the individual case; furthermore, in pronounced nervous constitution, in an abnormal plethora of the abdomen, haemorrhoids, congested liver, tendency to congestion with an otherwise regular function of the digestive organs.

Sulphurated waters are also required if, just as in pharyngeal catarrhs, chronic laryngeal catarrhs are accompanied by atony and an abnormal irritability of the mucosa.

An addition of whey or milk or a whey- and milk-cure alone may be required in particularly severe irritative conditions of the larynx.

The drinking-cure with alkaline, alkaline-muriatic or less powerful sodium-chloride and sulphurated springs is suitably supplemented by inhalation of the vaporized mineral water.

Of great importance is the neutral effect of weak sodium-chloride solutions on granulating ulcerative surfaces which are cleared by the water, and the young cells of which are destroyed by rinsing the surface with pure water. As experience teaches, inhalations are, therefore, also recommended with weak sodium-chloride solutions in insignificant ulcers of the larynx, and in after-treatment, for example after the corroding effect of lactic acid etc.

Severe diseases of the larynx often contra-indicate mineral-water cures, and we must mostly confine ourselves to choosing a good climate (deep valleys, forest climate well protected against winds), milk- and whey-cures, and a suitable local treatment.

The alkaline-sulphurated springs are suitably applied against laryngeal catarrhs, with overfed and obese but vigorous individuals, if at the same time a

more purgative and withdrawing method is indicated, or if complicating gastro-intestinal catarrhs, swellings of the liver, chronic constipation etc. require the use of these springs.

As regards the climate we prefer places with a moderate and equable climate, perhaps also places in a medium altitude, but only exceptionally alpine stations. — For an after-cure a stay at the sea is often useful. Weak persons or individuals anywhere suspicious of pulmonary affections or a predisposition for such complaints need a stay in the south during the winter.

Complications of the laryngeal affection such as gout, syphilis or pulmonary consumption require above all the treatment of the primary disease. Neurosis of the larynx with hoarseness or complete aphony, the hoarseness of hysteria, the peculiar irritation of the larynx giving rise to the so-called sheep-cough are only to be treated by mineral waters if a catarrhal affection is coëxisting, otherwise only climatically by a longer stay at elevated or even alpine health-resorts.

Paralysis or disorders of motility of one or both vocal-cords yield best of all to electrotherapy, after the probably coëxisting catarrhal inflammatory swellings of the mucous membrane have been cured according to the above mentioned principles.

3. Chronic Catarrh of the Bronchial Mucous-Membrane.

The chronic bronchial catarrh is either the result of frequently recurring acute catarrhs or it appears as a complication of other diseases producing congestions of the bronchial mucosa (cardiac-affections, diseases of the liver and of the abdomen), caused by the latter independently as well as maintained by them after having been called forth by external influences.

The balneotherapy of the chronic bronchial catarrh is in the main analogous to that of chronic laryngeal catarrh. In recent and uncomplicated cases again, the alkaline and alkaline-muriatic springs are the most reliable means, particularly if, as it is frequently the case, simple gastric catarrhs with an abnormal formation of acid and light degrees of dyspepsia are complicating the bronchial catarrh.

In a prolonged affection, in a more profuse but aggravated expectoration, or in more severe irritations, disorders of gastric digestion, sluggishness of the bowels, plethora of the abdomen, simple hepatic congestion, the application of the weaker or stronger sodium-chloride springs is indicated; this is especially the case if the bronchial catarrh is to be considered a permanent complication of the above mentioned diseases, and if the entire constitution needs recuperation, e. g. also in complications of influenza. Likewise, carbonic acid sodium-chloride springs are indicated for individuals, especially of young age, with a lymphatic-catarrhal constitution or a simultaneous scrofulous disease; they are also to be preferred in chronic bronchial catarrhs of old persons (*catarrhus senilis*), with a simultaneous consideration of milk- or whey-cures.

For vigorous individuals with gastric catarrhs and the so-called abdominal disorders, hypernutrition, habitual constipation, swelling of the liver, and anomalies of gall secretion the alkaline-sulphurated springs are recommended, and that the thermal-waters, if a sparing procedure is indicated, the cold springs of this group, however, if more energetic interference is needed.

The sulphurated springs are applied in chronic-atonic bronchial catarrhs with an increased mucous irritation, scanty and aggravated expectoration, and if at the same time the condition of the abdominal organs (abnormal plethora in the portal circulation, haemorrhoids in a pronounced plethoric but still vigorous general constitution) ask for the application of sulphurated waters.

The dry bronchial catarrh (*catarrhe sec. Laënnec*) is also frequently improved by sulphurated waters, far more, however, by the mild mineral springs.

The alkaline and alkaline-muriatic springs are to be tried, if respiratory difficulties, especially severe paroxysmatal cough are complicating the

catarrh; sometimes the weak and tepid sodium-chloride acidulous-waters are also successful, if the above mentioned remedies fail.

In the bronchial catarrh of arthritic patients the method applied for the principal disease is asked for (see section ID).

In all cases the drinking-cure is to be supplemented by the corresponding baths, in a poor function of the skin, in mechanic obstruction of the abdominal venous system also by massage and hydrotherapeutic measures. For an after-cure grape-cures are recommended; but very frequently, after the catarrh is relieved or cured, the stay at the sea, for strong individuals also sea-baths for the purpose of inuring the skin and preventing relapses.

As to the climate, preferably places with an equable climate are to be chosen; according to the general condition also more elevated places with a forest-climate.

For the spring and autumn the health-resorts of the southern Tyrol, the banks of the Lake of Geneva, and the lakes of Upper-Italy are recommended; for obstinate cases a winter-station in the south.

B. Diseases of the Pulmonary Tissue and of the Pleura.

1. Chronic Affections of the Lungs, Residues of Acute Inflammations of the Pulmonary Tissue. Exsudates of the Pleural Cavity.

The complete resorption of exsudates into the pulmonary tissue itself and into the alveoli after fibrinous or catarrhal pneumonia and influenza is often delayed; more or less extensive consolidations of the tissue are left, due to a gradual connective tissue organization of the infiltrate which originally consisted of abundant red blood-corpuscles and leucocytes (acute and subacute induration). The lung does not expand completely, and the bronchial mucosa also remains in a condition of a chronic catarrh, chiefly accompanied by a continuous and often very tormenting cough with expectoration. The strength of the body and the general condition are not improved. The patients may in many cases remain free of fever, but in other cases the fever continues, though in a moderate degree, and the morbid picture resembles that of pulmonary consumption. It is sometimes hard to tell of what nature the excitor of inflammation is that acts upon the tissue. Chronic interstitial pneumonia without pulmonary tuberculosis or without tubercle-bacilli in the tissue, are not rare, even in cases in which there is a predisposition for tuberculosis.

These affections are especially obstinate if one or both of the lower posterior lobes of the lung were involved. The dullness and the râles are stationary for a long time, and the clearing up of the dull area occurs but very gradually. If extensive adhesions to the internal walls of the alveoli have not yet occurred, the connective tissue fibres penetrating the parenchyma like a spider-web may by and by contract, and the concerned pulmonary areas may thereby become patent again for the respiratory current of air. The conditions are, however, otherwise if we have to deal with the action of very virulent excitors of inflammation, and if a true pulmonary cirrhosis with a subsequent bronchiectasia develops. In the majority of cases, intestinal disorders, gastric catarrh, deficient bile-secretion, constipation etc. are coëxisting. — The treatment is the same as in pulmonary tuberculosis. The resting-cure is of great importance for processes going along with fever; furthermore care for fresh air, if possible transfer to a mild deep valley or forest climate, at the beginning in not too high an altitude. According to the predominance of catarrhal symptoms, we recommend the alkaline-muriatic springs, above all the mild sodium-chloride acidulous waters, the tepid sodium-chloride baths; if the bowels are to be stimulated, likewise the invigorating and purging sodium-chloride springs, and in addition milk- and whey-cures with an appropriate strengthening diet.

In a very poor digestion and a tendency to diarrhoea the mineral springs are also indicated. After reabsorption has taken place or after the severe irritative phenomena have been checked, inhalations of compressed air will be rational as a supplement to the spring- and bathing-cure.

For a definite inurement we recommend a stay in the mountains, at the sea, or also hyriatic procedures according to the general status. In the autumn a moderate grape-cure may be of advantage as an after-cure.

The exudates into the pleural cavity are nowadays so frequently removed by operation that they are rarer than before subject to mineral-cures. But even after the removal of exudates the expansion and capacity of the lung remain impaired, in as much as in disease of long standing consolidations may have developed.

The method of treatment is absolutely the same as for the residues of pneumonia. — If the removal of residues of pleuritic exudates is asked for, the greatest possible diuresis is to be aimed at by the drinking cure, and ample use has to be made of brine-baths in particular, as these baths influence the osmotic pressure of the blood, and thereby favour natural reabsorption.

The laws of osmosis may theoretically explain the empirical facts that exudates are removed by the action of drinking-cures and baths; but as a matter of fact, the details are still unexplained.

Finally, we should like to call attention to the fact that, as is shown by experience, pleurisy is often the first symptom of tuberculosis; in these cases a very careful simultaneous treatment of the primary disease is indispensable.

2. Tuberculosis and Pulmonary Consumption.

The ingenious discovery of R. Koch that the excitor of tuberculosis is a specific parasite, has revolutionized the pathology of the concerned diseases, and has rendered possible a uniform consideration of these. This conception can in the main be pronounced by the following theses: Without tubercle-bacilli no tuberculosis. Whoever evacuates tubercle-bacilli with his sputum may convey his disease by these expectorations to other individuals. Tuberculosis is, therefore, an infectious disease.

There is no doubt that this knowledge was a great progress, but its value for practice is nevertheless not quite equal to its theoretical significance. The discovery of the tubercle-bacillus has placed us before an abundance of new problems which to a great extent are still undissolved: new questions have been brought up, before the old ones had been answered. To be sure, the practitioner has acquired exact diagnostic auxiliaries and invaluable methods, but at the same time new doubts have arisen. Although the excitor of the disease is well-known biologically, and can be traced at any time by many accurate methods, the decision and clearing up of the question by which way the tubercle-bacillus really enters the human organism, has not advanced as far as laboratory results. We must emphasize, above all, that the animal experiments, the results of which are partly dependent upon the individual resistance of the concerned animal species, partly upon the unnatural conditions of infection, do not appear suitable for being applied to corroborate the observations made at the bed-side and in human pathology. The ports of entrance into the human organism may be different for the tubercle-bacillus. It is firmly established 1) that in man tuberculous infection occurs by inhalation, 2) that a very low percentage of cases are due to primary intestinal tuberculosis, and 3) that the other sources of infection, skin, genital organs etc. — at least as regards the general spreading of tuberculosis in the body, are pretty insignificant. But even for the cases of primary pulmonary and intestinal infection two things are to be considered — viz., that apparently more than in most of the other infectious diseases individual peculiarities are favouring or preventing the infection as well as its spreading and, furthermore, that tuberculosis and consumption

are by no means identical, that an enormous amount of cases of tuberculosis may recover, very often without having produced any symptoms at all.

The attempts of producing tuberculosis by the inhalation of dry vaporized sputa, have always been negative. An inhalation-tuberculosis is only produced if conditions are existing which cannot be compared with the natural conditions prevailing in the infection of man. But even as droplets spread about from liquid particles of sputum in sneezing or coughing, the tubercle-bacilli do not seem to be easily transferred. Tuberculous infection from person to person is also in this way very rare, and it has been proved by experiments that holding a handkerchief at the mouth when coughing will render infection rather difficult, if not utterly impossible. The tubercle-bacillus under normal vital conditions is rapidly destroyed by the weakening and bactericidal influence of air and sunlight. The saliva contains bacilli but rarely, and the expiration air of consumptives is free from bacteria. Moreover, the organism is provided with natural protective means, in as much as all inhaled particles from dust are moved upwards by the ciliary motion of the epithelium. For estimating the danger of infection the statistical fact is noteworthy that the mortality from tuberculosis in the native population of a health-resort does not increase even if the place in question has been visited for years by tuberculous patients. And as another argument we wish to mention that for example laryngologists have not become consumptives in spite of their being more exposed to tuberculous infection than other people on account of the numerous examinations of a tuberculous larynx. Even those who have up-to-day advocated inhalation-tuberculosis acknowledge nowadays that the clean consumptive patient is not dangerous to adult people in common intercourse. There is, consequently, no objection to allowing consumptives to live with healthy individuals under the observation of hygienic rules, and to having consumptives stay at institutes and health-resorts being of good standing as sanatoria for consumptives and in which, contrary to other places, all hygienic measures can be carried through far more exactly. It is an established fact that infection by way of inhalation cannot occur as frequently as was generally held before, and that this mode of infection can only be conceived if enormous amounts of bacteria are introduced. It is furthermore known that the invasion of individual bacteria is borne by the organism without any harm, and that as regards the virulence of the bacilli, not only the quantity but also the quality always is of great significance.

The infection of the intestines plays but a very insignificant rôle in adults as a starting point of primary tuberculosis, while it is a very frequent and often grave complication of open tuberculosis, perhaps not rarely caused by swallowing sputum. As to its significance in children there was a great difference of opinions for a long time. In districts where raw milk is being used, a relatively very high percentage of primary intestinal tuberculosis was found in children. At any rate, intestinal tuberculosis of children is in general far rarer than primary tuberculosis of the lungs, and if it is combined with the latter, there is mostly a primary pulmonary infection coexisting. It occurs pretty frequently in children that tuberculosis of the lungs or of the intestines is relatively insignificant, or heals perhaps entirely, while that of the regionary lymph-glands develops so enormously and becomes so stationary that it, in the further course or even from the very beginning, predominates in the morbid picture, and brings about other complications, above all basal meningitis or miliary tuberculosis.

An indisputable determination of the portal of entrance is extremely difficult. For owing to the slow development of tuberculosis, the locus or the time of infection can no more or not very safely be detected when the first distinct symptoms become manifest. Moreover, the pathogenic properties and the virulence of the tubercle-bacillus can be preserved in the animal organism for a long time even in a latent condition.

The digestive apparatus of the new-born may readily offer entrance to bacteria on account of the great permeability of the mucous membrane, not protected by

ferments. Therefore, not long ago v. Behring has advanced the theory that the infection with tubercle-bacilli does only produce disease if the bacilli had been ingested in infancy, that the source of pulmonary consumption is an infantile infection producing a predisposition for a later infection.

As a matter of fact, experiments have shown that genuine protein bodies, the immune sera, even bacteria from the intestine of the new-born, are taken upon as by a very porous filter, that the digestive apparatus of the suckling, therefore, is lacking in protective means which in the adult normally prevent the entrance of pathogenic germs into the tissue-juices.

v. Behring ascribed to milk a great rôle as a carrier of immune-bodies, and he advised to immunize cattle in order to use their milk on account of its content of immune-bodies, in practice also for the immunization and treatment of children.

Neither experiences in man nor other data give a clue as to whether the assumption is right that the infantile infection supposed by v. Behring is healing without any symptoms. But we shall, nevertheless, agree with the intentions and proposals of this never resting investigator for immunizing in infancy, and we may be anxious for times to come. For there can be no doubt that by far the greatest majority of cases that have acquired tuberculosis in infancy, terminate fatally in early age, in part by progressive pulmonary tuberculosis and very frequently by meningeal affections or miliary tuberculosis, while the tuberculosis of adults is generally verging to a more favourable, at least protracted course.

The tubercle-bacillus alone cannot be the cause of the breaking out of tuberculosis; the tubercle-bacilli can only become pathogenic if they meet with certain conditions in the organism. The practitioner will never be able to dispense with the notion of predisposition, not only in tuberculosis, but also in various other infectious diseases. Furthermore, practical experience contrary to theory has shown that even in predisposed individuals a particular accidental cause is necessarily active in the breaking out of the disease. Accessory factors of this kind are anaemia, all affections bringing about a weakening of the constitution, such as puerperium, diabetes, syphilis, grief and sorrow, generally alterations of the entire mode of life; furthermore catching cold, residues of former inflammations, measles, whooping cough, and particularly influenza.

A real germinative infection has as yet not been proved; in the rare cases of intrauterine infection a placental infection is brought about by the tuberculosis of the placenta. Inherited infectious diseases do not exist at all. Tuberculosis is hereditary not as a disease but as a morbid disposition, the latter being a permanent danger, and mostly decisive for the destiny of the individual. Predisposing factors are especially a so-called phthisical thorax, the structure of the upper chest, the abnormal shortness and the ankylosis of the first rib in the sternal-joint, with the subsequent rigidity and the insufficient ventilation of the superior portions of the lungs.

If the bacillus has invaded the organs and has found a favourable medium here, the proteid-substances produced by the microorganism will call forth a reaction of the involved tissue, and the picture of a productive inflammation will develop. This becomes manifest in three forms — viz., 1) proliferation of tissue as a result of the formative irritation; 2) exsudative inflammatory processes, leucocytic infiltration (focus-reaction). In both forms the connective tissue- and epithelial cells proliferate, and a profuse invasion of the affected parts by leucocytes sets in. The leucocytes on their account, perhaps also the tissue cells, produce bactericidal substances, protective bodies, which have the purpose of modifying the microorganism (opsonines); 3) necrosis, coagulation-necrosis, the well-known tissue- and exudate coagulation designated as caseation which is frequently followed by the deposit of lime as a result of the coagulation. Now the secondary invasion of other pathogenic microorganisms takes place, the invasion of streptococci, staphylococci, influenza-bacilli. The phthisical process, therefore, is not of a uniform character. Moreover, the clinical picture of phthisis is mostly the result

of the concomitant action of schizophytic fungi producing suppuration and fever, that is to say the so-called mixed infection which is the true destructive factor of pulmonary consumption.

We designate tuberculosis in which tubercle-bacilli are found in the sputum, as an open tuberculosis, and tuberculosis in which tubercle-bacilli are absent, as a closed tuberculosis.

Concerning the tuberculous infection of the air-passages most of the pathologists agree in assuming that, above all, the central bronchi are involved. In adults the superior lobe is most frequently affected (in children, however, very frequently the lower lobe primarily), especially the *ramus apicalis ascendens* for which the conditions are particularly unfavourable as it is very steep, and forms an acute angle with the chief bronchus, and besides is often slightly kinked off. At this place, therefore, catarrhs of long standing are prevailing, whereby a predisposition is established for the fixation of tubercle-bacilli.

As we know, Robert Koch has emphasized the difference of human and bovine tubercle-bacilli. But we know to-day that bovine tuberculosis is transferable to man, and human tuberculosis to cattle, and that the *typus bovinus* seems to catch more readily in the digestive tract, preferably in children, the *typus humanus* more easily in the respiratory tract. Besides the tubercle-bacillus of mammals there exists also a bacillus of cold-blooded animals, and a bacillus of poultry-tuberculosis. The question of the variability of the individual forms of tubercle-bacilli and their probable differentiation into different species, varieties, or types, has as yet not been dissolved.

The predominating infectious germ of man is the tubercle-bacillus occurring in man. It has a fatty wax membrane which protects the bacillus so to speak like a cuirass and renders it extremely resistant. Certain forms of bacilli frequently occur in human sputum which exhibit peculiarities of growth and, above all, considerable differences of virulence. When inoculated upon guinea-pigs, to be sure, the same variety develops which produces suppuration of glands and, finally, nodules in the lungs, but this tuberculosis does only lead to a fatal end after months. Such forms of lowered virulence are not rarely the cases to show up with at health-resorts or sanatoria.

If the course of human tuberculosis is slow in general, a newformation of connective tissue may stop the tuberculous process, encapsulate it, and lead to the formation of a callus and to a subsequent cessation of the disease or to a spontaneous healing. This is the daily experience in pathologic anatomy. For in most people that have not died from tuberculosis and who during life have shown no or but insignificant disorders of health, scars and healed tuberculous foci are to be found.

Judging from the present status of the question, one must admit that the dangers to which theory has pointed, and which have given rise to so much excitement and care, cannot be confirmed for adults. Medicine in all is an empirical science; scientific researches should always take in account experience based on practice.

The prophylaxis of tuberculosis is a part of the domaine of hygiene in the broadest sense of the word, as all that is aimed at by and elaborated in hygiene, is also directed against tuberculosis.

It is self-understood that an organism lowered in its resistance will be affected far more easily than a body in its full vigour, and that the danger of being affected is reduced in as much as a suitable prophylaxis is carried out. It is, therefore, our aim to secure for the body a normal resistance against the strenuous struggle for life in cases of congenital or acquired predisposition, and after weakening diseases. The factors coming into consideration are a regular, invigorating and not too copious nutrition, by which the lungs are rendered more resistant, and the cardiac muscle is strengthened; furthermore, rest for the body and fresh air, suitable clothes, muscular work adapted to the individual case and inurement by air and water.

We also try to influence the development of the thorax especially at the early time of going to school, by systematic breathing exercise and proper carriage of the body.

The chief aim of prophylaxis is nowadays immunization by means of tubercle-bacilli of man and related species. But in spite of the numerous attempts of obtaining a direct or indirect immunity by tubercle bacilli and their products, none of the methods as yet known has been successful in man in a somewhat safe and harmless way. Von Behring recommends, as mentioned above, for the solution of the problem of a rational milk-hygiene, the immunization of cattle in order to convey by the milk of highly immunized animals the protective bodies on man. The fight against tuberculosis would then begin in the earliest childhood.

The principal task of prophylaxis is, of course, destroying the tubercle-bacillus and preventing of its spreading about. Therefore, it is indispensable that, even in simple cough, everybody may empty his sputum if possible into a spittoon and, when coughing, hold a handkerchief at his mouth.

An early diagnosis is of great importance. Besides the clinical methods of investigation, we have the tuberculin-test. The exploratory cutaneous and percutaneous reaction (less dangerous and troublesome than the conjunctival reaction) is probably qualified to be a substitute for the subcutaneous tuberculin-vaccination in childhood, but not in adults. The positive result of the percutaneous reaction (salve-test, Tuberculin Koch. Lanol. anhydric at equal parts 5.0) makes active tuberculosis in childhood very probable. The cutaneous tuberculin-vaccination according to von Pirquet by means of a vaccine-drill, is a simple and harmless diagnostic method for any stage of life; the tuberculous patient reacts with the well-known hyperaemic areola at the spot of vaccination (for adults undiluted tuberculin, for children a 25 per cent. dilution of Tuberkulin Koch. 2.5, Solut. acid. carbol. 10.0 is sufficient).

A positive reaction does not give any evidence of the seat of tuberculosis, and no clue as to the activity or inactivity of the process; it is even found in clinically non-tuberculous individuals. Moreover, the positive reaction simply allows to conclude that the body at any time and in some way has been infected by tubercle bacilli. The negative reaction is in general indicative of an absence of tuberculosis. Concerning the safety of diagnosis the subcutaneous tuberculin-test assumes the first rank. The tuberculin-test in general is considered a coarse diagnostic means, and is, therefore, of no significance in prognosis.

If sputum is present an exact bacteriological investigation is urgently required. The anti-formin-method gives absolute evidence, and is decisive in dubious cases, if it is performed exactly according to the prescription.

The treatment of tuberculosis is up to this time only to be based upon the results of many years of experience.

Clinical experience has taught that the quintessence of a successful treatment of phthisis consists in improving the general constitution. The strengthening of the organism is attained best of all by a dietetic and hygienic or climatic method.

The means at our disposal consist in improving metabolism, increasing the utilization of food, the improvement of environmental conditions, ample supply of fresh air (climate) and psychological influences. In addition to this, detrimental influences have to be eluded and concomitant diseases have to be cured. We must of course aim at a combination of the just mentioned factors; the treatment at suitable health-resorts and particularly in isolated sanatoria is, therefore, of old in the fore-ground.

As regards 1) nutrition, the condition of the digestive organs is of the utmost importance. As experience has shown, an efficient gastro-intestinal digestion has proved the best protection in combating tuberculosis. Yet it is not only important to have the patient gain in weight as much as possible, but it is also necessary

to increase his cellular material, his protoplasm, in order thereby to increase the resistance to a threatening decay of tissue, or to localize the process.

One of the fundamental factors of treatment is, therefore, the ingestion of a very substantial and variable food containing carbohydrates, albuminous bodies, and fat in proper proportions: this diet should, at the same time, aim at a most complete utilization of the food-stuffs. In poor appetite well-selected frequent and small meals are indicated. We should sometimes rely upon the instinct of the patient rather than on theoretical deliberation. We should, however, avoid great amounts of liquids, thin soups etc., on account of the useless distention of the stomach, particularly because in such constitutional anomalies a tendency to gastric atony is not seldom. If the digestive organs will stand it, the use of milk (always boiled) is recommended or of substitutes for milk, such as kephir, leguminoses, Hygiama, quaker-oats (porridge), Plasmón, Tropon, Mellins' food (Kindermehl) as an addition to the milk, furthermore Somatose, Nutrose, Odda, Eucasin, and the vegetable albumin Roborat, if possible between the meals, before going to bed and during the night. Furthermore, copious amounts of fat, fresh butter etc. are of great advantage; we wish to mention here that virulent tubercle bacilli, if at all, are very rarely found in butter from the market. The nutrition is also influenced most favourably by taking alcoholic drinks according to the individual compatibility.

A particularly important indication is the supply of air as free from dust as possible, and so 2) the open-air treatment (open-air resting-cure), the great significance of which in the treatment of tuberculosis has been generally acknowledged. But in considering this important curative factor, we must not forget that we should only strengthen the organism very gradually, as the consumptive is a very irritable and delicate patient. In combating his constitutional anomaly we have to bear in mind that the abrupt and brisk influence of a curative factor, however wholesome it may be, is an irritant which pretty often brings about a considerable deterioration instead of the expected improvement. We try, therefore, to procure the most favourable environmental conditions by which new obnoxious agents are most carefully precluded, and the morbid process and spontaneous healing in the lungs may run a course as undisturbed as possible. We have to avoid all chances of acquiring bronchial catarrhs and other colds, and any catarrh present is to be treated with the utmost care.

In the rarest instances, however, the hygienic-dietetic treatment will be compatible with the profession and the entire mode of life of the patient. We know by experience that the separation of the patient from his former environment and the transgression into new surroundings beneficial to the mood, are of the greatest value, as this is the only means of arriving at a strict obedience to the prescriptions.

It is, therefore, advisable to have the patient visit a place not too near to his residence, and to have him live solely in care of his health, remote from his former mode of life, from injurious influences, that have coöperated in the aetiology of the disease. In selecting such a place the climate will naturally be decisive above all, and we shall prefer capaciously built places, as, of course, the atmosphere is the purer the more distant from one another human dwellings are built.

The climatic conditions of places serving for phthisiotherapy, are different. Subalpine and alpine places as well as the sea are extremely stimulant to the organism, while the valleys, moderate altitudes, and the south are protected against wind, are free from abrupt change, and are distinguished by a uniform temperature.

Valleys and moderate altitudes in the summer, the south in the winter, offer opportunity for a sparing and very little stimulative treatment; the mountains and the sea, on the other hand, have from the very beginning an energetic and very stimulating effect on the organism.

We shall always keep in mind the clinical experience that only gradually increasing stimulants reestablish the efficiency of the tissue-cells, and that, on the other hand, the abrupt action of strongly irritant and exciting climatic factors involves

dangers not to be undervalued. A rational therapy will, therefore, always be individualizing, and will decide from case to case, whether a sparing or an exercising method is to be preferred. The former will enter into question as a beginning of the cure in weakly individuals in the initial stage, and further in cases with an advanced morbid stage. Patients for example who have just overcome the incipient inflammatory invasion and are still exhibiting a condition of weakness, must not be sent to places in which the climatic and changeable meteorological conditions, as alpine or sea-atmosphere, ask too much of the organs, even not if the physical findings have been but insignificant. The cure in the valleys and in medium altitudes is of use in as much as it does not only limit the disease focus and eventually bring about complete recovery, but also, above all, does strengthen the organism so far that it can be exposed without danger to the more powerful climate which, on its part, is more active in bringing about a definite cure than the level country. A cure in valleys in the summer is often to be followed by a winter-cure in the south. Both these cures are a preparation to the alpine or sea-cure. But entirely different are the indications for the mountains in winter on account of the change of climatic conditions. In this season good results may also be obtained in the alpine regions on account of the intense insolation and the much lower moisture of the atmosphere, provided that intermediate stations permit of gradually visiting and leaving the health-resort.

A winter-cure in alpine districts should, however, only be recommended if serious laryngeal or pharyngeal affections are not existing.

Although there can be no doubt that one climate is superior to the other, and that a patient may experience a more rapid and better result if the climate is adapted to his morbid state, sanatorium-treatment teaches, nevertheless, that a specific effect of a climate upon this disease does not exist. To be sure, the tuberculous patient may recover in any climate, provided that he lives according to the prescriptions, i. e. according to the degree of his constitutional irritability, to the reactive power of his organism; but just for this reason a cure can only be carried out successfully at a place that answers certain requirements as to climatic conditions, situation, condition of soil, and protection against winds etc.

About one to two decades ago, the so-called exercising method was en vogue with its curative factors: air, water and exercise, and it was extremely deleterious to thousands of patients that one had almost forgotten that the exercise-method should indeed only be the goal, and that the sparing method should be preparatory. Just as the treatment of circulatory disturbances, reducing-cures, and all the particularly remarkable therapeutic measures were often going the wrong tract, phthisiotherapy was also not spared of coarse errors. It is the merit of the treatment in sanatoria that conditions have been changed in this respect, and that the importance of a sparing treatment has been pushed to the foreground. For the treatment in sanatoria is, to begin with, a test of the power of reaction; the patient is not exposed at once to all the influences of the new mode of life, above all, not to the climatic stimulus; he is on the contrary gradually acclimatized; by moderating the climatic factors, for example, local climate! (by open-air resting cures in open galleries) the patient is protected against abrupt changes of temperature, loss of heat, catching cold etc.; with other words, the cells of the tissues are able to accommodate themselves gradually, whereas at open alpine stations or at the sea, they would perhaps have been exhausted. A rational open-air treatment alleviates metabolism and all functions, and thus improves nutrition. It is, therefore, recommended for the treatment of all forms of phthisis, and particularly for febrile patients.

For all phthisical processes mineral-water cures may be applied most advantageously; and so, balneotherapy being nowadays no more based upon mere empiricism, but such drinking-cures having an exactly scientific fundament, they should again be favoured more and more.

There can be no doubt that the quantities of water ingested into the gastrointestinal canal enter into action with the salt-solutions, the tissue-juices according to the laws of osmosis, that, consequently, the mineral-waters are able to modify the metabolism of the entire organism. They facilitate transport of the products of progressive and regressive metabolism; the stagnating tissue-fluids filling the organs are reabsorbed, the affected cells are rapidly destroyed, and new resistant cells are formed.

The mineral-springs applied in the treatment of phthisis are 1) the simple muriatic springs; 2) the alkaline and alkaline-muriatic springs; 3) the alkaline-mineral springs, and 4) the arsenious chalybeate springs.

The water assists, on the one hand, in ingesting and assimilating new substance, on the other hand, in dissolving and eliminating the consumed and wasted substances. A systematic drinking-cure is, therefore, similar in its action to body-exercise and may, therefore, for example be useful in an open-air resting-cure. It is advisable for many patients to drink smaller amounts of the mineral water during the day, in great intervals.

Anorexia and dyspepsia are common symptoms of phthisical patients. In such cases a drinking-cure may stimulate the gastric function, and regulate the intestinal function. As to the latter indication we wish to emphasize that e. g. muriatic springs are principally digestive remedies, and cannot be applied for the purpose of bringing about a strong purgative effect.

The muriatic springs are recommendable in a low secretion of hydrochloric acid, and in an increased formation of mucus. They bring about a considerable increase of hydrochloric acid secretion, a better chymification and a reduction of mucus. In these mineral cures fat may be taken abundantly, as it is readily utilised and absorbed under the action of the waters.

For the treatment of the concomitant catarrhs of the respiratory mucous membrane the above mentioned mineral waters have of old assumed a prominent rank.

Variations of the concentration of the blood increase the function of the kidney. If the osmotic concentration of the blood is increased, the tissue is freed of water, and an increased diuresis sets in. This reduction of water in the tissue brings about a diminution of the secretion of the affected bronchi, and as a result of this facilitates expectoration.

It was formerly considered an empirically established fact that mineral-water cures bring about an increase of mucous secretion and consequently a dilution of the tenacious secretion, and a facilitated expectoration. But in drinking-cures, prescribed in a favourable climate with a relatively high atmospheric moisture retaining the cutaneous and pulmonary water, the conditions are so complicated that the balneologist can hardly decide about the question as to which factor influences the 'solution' of the catarrhs.

The result of a drinking-cure will be the safer the more allowance is made to the individual judgment of the bathing-physician who is guided by the knowledge of the local curative factors; and also the more the method of applying the water is modified according to the individual case.

3) The medicinal treatment cannot be dispensed with. The same indication is valid e. g. for Kreosot, Guajacol, Guajacol-Somatose, Thiocoll, Sirolin etc. These substances, as experience has shown, improve the appetite and the nutrition.

During the past years the treatment with tuberculin has been more and more advocated even by physicians who had formerly looked upon this diagnostic means most sceptically and with great reserve. The tuberculin reaction is a specific tuberculous reaction, depending upon a hypersensibility of the tuberculous individual to the poison of the tubercle-bacillus. Tuberculin is, to be sure, no universal and radical remedy. It belongs to the group of those bacterial proteins which only produce a local inflammation (focus-reaction) in the specifically affected tissue, stimulating thereby the organism itself to form protective bodies. Nevertheless, it is able to influence a definite form of pulmonary tuberculosis in so favourable a manner, as no

other method of treatment is able to do. This has brought us nearer to a specific therapy.

We differentiate the means by which active immunity, and those by which passive immunity is aimed at. Active immunity is produced by introducing bacteria or bacterial products which bring about the production of specific protective bodies (antibodies) in the serum of treated individuals. This immunization, therefore, is indirect the organism being compelled to prepare its specific protective bodies itself, hence the designation of 'active immunization', according to Ehrlich.

By a 'passive immunization' we understand the immunization by means of a specific serum; the protective bodies produced by another individual are introduced into the organism; hence the designation of 'passive immunization'. — Of tuberculins the following different kinds are existing: Old Tuberculin and New Tuberculin, the bacillary emulsion. All the various tuberculins and tubercle-bacillus preparations have in general the same effect, probably only differing in quantity.

Old Tuberculin is the simple filtered bouillon in which the tubercle bacilli have grown; it contains, therefore, the substances soluble in the tubercle bacillus bouillon. Deny's tuberculin is the non concentrated Old tuberculin.

The bacillary emulsion comprises a group of preparations (Koch, Landmann, Beranek) which all have in common that they contain the substances of the bacillary body itself in an absorbable form. They are either prepared from human tubercle bacilli, or according to C. Spengler, from bovine tubercle-bacilli. As it was known that the tuberculins prepared from bovine cultures produced a reaction in human tuberculosis and vice versa, one was led to suppose that by introducing tuberculins prepared from bovine tubercle bacilli, preparations could be obtained which were less virulent but more effective. Undoubtedly, the bovine tuberculin (Perlsucht-tuberculin) is far less toxic and milder in its action than the tuberculin prepared in like manner from human tubercle bacilli.

Apart from active immunization it has also been tried to cure tuberculosis by passive immunization. Maraghano's immune-serum, Marmorek's Antituberculosis serum are well-known. Recently C. Spengler recommended the immune-blood treatment (IK), assuming that the principal places of the production and deposit of immune-substances were in the blood-cells, and that one only needed to liberate the great amount of immune bodies deposited in the blood-cells of artificially immunized animals.

It is still an undissolved problem which kind of preparation we should prefer. The disease as well as the individualities of the patients being so variable, it is not advisable to adhere to one preparation. Old Tuberculin does still assume the first rank; recently Koch's bacillary emulsion and the so-called sensitized emulsion (S B E. prepared by adding some tuberculosis serum containing antituberculin) are particularly recommended. — The principal requirement is to find by a careful observation of the temperature-curve and the subjective symptoms, the reactive limit of the patient, i. e. to give the just dosis, so that particularly strong reactions are avoided; for there is no organism, which is able to produce daily new protective bodies in the same amount, if new toxins are being introduced every day. The injections should, therefore, be given in due intervals.

It will always be difficult to recognize the result of a tuberculin-cure, as tuberculosis does often heal spontaneously and on applying hygienic-dietetic procedures.

Tuberculin-cure cannot be dealt with exhaustively within the limited space of this book.

For stimulating metabolism, and for strengthening and improving the power of resistance are suitable 4) cold rubbings with or without an addition of sodium-chloride, douches, exercise, respiratory gymnastics, for sensitive patients simple brine-baths and carbonic acid brine-baths with subsequent cold showers. These important curative factors should, however, always be under a thorough control and should always be individualized, and reduced to the proper

degree according to the principle: "the stage attained yesterday is to be the normal basis for to-day."

The reason for one place agreeing better with the patient than another one is to be looked for in the process itself, but often also in the fact that in applying the above mentioned curative factors the degree of the constitutional irritability and power of reaction of the organism has more or less been taken into account.

Unfortunately in many sanatoria too little attention is paid to this chief principle of phthisiotherapy: increase the power of reaction of the organism by a correct dosage of the active stimulants, e. g. in the open-air treatment. Thus many a good curative result is annihilated again.

Our knowledge of the more intricate processes of the tuberculous affection confirms still more how significant the sparing method is for consumptives. It is a matter of course that neither exsudative inflammatory processes (leucocytic infiltration) nor necrotic processes should be treated by distention or strenuous muscular exercise. But even in the productive inflammation and in cicatrization we should wait until the new formed tissue has attained some firmness. Of how favourable an influence is the silence-cure in laryngeal ulcers, the fixation in the surgical treatment of joints!

As to the beginning of the cure, the patient should be sent away as soon as possible, i. e. he should leave his domicile and be transferred to favourable climatic and nutritional conditions. It is, therefore, the most important task of the physician to recognize the disease as early as possible. The patient and the consulting physician should by no means forget that the treatment of pulmonary consumption requires a systematic and thorough cure, and that for its duration one has to figure on months or even years, and not on weeks. Under these conditions, of course, the chances for a good result are far better than in any other chronic disease.

Whether the patient is to be sent to an open health resort or to a closed institution (sanatorium), is all dependent upon the most thorough, particularly psychological consideration in the given case. The sanatorium offers the advantage of strict discipline, careful medical control and of a thoroughly regulated and suitable dosage of food and air. It is, therefore, urgently demanded for patients with whom there is no sufficient guarantee that the climatic-dietetic methods will be carried through as persistently and strictly as it is required. The patient will scrupulously observe a prescription, inconvenient as it were, in the sanatorium, because his fellow-sufferers give a good example, and because he is generally well-informed about the serious nature of his affection. The sanatorium, mostly located in the mountains, offers furthermore the advantage of combining the sparing method with the strenuous one, in other words, of applying all the auxiliary factors required for the favourable course of the disease. But, on the other hand, we should not undervalue the disadvantage of living in company of patients of the same kind.

The same result as in a sanatorium can be obtained by a climatic-dietetic treatment (systematic utilization of open air, excellent feeding etc.) in an open health-resort, provided that the duration of the cure is the same as in a sanatorium; we should, above all, correct the erroneous view that a cure might be carried out within six weeks.

Experience has shown that only patients should be sent to open health-resorts who have either been trained already by a treatment in the sanatorium, or who are willing to take great pains in thoroughly observing the medical prescriptions, becoming, so to speak, also here coöperators of the physician.

3. Asthma and Emphysema.

An emphysema may originate as a result of repeated attacks of asthma, both these diseases are, however, entirely different from one another. By the clinical

picture of asthma we understand a condition characterized by spontaneous attacks of dyspnoea, especially of difficulty in expiration, while no or at least no significant difficulty of breathing is existing between the individual paroxysms. An emphysematic patient suffering from continuous dyspnoea does, therefore, not suffer from asthma.

The true cause of asthma is not known. It remains to be proved that the disease is depending upon an anomaly of metabolism. The uniform opinion at present is, that the asthmatic attack is brought about by a particular predisposition of the nervous system, by an irritation of the respiratory centre and a subsequent spasm of the smooth muscles in the smaller bronchi. The nerve by which the spasm is elicited is the vagus. The irritation is either direct from the medulla oblongata or from the peripheral tracts (irritation of the vagus by congestions of the tracheo-bronchial glands) or by a reflex induced from various organs.

In order to denote precisely the place of origine of the neurosis in the given case, one has proposed to speak 1) of a reflex and 2) of an intoxicative asthma, instead of classifying as before into bronchial and cardiac asthma.

The reflex asthma is due to a neurasthenic predisposition. The attack may be elicited from the most various organs, from the stomach, the intestines, the sexual organs, the ear, and frequently from the upper air passages; in the latter case the irritation is due to an increased irritability of the nasal mucous membrane. We distinguish, therefore, a naso-pharyngeal-bronchial-asthma, furthermore an asthma dyspepticum, uterinum. If the cause of the disease is confined to individual zones or spots, the latter are designated as asthma-spots; sometimes the irritation eliciting the attack is but insignificant. The intoxicative asthma is brought about by organic alterations. Abnormal substances are formed in the blood by a reduction of oxygen or an accumulation of carbonic acid. These substances paralyse the respiratory centre and elicit the asthmatic attack. Cases of intoxicative asthma are asthma cardiale due to an affection of the vascular system, or of the heart, and asthma renale (uraemia) etc.

Into this group is to be classified congestive asthma, due to plethora or obesity; furthermore, the forms caused by mechanic factors. In the latter the inspiration of oxygen is likewise aggravated by a narrowing at any part of the upper air-passages, and as a result of this a carbonic-acid intoxication is produced. These forms are rapidly healed by eliminating the mechanic cause.

Hay-asthma and hay-fever are likewise forms belonging to the group of intoxicative asthma. They are due to the inhalation of the flower-dust of certain grasses. Dunbar has recently proved that pollen-grains of rye, barley, wheat, rice, and corn, contain substances by which all the symptoms of hay-asthma and hay-fever are elicited. But in this affection too the irritation of the respiratory centres can only be brought about on the basis of an individual predisposition. As a therapeutic method Dunbar recommends the subcutaneous injection of a pollen-antitoxine.

If there is no or practically no considerable impairment of breathing between the spontaneous attacks of dyspnoea, we designate the conditions as "asthma acutum", in contradistinction to "asthma chronicum" which, often persisting for weeks and months under the symptoms of dyspnoea, buzzing and whistling sounds, may disappear suddenly under the influence of a change of residence or a cure.

The spasm of the bronchial muscles is accompanied by hyperaemia, swellings and secretions of the bronchial mucosa; the secretions may be very tenacious, and may not rarely obstruct the bronchioli. (Charcot-v. Leyden's cristals, Curschmann's spirals.) One has, therefore, always tried empirically to liquify the tenacious bronchial secretion and to facilitate expectoration by inhalation of sodium-chloride, carbonate of sodium ($\frac{1}{2}$ per cent.), and by drinking-cures of alkaline-muriatic springs, of sodium-chloride springs, of alkaline-mineral and sulphurated springs. For the coëxisting stasis in the portal system the alkaline-sulphurated springs are likewise recommended, if the heart-action is strong.

A change of residence and a climatic treatment are very important. Unfortunately definite criteria as to the advantage of one or the other climate cannot be established. The matter can only be decided by a trial.

In general, we may recommend a drinking-cure with small and frequent doses in the beginning of summer, and in addition baths, especially carbonic-acid thermal baths (see "Emphysema"); in mid-summer exposed places of a higher altitude, even the pure mountain-climate of the Alps. The patients often agree with the fresh sea-climate, in as much as expectoration is facilitated, and the condition is perhaps alleviated by a reduction of the number of inspirations. But it is by far not always the altitude or the sea that is active. It has been found by experience that sometimes even the mere change of residence, going from one town to another, even the change of a house, or moving from places of high altitude to the plain, may give the most surprising results, and we may safely state that each asthmatic patient has his own private climate. The patient has to avoid as much as possible persistent catarrhs, colds which increase the bronchial irritation and impair the pulmonary circulation. This has to be considered thoroughly when choosing a health-resort. For the winter it is advisable to stay in a mild climate, on the Riviera, in Egypt or, with a sufficient power of reaction, at the alpine stations of Switzerland. A psychical treatment is also of a very favourable influence, and furthermore a definite mode of life, especially concerning the diet, as a disorder of digestion may elicit an attack. Sometimes the dietetic prescriptions may be combined most successfully with inurement-cures. Among the remedies arsenic, atropine, and potassium iodide (taken with milk) are the chief agents, that do good service in combination with mineral-water cures. Pneumatic cabinets and transportable appliances for rarefied and compressed air are also sometimes useful for alleviating the condition.

Very often the general treatment will not suffice, and the affection will only be alleviated or cured by a local procedure. It will always be our principal object to seek for the peripheral irritative spots, and to find their place of origine. It is, above all, necessary to care for a free nasal breathing by removing the swellings of the turbinates and of the nasal septum; furthermore, we have to examine the inferior turbinates, especially at their anterior margin, the adenoids, and the tonsils, and the lateral bands, and to treat these parts if necessary. We may then explore the nose in order to find asthma-spots and to apply galvanocautery for the latter, if they are still sensitive after cocaineization. It is sometimes only a small polypus of the nose not obstructing respiration, after the removal of which the attacks originating by nerve-reflexes may cease to appear.

If after repeated paroxysms of asthma an emphysema has developed, the treatment described under the following heading of emphysema is to be inaugurated

Emphysema.

For emphysema, the permanent dilatation of the lungs not complicated by more serious affections of the pulmonary tissue, baths are applied in compressed air (pneumatic chamber). For facilitating respiration we may also apply successfully Waldenburg's apparatus and similar contrivances for the inhalation of compressed air, and for expiration into rarefied air.

Balneo-therapy is only of advantage in concomitant chronic bronchial catarrhs and in complications of the abdominal organs, congestive catarrhs etc.: these conditions are often treated most successfully by the drinking- and bathing-cures prescribed for those diseases. The waters here coming into consideration are the alkaline-muriatic springs, the alkaline-mineral springs with inhalations of their gases, the simple sodium-chloride springs and the carbonic acid thermal brine-baths. The latter are to be mentioned particularly, as they produce a cutaneous hyperaemia by the peripheral irritation of the skin, and consequently discharge the internal organs and diminish the hyperaemia of the bronchial mucous membrane. If weakness of the skin is coexisting, massage and a suitable hydro-therapeutic method will also do good service.

IV. Diseases of the Heart, Disorders of Circulation.

By Medicinalrat Professor Dr. J. Groedel, Bad Nauheim

In the treatment of chronic affections of the circulatory apparatus climatic and, in some cases, also drinking cures used to be the sole therapeutic factors, while nowadays bathing-cures are being preferred more and more in the treatment of all the affections concerned here. To be sure, it is often very difficult to devise precisely the balneo-therapeutic methods particularly for these diseases with their extremely variable symptomatology, and we are often compelled to combine the bathing-cure with other therapeutic measures (dietetic, mechanic-gymnastic, medicinal). This is why all that has been said in the introduction with reference to the choice of a suitable bathing-station, is particularly valid here—viz. "that at many places special morbid states are preferably treated, and the physicians of these places have become specialists."¹

Drinking-cures are applied for cardiac diseases nowadays more rarely than formerly. They enter into consideration only in cases of cardiac affections in which the general condition is still satisfactory, and the muscular power of the heart is rather intact, and the valvular apparatus not profusely destroyed.

The drinking-cure is directed against the eventually coëxisting disorders of digestion and of intestinal function, or against the secondary congestive hyperaemia of the liver and the abdominal vessels.

The slightly purgative action of the potable waters of the sodium-chloride group is able to alleviate the condition sometimes in this direction, and likewise the careful application of bitter-waters.

For cases with adipous heart, especially in fatty desposits on the heart of obese, but vigorous individuals, the cold alkaline sulphurated springs as well as the sodium-chloride springs are indicated for drinking cures, and, if symptoms of anaemia are existing, mild ferruginous waters for an after-cure, and in some cases even for the principal cure.

In the drinking-cure we have by all means to take care that the mineral-waters prescribed do not contain too great amounts of carbonic acid; the latter has to be removed if necessary by heating or shaking the water, in order to avoid an uncalled for increased action of the heart. We should, furthermore, never prescribe mineral-waters in too great a dosis, and we should always try to deprive the body of an equivalent amount of liquid. From this reason the drinking-cure should be interrupted if the intended action upon the intestinal canal fails, as otherwise a sudden, though transitory plethora of the circulation may set in which may bring about a considerable excitement of the heart. For the bathing-cures applied in cardiac affections are preferably used the carbonic-acid thermal brine-baths, sometimes also carbonic-acid chalybeate-baths. The carbonic acid thermal brine-baths are sedative, they regulate the cardiac action and act decidedly as a tonic for the cardiac muscle. An unobjectionable strictly physiological explanation of this effect of the baths can as yet not be given. As a matter of fact, a precise and unhypothetical explanation of the action of baths and drinking-cures, and, as we may frankly confess, of many drugs in general, has as yet not been arrived at.

It is sure that by stimulating the peripheral circulation the cardiac action may be influenced to some extent. We may, furthermore, assume that the chemical¹⁾ and thermal stimuli acting upon the cutaneous nerve-endings may by reflexes also act upon the cardiac and vascular nerves. This assumption is based upon well-

¹⁾ In speaking of chemical stimuli we bear in mind those actions on the organism that are conditioned by the solid substances dissolved in water or by the gaseous constituents fixed by absorption, without thinking here of purely chemical processes. It has, moreover, been assumed that a percutaneous stimulative effect is to be ascribed to any substance, and that this stimulus, different according to the chemical quality of the substance is to be designated as a chemical stimulus. The teachings of physical chemistry have in the past years induced many investigators to accept various views concerning the physico-chemical processes involved here. These assumptions are, however, by no means proved. A theory advanced some time ago by Senator and Frankenhäuser seems to be very suggestive. According to this theory the stimulative effect of these substances is a

known experiments on other cutaneous stimulations and their effect upon the circulation, as well as upon observations on the influence of baths upon blood-pressure, respiration etc., finally, upon the irrefutable results of these bathing-cures. The latter can only be explained sufficiently by assuming a reflex action.

With the concerned baths we have free play in influencing the cardiac action from the periphery of the body by modifying the thermal and other stimuli in all degrees: We may sometimes act in the sense of discharging the heart of work, i. e. sparing the heart, or we may act in the sense of inciting the heart to an increased energy, i. e. cardiac exercise. The heart-muscle may be strengthened in both ways, either by sparing or by systematically stimulating the heart to increased energy. We have to lay more stress upon the one or the other of these ways according to the individual case. It is of minor importance of what nature the cardiac or vascular affection is; much more decisive are the degree of the cardiac weakness and the malproportion between requirement and cardiac efficiency.

According to this view, the above mentioned bathing-cures are indicated in all cases of disorders of the circulation in which it is our object to raise the capacity of a heart too weak for the prevailing conditions, no matter whether the circulatory disorders be caused by a valvular affection or by an affection of the cardiac muscle or of the vessels, or whether general disorders of nutrition (*Adipositas*) etc. are present.

If the affection is very much advanced, and if symptoms of an extensive degeneration of the cardiac muscle are existing, the best is to keep the patient at home or in the next neighbourhood of his home. It is certainly at times pretty difficult to decide how far the degeneration of the cardiac muscle has advanced, and, on the other hand, favourable results are sometimes obtained in quite desperate cases with far advanced disorders of compensation, by applying a bathing-cure, generally in connection with a medicinal, mechanic or dietetic treatment. We can not establish definite rules and principles, and the consulting physician will always have to form his own opinion as to whether in a given case some power of cardiac reaction to medicinal or other influences is present, before deciding whether it is still advisable to send the patient to a health-resort, in the hope of obtaining thereby an improvement of some duration.

As to the method of balneological treatment, experience has taught that the treatment must be different according to the causes of the circulatory disorder. A case of weakness of the myocardium is to be treated differently from such a case with arterio-sclerosis, and a patient with mitral insufficiency differently from a case with insufficiency of the aortic valves. The degree of the circulatory disorder is also, as mentioned above, decisive for the treatment.

If the bathing-cure shall be successful and any detrimental influence shall be kept from the patient, we have to supervise carefully the grave as well as the apparently light patients. It is with this kind of diseases far less practicable than with others, to apply the baths schematically. As the baths, according to what has been said before, have to be adapted to the individual case, not many general remarks can be made about the mode of application. The temperature of the baths should not be too high. In the most cases baths of 32¹/₂—34° C. (89.8—93.2° F.) are indicated at the beginning of the cure. By and by, we try to lower the temperature,

purely physical one, and is to be considered merely thermal, due to the heat-capacity and the heat-conduction proper to the individual gases and salts.

We may here also make some remarks on the radioactivity of mineral springs, and its significance especially for the treatment of circulatory disorders.

We do as yet not know much about the influence of radioactivity upon the human organism. Various observers have seen good results in rheumatic affections of the joints by artificial radioactive baths. We may consider it a sure fact or at least very likely, that radium-rays exert some influence on the physiologic processes in the human body. But it is yet to be left to future researches in what cases this influence is a favourable one, in what cases an unfavourable one, for which morbid conditions a powerful radiation, so to speak, and for which a weak radiation is indicated. But the fact is stated that those springs which are of greatest repute in the treatment of cardiac diseases have but a slight content of radioactive substances.

if it is borne well, down to 28° C. (82.4° F.), very seldom below this degree. For patients with an increased blood-pressure the cooler baths are contra-indicated. The duration of the bath must as a rule be the shorter, the cooler it is: we try, however, to prolong the bath from 5—8 to 10—15, rarely to 20 minutes. The baths rich in carbonic-acid allow a greater lowering of temperature, more than other baths, as by the peculiar stimulation of the carbonic acid a sensation of heat is produced, and the unpleasant effect of a cool bath is felt less distinctly. In contradistinction to the ordinary baths, these baths do likewise not produce so persistent a contraction of the cutaneous arteries and a subsequent stasis in the venous circulation; on the contrary, we mostly notice a profuse redness of the skin due to the stimulative effect of the carbonic acid, in spite of the lower temperature. This redness can only be explained by a dilatation of the peripheral arterial blood-supply. This fact renders in part the carbonic-acid baths superior to other baths in the treatment of circulatory disorders. The carbonic acid thermal brine baths are particularly in favour, as their natural temperature is most of all corresponding to the above mentioned degrees, and the most possible graduation and variation of the baths can be attained. If in a given case the cardiac action is to be alleviated, the salt- and carbonic acid content of the bath should not be too high, and the temperature has to approximate the point of indifference. A lower temperature of the bath and a greater content of ingredients stimulating the skin give rise to a greater activity of the heart. In carbonic acid baths, however, the vasodilatory effect of the carbonic acid will always counterbalance the last mentioned strain on the heart.

Since a few years the electric baths, especially the four-cell baths and the alternating current baths have been recommended for cardiac affections. It is sure that these baths in some cases do good service. But we must also admit that in other cases no result is observed, and in some instances the patients have even complained of disagreeable effects of these baths. We are as yet not able to form a definite opinion about their effect or about an exact indication for these baths. The principal source of errors in this mode of treatment is the lack of an exact measure for the dosage of the current. We can as yet only rely upon the subjective sensations of the patient during the bath.

As mentioned above, balneologic treatment in diseases of the circulatory organs is frequently combined with mechano-therapeutics.

A special kind of this treatment, the so-called Oertel-Terrain cure is frequently applied in some health-resorts and climatic stations — Terrain-cure places. This cure consists in having the patient walk systematically and daily for greater or smaller distances in the plain or on more or less ascending hills. The results are particularly favourable in circulatory disorders due to obesity. As to applying this cure for the treatment of other affections of the heart, especially of valvular insufficiency with incomplete compensation, we still adhere to the reserved and conservative point of view we have assumed from the very beginning in this question. Oertel's cure should only be recommended for the treatment of the above mentioned cases of circulatory disorder in general obesity or in adipous heart, as long as no high degree of dilatative hypertrophy has developed; furthermore, in insufficiency of the myocardium of anaemic patients with a general muscular atony, but never in the severe forms of anaemia or soon after exhaustive affections. In disorders of the pulmonary circulation and their effect upon the general circulation due to difformities of the vertebral column, to pulmonary retraction or to emphysema, an Oertel-cure may likewise be indicated and useful; finally, in some cases of cardiac insufficiency, especially mitral insufficiency, if the disorder of compensation is in the incipient stage, or if an almost satisfactory compensation has been attained by other preceding cures. The greatest caution, however, and strict supervision of the patients is required.

A similar kind of physical therapy in the treatment of circulatory disorders is the method of gymnastics, often superior to the Oertel-cure, because it is not

strenuous, easily dosed, and frequently applicable when an Oertel-cure would be impossible. On the other hand, we should like to avoid misunderstandings, and to state that the Oertel-cure cannot be substituted entirely by gymnastics, and that the former is to be preferred in circulatory disorders due to obesity, as it is decidedly more effective than gymnastics, if its appliance is possible at all.

The method of gymnastics is divided into three forms—viz., the passive, the active form, and resistance-gymnastics. The latter is of the greatest significance in the treatment of cardiac affections. It is carried out either manually — by especially trained persons — or by appliances as have been devised by Zander and Herz. They are being applied nowadays in the large towns of Germany, at health-resorts, and in the so-called medico-mechanic institutes. Gymnastics bring about an increase of circulation in the exercised muscles. Thereby the cardiac muscle is discharged of the venous blood, and at the same time the arterial circulation is improved, and the contractions become more vigorous. This strengthens and increases the efficiency of the cardiac muscle. Active movements, especially the more forcible exercises — overcoming a resistance — also furnish direct motor impulses to the heart. Just as with baths, the gymnastic method may either be sparing (slight resistance, passive movements) or training (strong resistance). If the prescriptions of gymnastic exercises are only given under a careful consideration of the individual conditions, and if excess and over-exerting the myocardium are avoided, we may often obtain very favourable results, especially in an additional application of the mentioned bathing-cures.

The results of Oertel-cures are, in the main, explained in the same way as those of gymnastics. The curative effect is, however, also ascribed to other factors, such as influence upon the respiration, perspiration etc., which here cannot be dealt with in details.

Another method practiced frequently at health-resorts is massage, usually applied as general massage. It is supposed to increase the circulation in the skin and peripheral muscles, to relieve venous stasis, and to facilitate cardiac work. Massage is frequently an aid to bathing-cures and to gymnastics, and is often a substitute for the latter, if — as it often occurs — gymnastics are not borne well, or are contra-indicated from the very beginning, as e. g. in higher degrees of arterio-sclerosis.

Pneumatic treatment — inhalation of compressed air in pneumatic cabinets — is sometimes applied for circulatory disorders, solely or in connection with bathing-cures. If the circulatory disorder is combined with pulmonary emphysema, or if the latter is the cause of the former, the alternating inhalation of condensed air and expiration into rarefied air may be beneficial. Oxygen-inhalation has apparently only a transitory and symptomatic effect in disorders of circulation. Further experience, however, can only permit of a definite judgment in this respect.

Concerning the withdrawal of liquids — a method recommended by Oertel for the treatment of circulatory disorders — we wish to state here that liquids, especially alcoholics, should always be ingested moderately by patients suffering from heart-diseases, especially in the stage of disturbed compensation. It is also very useful to reduce the intake of liquids in accordance with the output. This will surely have the most favourable influence upon other cures. But if applied solely, this method will almost always fail. For, in general, a thorough result can only be obtained by the simultaneous application of several methods as mentioned above (baths, massage, gymnastics, Oertel-cure) in connection with suitable dietetic measures.

Milk-cures in the mountains, at places of not too high an altitude, are also suitable for the treatment of heart-diseases, especially in concomitant albuminuria (in secondary albuminuria due to stasis, as well as in primary albuminuria due to chronic nephritis). As, however, the result obtained by this cure is, as a rule, not satisfactory, other cures will have to precede or to follow.

Climatic cures are applicable especially after having taken bathing-cures. Patients suffering from the heart will in general do better at places with a mild and uniform climate than at stations with a strongly stimulating one. An oppressive atmosphere, particularly heat is, however, not agreed with very well. On this account, a stay at the sea especially during the hot season (at places free from too rough winds) and in the mountains, particularly in the medium altitudes of the Alps, will be very profitable, chiefly after preceding bathing-cures. As a rule patients suffering from the heart should never stay for a long time at places higher than 3150 feet. This is in accordance with my own experience. But it is to be admitted that such patients may occasionally do pretty well in higher altitudes, while, on the other hand, altitudes of 2800 feet and below sometimes are not agreed with. When selecting a place, we shall always have to consider the general irritability of the nervous system.

This is particularly true with a class of patients that should be dealt with in the chapter on nervous diseases, i. e. patients with a nervous irritability of the heart (nervous palpitation, cardiac erethism, Neurasthenia vasomotoria, Neurasthenia cordis). Removing the patients from their environments, and sending them to a suitable climatic station may often be satisfactory (sea, Alps, the solitude of a forest etc.). In other cases, cool natural-baths, cool brine-baths, and if a more powerful stimulation is required, also carbonic acid thermal brine-baths of a low temperature are indicated, but, above all, mild hydrotherapeutic procedures.

V. Diseases of the Alimentary Canal and of the Large Abdominal Glands.

A. Chronic Catarrh of the Buccal Mucous Membrane (Stomatitis, Salivation, Ptyalism).

By Dr. *O. Thilenius*, Geheimer Sanitätsrat, Soden at the Taunus.

Chronic catarrh of the mouth is a complication of a chronic pharyngeal catarrh, more frequently of other affections, such as syphilis, mercurialism, dyspepsia. The treatment is, in the main, the same as for the primary disease. Stomatitis usually being associated to a hypersensibility of the mucous membrane, the alkaline, and alkaline-muriatic springs are indicated. They are substituted by alkaline sulphurated thermal-waters, if it is indicated by the condition of the stomach or, above all, by the pretty frequent chronic obstructions.

The tepid and mild springs of the sodium-chloride group also furnish good results. Springs rich in carbonic-acid are, however, too irritative, and are only indicated in inveterate torpid forms. Against an abnormal salivation, ptyalism, being mostly a reflex symptom of chronic gastritis, of affections of the sexual organs or hysteria, grape-cures have proved useful.

B. Catarrhs of the Stomach and Intestines, Nervous Dyspepsia and Habitual Constipation.

By Professor Dr. *Carl Dapper*, Königlich Payerischer Hofrat, Grossherzoglich Oldenburgischer Geheimer Medizinalrat, Bad Kissingen.

In no other group of diseases Balneotherapy, as far as drinking-cures are concerned, has, as we know, ever been of so great a significance as in the domain of digestive disorders. We may safely state that mineral cures in these affections have become an essential and indispensable therapeutic factor. In practice, a good deal of individual experiences and old traditions form a working basis, while the scientific explanation of the therapeutic effect is still unsatisfactory. But, notwithstanding, matters are comparatively favourable with regard to the scientific investigation of the balneotherapy of digestive diseases, as a great number of problems is open to experimental research in the normal and in the affected individual. Modern methods of examining the chemistry of the stomach, and above all the investigations

on the reabsorption of food and the influence upon metabolism, have amplified considerably our knowledge of the effect of mineral-waters. C. v. Noorden and C. Dapper have shown in the chapter „Einfluss der Mineralwässer auf den Stoffwechsel“) in tome II. of the „Handbuch der Pathologie des Stoffwechsels“ (1907), how much balneotherapy has profited from these researches. In this book the investigator will find a critical synopsis of all the facts. It is to be hoped that progress will be attained in the direction pointed to in that book. But as yet we are far from being able to explain scientifically all the empirical data referring to the balneotherapy of digestive disorders.

Instead of compiling the indications for the individual affections it seems to be more rational to discuss briefly the influence of medicinal-springs on individual, and particularly important processes. It is, however, necessary to rely solely upon the facts, and to neglect the theories.

1. Hydrochloric-Acid Secretion of the Stomach.

In a diminution of hydrochloric-acid secretion of the stomach due to residues of an acute catarrh, to chronic catarrhs, to the abuse of alcohol or tobacco, or to serious exhaustive affections of any kind the systematic application of weak sodium-chloride waters (0.5—1.2 per cent.) has a distinct influence upon the increase of the production of hydrochloric acid, and the total peptic secretion of the stomach. The sodium-chloride water mostly taken on an empty stomach, stimulates the gastric function, and this is favoured particularly by a slight content of carbonic-acid in the mineral-water. The effect is still more marked if the water is taken cold instead of warm. The amount of this water should not be too great. If in the main the hydrochloric-acid secretion is to be stimulated, it is a mistake committed pretty frequently, to give as much sodium-chloride water as would do to bring about the most thorough evacuation of the bowels. Regarding the result it is not indifferent whether, in the individual case, the strong or the weak sodium-chloride waters be given (in a concentration of 0.5—1.2 per cent.). Strict indications can, however, not be given in this respect. Nor are we able to state definitely how far small amounts of other salts contained in the sodium-chloride springs are active in influencing the gastric mucosa. The radium-emanation of such springs, however, seems to be of significance; at least the effect of increasing the secretion seemed to be the strongest in sodium-chloride springs containing the greatest amount of emanation. This is a further evidence for the old experience of the better effect of mineral-water-cures at the springs themselves.

The experiments of H. Strauss seem to have given sufficient evidence that according to an exact law, hypertonic solutions ingested into the stomach are reduced to a lower osmotic pressure by a “diluting secretion”, and are able to stay in the stomach for a longer time than hypotonic solutions. The latter are therefore “sparing” to the stomach, while hypertonic solutions are “irritative”. This was fully confirmed by recent researches of A. Bickel and others. Waters with a freezing-point lower than -0.6° are, therefore, to be avoided in gastric diseases associated with atony or a delayed emptying of the gastric contents. For the rest it is most advisable to adhere to the practical experiences of balneo-therapy.

When treating suitable cases, and investigating systematically the objective status of the gastric digestion by irrigations, one will be able to notice week by week, and sometimes day by day, a distinct diminution of mucous secretion under the influence of drinking cures. At the same time, the motor function of the stomach is improved, the appetite reappears, and the various symptoms are lessened. There are scarcely more grateful patients than these for drinking-cures.

Sodium-chloride waters have been a total failure in a hyposecretion of hydrochloric acid due to *Carcinoma ventriculi*, and in that form of a depression of gastric functions, which is designated as *Achylia gastrica*.

The question as to whether other waters similar to sodium-chloride waters have a similar stimulating effect on the chemistry of the stomach, can be answered

positively for one group of mineral-waters usually not applied for gastric affections. The waters referred to here are springs containing bicarbonate of iron and great amounts of free carbonic-acid. They use to be applied solely for chlorosis and other forms of anaemia. But I wish to emphasize that in some forms of hypochlorhydria with gastric atony these waters may prove just as beneficial as sodium-chloride waters.

Increase of hydrochloric-acid secretion. For the many various affections associated with an increase of hydrochloric-acid secretion (hyperchlorhydria), the alkaline waters have of old been preferred; above all, the alkaline-sulphurated waters of the Carlsbad-group, and the purely alkaline waters of the Vichy and Neuenahr-groups. They are in repute of not only neutralizing the acid present in the stomach, but also in a long continued use influencing permanently the intensity of the production of hydrochloric acid, and this effect is said to outlast the drinking-cure. These facts have indeed been confirmed clinically and experimentally, and can be proved again and again. Besides a thorough regulation of the diet which is a matter of course in all gastric diseases, there is undoubtedly no better means for combating certain forms of hyperacidity and its troublesome complications. We mention here, at the first place, the very frequent acid gastric catarrh, occurring above all in people indulging in an irregular mode of life and an excessive diet. We always find in these cases, in addition to the well-known subjective gastric disorders, a profuse secretion of hydrochloric acid, especially very high figures for the so-called excess of hydrochloric acid, a certain degree of atony of the gastric walls, a delay of the emptying of the stomach, and a slowing of intestinal activity. We may easily convince ourselves in these patients of the distinct influence of the treatment by systematic irrigations of the stomach. As a rule, the acidity of the gastric contents begins to decrease after a cure of about 8 days, and the complaints are less intense. These results are not only attained by applying the springs at their place of origine, but also, as most of the authors state unanimously, by home-cures. The treatment of acid gastric catarrh by means of alkaline mineral-waters is only to be resriced if a considerable degree of gastric atony and a dilatation of the organ with a considerable delay of emptying the gastric contents have developed. The patients have to dispense with drinking-cures until these disorders have been relieved by a most careful regulation of diet, by systematic irrigations of the stomach, and other measures. As to selecting the proper water it seems to me that it is one-sided to confine oneself to the simple alkaline and sulphurated waters, and at most to allow the waters of muriatic-alkaline springs. There is a general prejudice that these mineral-waters do not agree with the stomach. This may be true of some forms of gastric disorders. For the treatment of the simple acid gastric catarrh the alkaline mineral waters are to be mentioned in the first place.

The alkaline-waters (especially those of the Carlsbad-group) are not less important than for the acid gastritis, for cures after a successful treatment of a gastric ulcer, if it is associated with hyperacidity, as it frequently is the case. For the treatment of a fresh gastric ulcer, on the other hand, or for exacerbations of complaints due to a chronic gastric ulcer, other measures are assuming the first rank, so much so that the simultaneous application of an alkaline mineral-water is practically without any bearing on the condition. But in the later stages of treatment more stress is to be laid upon the application of the waters by which very often hyperacidity, delaying the recovery and favouring relapses, may be controlled successfully.

Experiences on nervous dyspepsia associated with hyperacidity show conclusively how erroneous it is to treat any form of hyperacidity with alkaline mineral waters. Many authors have warned against sending patients of this kind to Carlsbad etc. The gastric disorders are only improved temporarily, and the general nutrition, the constitution and the nervous tone are deteriorated considerably. But as soon as we depart in the mineral-cure of such cases from the scheme of

the so-called cure-diet (see below) and begin to adapt the latter more to each individual case, for example by allowing an abundance of fat, butter, and cream etc. in cases of a poor nutrition, the results will be very satisfactory. This opens a new field of work and success to the stations with alkaline springs.

For neurasthenics suffering from hyperacidity the application of weak cold sodium-chloride springs, in my opinion, seems to furnish better results than the alkaline and alkaline-sulphurated springs. C. von Noorden stated this in a lecture delivered many years ago at Homburg. He said: "There are numerous patients with hyperacidity of the gastric juice who will be highly benefited by prescribing to them the springs of Kissingen and Homburg. In such cases the following could be observed:

If the meal was preceded by 200 to 300 ccm Rakoczy or Homburg Elisabeth-quelle, the acidity of the gastric ingesta on siphoning was found to be lowered, and the complaints due to the production of acid were alleviated.

This favourable effect, indistinct on the first days, became more and more marked in a continuous use of the sodium-chloride springs. The hyperacidity disappeared, sometimes even a subnormal acidity was observed after some time.

If after a continuous application of the sodium-chloride water the hyperacidity had disappeared, it did not reappear after omitting the prescription. I have observed this remarkable result so often and so obviously, that I should not like to dispense with sodium-chloride waters for combating some forms of hyperacidity, and I would even designate systematic drinking-cures of this kind as the by far most powerful agent for combating certain forms of those functional gastric disorders which are so obstinate to treatment. To be sure, this favourable effect does not hold good for all forms of hyperacidity. This is, above all, a symptom complicating the most various diseases. My favourable results are mostly referring to young men suffering from gastric neurasthenia with a hypersensibility of the stomach and a fear of eating copious food. As a rule, the condition is complicated by a slight decrease of the gastric motility. These pathologic conditions of the gastric function always have an unfavourable influence on the general condition, and a rapid cure of the gastric disorder is urgently called for. In this respect the weak cold sodium-chloride waters are unexcelled. There are, however, other forms of hyperacidity that are decidedly influenced very badly by the sodium-chloride waters. We mention here above all, the hyperacidity of anaemic girls and the hyperacidity found in gastric dilatations with a pyloric stenosis."

I was able to confirm these statements later by numerous clinical and experimental studies (vide: „Ueber den Einfluss der Kochsalzquellen [Kissingen, Homburg] auf den Stoffwechsel der Menschen“ by Dr. Carl Dapper. No. 5 of Noordens Sammlung, klinische Abhandlung). How this effect, apparently contrasting to the increase of secretion in hypochlorhydria, is brought about may be left undecided here. The facts involved here are very complicated, as is demonstrated by the fact that salt-solutions do not only influence secretion and the motility when ingested into the stomach, but may also have a powerful influence upon the emptying and secretion of the stomach (Cohnheim), when, eliminating the stomach we inject the solutions into the duodenum. At any rate, we shall have to consider this fact in future in order to perhaps explain the contradictions. I am able to add that the favourable results are not only limited to the springs of Kissingen and Homburg, but also hold good for many other sodium-chloride springs. The waters of Soden at Taunus and of Harzburg (Krodoquelle) particularly have been investigated clinically and experimentally.

In the mean time, some arguments have been advanced against applying sodium-chloride waters in hyperacidity. There is, however, so little positive material in favour of these views that they need not be entered in here. One has also objected that the good results were due to a regulation of diet rather than to the spring-waters. In my opinion, it is not correct to bring both these factors in opposition to one another, for it is a matter of course in any mineral-water cure

to have at the same time the diet regulated and adapted to the individual case. The question is, whether in a given case the proper diet is influenced favourably by the simultaneous application of the spring. This is always the case, as I have experienced again and again.

2. Emptying of the Stomach.

A good deal of attention is to be paid to the question, how mineral-waters influence the emptying of the stomach. The exact experiments dealing with this problem are chiefly referring to healthy individuals or to a great number of animal experiments (Pawlows method). The results of these researches cannot be applied to therapy without restriction. The experiments carried out under physiological conditions, by Quincke, Jaworski, Kussmaul, Moritz, v. Mering, H. Strauss, V. Bönniger, Bickel, Meinel, Heinsheimer etc. have shown that the temperature as well as the quantity, the content of mineral constituents and of carbonic-acid are of influence upon the time in which the stomach empties the ingested liquids or food. It is also of some bearing, how rapidly the water has been ingested, what position the body is in, whether after drinking the water the body was kept resting or in exercise. These matters, therefore, are extremely complicated, and we can easily comprehend that many contradictory statements are existing which can be traced back to discrepancies in experimental conditions. In general the following statements can be made:

Small amounts of liquid stimulate the emptying of the stomach, larger amounts inhibit it, and very large amounts again accelerate the emptying of the stomach.

Hot drinks are emptied more rapidly than cold drinks. A carbonic-acid content of the liquid accelerates the emptying. The addition of small amounts of mineral constituents of various kinds also brings about an acceleration of the evacuation of liquids into the intestines. By a higher concentration, particularly in the presence of sulphates, the evacuation is mostly retarded. The tonus of the gastric wall is, as it seems, also greatly increased by mineral-waters, as experiments at C. von Noordens' clinic in Vienna (A. Müller and P. Saul) did show.

As mentioned above, these statements cannot be applied directly to morbid conditions of the stomach, and no indications for the application of the mineral-waters can be derived from these data. Experience has proved, that the common spring-water as well as all mineral-waters applied in a cure, stimulate to the same extent the motor efficacy of an atonic stomach, provided that they are taken on an empty stomach, in small amounts, and that the disease is of a slight degree. It will certainly be difficult to find out how far the curative effect is to be ascribed to the ingestion of the water, or to a careful regulation of diet etc. At any rate, it is a well established fact that spring-cures are a much preferred and approved means for slight degrees of gastric atony. For practice the following waters come into consideration: all sodium-chloride springs with a concentration of 1.5—1.2 per cent., the simple alkaline springs (Vichy-group), the alkaline muriatic (Ems-group), the sulphurated-alkaline (Carlsbad-group), the sulphurated springs, and bitter-waters. The choice of one of these groups will largely depend on secondary conditions.

3. Intestinal Functions.

If we ask ourselves what we know about the influence of mineral-waters upon the intestinal function, we must confess that, as a matter of fact, balneology has been based in former times upon superficial data only. Nevertheless, it is surprising how many conclusions have been drawn from superficial knowledge of the processes involved. If we wish to come to an end, we have to separate sharply well-established facts from theory and hypothesis.

Intestinal peristalsis. The most obvious effects are those on intestinal peristalsis and on the consistency of the faeces. This was as a matter of fact the only sure and unobjectionable experience at hand; for all that has been discussed and broadly dealt with on the effect upon the intestinal mucosa, upon the plethora

of this or that section, upon the nervous excitability of this or another part, upon inflammatory processes at various places with particular consideration of the various kinds of waters, all this could not stand the proof of scientific criticism. In other words, we have, to be sure, command of quite a considerable amount of empirical data concerning the balneotherapeutic influence on normal and pathologic intestinal functions, but we fail in explaining the mode of action in particular.

Disregarding all the theoretical conjectures in the problem, there is but one fact of the utmost importance, namely that mineral-waters are applied for accelerating the movements, for rendering evacuation more frequent, softer, and more fluid, and for combating too copious and thin evacuations. Both the stimulation and the slowing of peristalsis may be indicated from very different reasons, in very different diseases, and under very different concomitant circumstances. Hence it is obvious that there is scarcely any mineral-water as might not be applied under certain conditions for regulating the formation and evacuation of faeces. It is, therefore impossible to deal here with all the indications, and we shall confine ourselves to stating the most important experiences.

In acute diarrhoea due to acute toxic or infectious enteritis, to gastro-enteritis of various origine, drinking-cures are never indicated; only a transitory application of purging mineral-waters may come into question.

In slight degrees of acute constipation, subsequent to catarrhal diarrhoea, to slight gastric-catarrh, to changes in the mode of life, bitter-waters have been applied of old with excellent result (in quantities of 1 — 3 wine-glasses, to the best in the morning on an empty stomach); likewise some waters are in favour containing sodium-chloride in the main (more than 1 per cent.), and in addition small amounts of Glaubers' salt or bitter-salt. One cannot tell whether the one is to be preferred to the other; if such is stated, it is mostly for advertising purposes. The frequent use of these waters is not recommended, as the intestinal tract is easily accustomed to them.

Chronic diarrhoea has four principal causes which necessitate entirely different indications:

a) Chronic inflammatory processes on the mucosa of the large intestine (intestinal catarrh and chronic dysentery). It is a matter of daily experience that drinking-cures are here decidedly successful. For a considerable improvement or complete recovery (cessation of diarrhoea, raised tolerance for food-stuffs, relief of subjective complaints etc., cessation of mucous catarrh) is often attained if a mineral-water cure is combined with a careful diet, in cases which have not been improved by a preceding very strict diet, and many kinds of drugs without mineral-waters.

Various springs come into question in this respect according to the individual case. As a rule, hot springs are chosen or the water of cold springs is heated before being taken. The waters of the Carlsbad-group have proved best of all, and among these, in general, springs of a lower content of minerals better than stronger waters; furthermore, the weak sodium-chloride thermal waters poor in carbonic acid, the weak cold sodium-chloride springs (up to the concentrations of the Rakoczy of Kis-ingen, heated before use), in part also indifferent thermal-waters (Ragaz-group), and, as I wish to emphasize particularly, weak hot sulphurated springs (or cold springs after being heated), furthermore waters containing lime, for example Driburger Herster, and Caspar Heinrichquelle.

The cure consists mostly in taking 1 — 3 beakers in the morning. Some patients may take in addition a small quantity in the afternoon or before going to bed. The diet has to be adapted to the functional condition of the intestinal canal.

b) Next to inflammatory processes the nervous system plays an important rôle in the aetiology of diarrhoea, which often occurs in the most odd form. The very frequent "nervous diarrhoea" is a complication of neurasthenia, more rarely of hysteria, and is not at all suitable for the above mentioned cures. On the contrary, the latter may frequently deteriorate this condition. Much more stress is

to be laid upon a copious diet strengthening the whole body and inuring and training the intestines. Various kinds of baths, especially those rich in carbonic acid, are very much recommended (no matter whether sodium-chloride or iron are also contained in the water). If one wishes to allow a mineral water in addition to these principal therapeutical factors, for the purpose of a suggestive influence, the most suitable would be a weak sodium-chloride water.

c) For diarrhoea due to tumors, neoplastic or infectious intestinal ulcers, amyloid degeneration etc., balneotherapy is not strictly indicated. In individual cases, however, it may be desirable to maintain the hopes of patients by such cures. The baths will then be chosen in accordance with the secondary conditions.

d) Diarrhoea in constitutional diseases. This occurs sometimes, and then most obstinately, in morbid conditions of various kinds which usually are not associated with diarrhoea, without our being able to state its cause. Such diseases are for example various forms of blood-affections, especially leucaemia and certain cases of chlorosis, gout, diabetes. One does well in such cases to apply balneological methods according to the primary diseases, if local causes are to be excluded. In such cases, e. g. in diarrhoea of chlorotics, often rapid and excellent results are obtained.

Sluggishness of the bowels. The physician may frequently be asked to improve bowel-movements without a true sluggishness of movements existing. This is for example the case in numerous chronic affections of the respiratory and circulatory organs, in abnormal deposits of fat obstructing the circulation, in painful affections of the abdominal walls, in chronic affections of the sexual organs, in proctitic, and periproctitic affections, above all in haemorrhoids with a tendency to pain, haemorrhage, and the formation of fissures. These and other affections which by themselves have no relation to the bowel movements may be associated with a sluggishness of the movements; but even if this is not the case, a more active peristalsis, a softer consistency of the evacuated faeces may be desirable for the purpose of sparing the abdominal press and the parts adjacent to the intestines. In this respect mineral-water cures have occasionally proved successful (duration 3—4 weeks). The bowel movements are accelerated and facilitated at the time of the cure; moreover, a permanent effect may be obtained if the cure is carried out carefully. But of course the greatest caution is demanded, as the excessive use of purging mineral-waters is almost always followed by a period of constipation. For occasional and transitory effects the stronger bitter-waters will do (especially for use at home); for the true drinking-cures the springs with a small and a medium content of Glauber's salt compete with the somewhat more powerful sodium-chloride springs (from the concentration of the Rakoczy upwards), the alkaline-muriatic springs and the cold sulphurated springs being the most important, but the least considered factors. Although in the above mentioned and in many other similar pathological conditions it is but a symptom that is made the object of treatment, a symptom which is only in loose connection with the primary disease, the patient is nevertheless often benefited a good deal, because at the same time dietetic and hygienic measures are facilitated.

A second group of conditions of constipation is comprised under the term of habitual constipation. We understand with this a sluggishness of the bowels, not dependent upon morbid changes of the mucosa, the muscles, the intestines, the muscles of the abdominal press, nor upon anatomical residues of other diseases, but which are exclusively due to anomalies of the innervation of the large intestine. This is a frequent consequence of irrational food, of lack of exercise, and of the most various abnormal impulses of the nervous system. In habitual constipation independent of true intestinal diseases, it is not at all feasible to place mineral-water cures in the fore-ground; chief stress is rather to be laid upon a regulation of the entire mode of life, especially upon a proper selection and distribution of the food-stuffs etc. Very often the question is ventured nowadays, whether it is not at all wrong to have the patients go through drinking-cures. It would be entirely

wrong to confirm this. Such patients are undoubtedly benefited very much by occasional, not excessive drinking-cures (sodium-chloride waters, alkaline-sulphurated waters) provided that such cures are not repeated year by year as a matter of habit. But as stated above, the cure should only be applied occasionally. In addition to the springs quoted above and the dietetic and general hygienic measures, the following factors come into consideration: brine-baths, carbonic acid brine, chalybeate baths, occasional mud-baths, alpine stations, the sea-coast, and among the potable springs: the chalybeate waters.

Besides the so-called atonic constipation there is a second form equally dependent upon the nervous system, not due, however, to atony, but to spasmodic contractions of the large intestine. It is to a far greater extent than intestinal atony a complication of disorders of nervous function. Unless perhaps toxic influences are the basis of the condition (saturnism), it is almost always the concomitant symptom of other neurasthenic and hysterical symptoms. Together with a profuse secretion and a collection of mucus and with attacks of pain it constitutes the peculiar morbid picture of *colica mucosa**) Experience has shown that for this affection mineral-water-cures have to be dispensed with (especially of the Carlsbad- and Vichy-group). The weak sodium-chloride waters, and probably also the alkaline-mineral waters are the only springs which enter into consideration and are approved. Chief stress has been laid on the general and dietetic treatment for which the numerous health resorts with their excellent hygienic conditions, their copious food, and refreshing baths offer good opportunity.

The third group of the various kinds of sluggishness of the bowels comprises those forms in which the abnormal formation and movement of faeces is due to residues of anatomical affections of the intestines or the neighbouring parts, for example former intestinal catarrhs with diarrhoea, dysentery with scars and atrophy of the mucous membrane, adhesions and dislocations of intestinal loops by inveterate perityphlitis, hernia, or other similar peritonitic processes of the most various origine, by parametritis etc. These kinds of morbid changes or of residues present always necessitate care for a very regular and easy movement, as any stasis being not only troublesome and inconvenient, as in the common habitual constipation, but even becoming dangerous. Here is a very broad, most variable, and grateful field for the different forms of balneologic treatment. Although we are not able to analyse the processes bringing about an improvement, it is nevertheless a fact that very many patients of this group cannot experience a more obvious and permanent success — neither by a careful diet, nor by massage (gymnastics, drugs)—than by cures in which the use of mild or strong purging springs is combined with the use of mud-baths, brine-baths, chalybeate-baths, carbonic-acid thermal brines, natural springs and other hydro-therapeutic measures.

As in this chapter the diseases of the stomach and the intestines were dealt with, the chief consideration was devoted to the internal use of mineral-waters. It would be wrong, however, to neglect the other factors of balneotherapy at disposal, besides the drinking-cure. Of course, the indications cannot be as precise as for the internal use of mineral-waters. The diet (see below), staying out-doors, the proper dosage of rest and exercise, the correct choice of altitude, of the climate etc., play a great part in all journeys for recreation and recuperation; but particularly for the treatment of gastro-intestinal diseases chief stress has to be laid upon baths, rubbings, douches, and applications of the most various kinds. With the aid of these factors everybody who is familiar with the wonderful effects of hydrotherapy will have favourable results in cures which otherwise would have been a failure.

I should not like to conclude this chapter without mentioning my views on the "rational diet of mineral-cures". To speak about this subject is most suitable at

*) See on this subject „Ueber die Schlingkolik des Darms (*Colica mucosa*) und ihre Bedeutung“ by C. Noorden and C. Dapper (Bad Kissingen) No. III. Sammlung klinischer Abhandlungen von v. Noorden, Berlin 1903. A. Hirschwald.

this place, where we are dealing with digestive disorders. Adhering to a definite diet, requisite by the simultaneous use of a spring, has indeed been the subject of criticism, and has even served as a laughing-stock; a systematic criticism, however, has first been rendered possible by C. von Noorden's and my own material of irrefutable clinical and experimental experience. The first point of argument was that certain food-stuffs were banished from the table, if definite mineral-cures were prescribed — I do not wish to mention names here. The food excluded was, in the most cases, fat of various sources, especially butter, furthermore raw fruits, mostly all kinds of vinegar, while, I don't know from what prejudice, in contradistinction to vinegar, lemons were allowed in great quantities. The systematic elimination of these stuffs is by no means justified, as I wish to emphasize especially with regard to fat. Numerous clinical and experimental researches have been carried out in this direction, and an enormous amount of practical experience has been gathered at health-resorts the physicians of which used to be radical in eliminating butter. The proof found by us, that the use of sodium chloride springs and of alkaline-sulphurated water is not a contra-indication for taking copious amounts of butter, this proof is an achievement which is of the utmost significance for our health-resorts. For if one would have found that the digestion of fat or that other intestinal functions were considerably impaired by combining the use of mineral-waters with a copious ingestion of fat, one was compelled to keep away from those health-resorts all those patients with whom, apart from the favourable influence on any local affection, an improvement of the general nutrition is called for. It is a sure fact that an improvement of nutrition cannot be attained if fat is eliminated, even if the ingestion of albuminous bodies and carbohydrates is increased up to an extreme. There can be no objection to ingesting fat or carrying out an overfeeding-cure based upon a fat-diet. This broadens considerably the curative field of many mineral-springs. We should also like to mention here our experience gained by exact metabolic experiments, that a moderate use of the various springs does not impair the reabsorption of food. Loss exceeding normal limits is only brought about if profuse diarrhoea lasting for all the day has been produced.

A second point of argument is in relation to the first. We must not only very urgently claim that the proscription-list for certain food-stuffs be discarded, but also that at the health resorts the schematic mode of prescribing diets be abandoned. The same scheme which is supposed to answer the requirements of a mineral-cure is applied for patients with hyposecretion, and with acid gastric catarrh, with nervous dyspepsia, with gall-stones, with renal calculi, with chronic catarrh of the large intestine and with habitual constipation. Not the morbid condition, not the individual conditions, but the spirit of the springs is here the commander of the diet! Fortunately this schematic way of prescribing is being more and more abandoned, and serious studies on dietetic therapy are more and more considered the indispensable basis for a successful development of balneotherapy. This is of the utmost significance, and will advance balneotherapy considerably.

C. Gastrodynia (Nervous Gastric Pain), Chronic Gastric Ulcer.

By Dr. *Jacques Mayer*, Geheimer Sanitätsrat, Berlin (formerly at Carlsbad).

The nervous gastric pain is not rarely mistaken for chronic gastric ulcer, for a carcinoma of the stomach, gastritis, peritonitic adhesions, moveable kidney, dislocations of the stomach (gastroptosis), and gall-stone colics. The most precise diagnosis is, therefore, indispensable for determining the therapeutic method to be applied. For the diagnosis we must, above all, bear in mind that this gastric pain is entirely independent of pathologic organic changes of the stomach, and is solely caused by functional disorders of the sensitive gastric nerves leading to an increased irritability of the latter.

Gastralgia is always the result of a neurosis of the vagus. Idiopathic gastralgia which is independent of demonstrable anatomical changes as well as of motor or

secretory neurosis of the stomach, is very rare, in contradistinction to the secondary and reflex gastralgia. The latter is observed more frequently than the former, and is in the most cases due to a primary disease as chlorosis, anaemia, dyspepsia, anomalies of menstruation, uterine affections etc. Nevertheless, as much care should be devoted to its diagnosis as to that of the idiopathic affection, since the true causes of gastralgia are sometimes entirely obscure. The treatment should be directed, above all, against the primary disease. If chlorosis, or anaemia are present the use of chalybeate springs is recommended. The pure chalybeate springs are, however, not borne very well. It is, therefore, advisable to drink the alkaline or alkaline-saline ferruginous waters warm and in small doses. The main object is strengthening the total organism, which is often greatly advanced by applying ferruginous, carbonic-acid, brine and mud baths. The same is, however, often also achieved by a rational and systematic nutrition, perhaps by a milk-cure, by an open-air treatment, if possible alpine or 'sea-climate.

If gastrodynia is a complication of dyspepsia the simple alkaline and alkaline-sulphurated thermal-waters are recommended, and the simultaneous use of baths (sodium-chloride, ferruginous or mud-baths) will be an essential aid to the drinking-cure.

For the treatment of chronic gastric ulcers the simple alkaline thermal waters are very beneficial, still more the alkaline-sulphurated thermal-waters, particularly when taken in small amounts at different times of the day and of a medium temperature. Particular care is to be devoted to controlling the increased production of acid and to a proper evacuation of the chyme into the intestine, and far more to a regular bowel movement.

Special attention must also be paid to a careful regulation of the diet during the mineral-water cure. In selecting the food the hyperacidity generally coexisting in gastric ulcers is to be considered especially. The meals ought to be small and frequent in order to facilitate gastric digestion and to prevent exacerbations of the complaints due to the ulcer. Combining the mineral-water cure with a milk-cure is often very rational, particularly if the ulcer has relapsed. The motor function of the stomach is improved, on the one hand, by using the springs in question here, and on the other hand, under the influence of a systematic diet.

D. Hyperaemia of the Liver, Catarrh of the Gall-passages, Jaundice, Gall-stones.

By Dr. *Jacques Mayer*, Geheimer Sanitätsrat, Berlin (formerly at Carlsbad).

Hyperaemia of the liver is met with in apparently healthy individuals of the middle age of life. It is the result of an indulging or sedentary mode of life, and may be cured entirely by a rational diet and a powerful mineral-water cure. The affection is, however, often not subject to treatment before a considerable swelling of the liver has ensued. The stases in the portal system may then have grown to a high degree, and in most of these cases a number of troublesome symptoms become manifest, such as eructation, hypogastric pressure as symptoms of a gastric catarrh, bilious stasis, chronic constipation, and haemorrhoids.

In such cases indication is given for regulating the blood-circulation under the most possible consideration of the aetiological factors and the complications. This is best achieved by alkaline-sulphurated springs, by sodium-chloride springs, or bitter-waters in moderate quantities.

If the hepatic hyperaemia is the result of menstrual disorders or of affections of the lung, the heart, the spleen, the springs mentioned above are likewise indicated, provided that the nutrition is not too much impaired. Individualizing is for such cases the main thing, and it is of minor significance which of the above springs be used, than applying them cautiously and rationally. If the constitution shows the features of relaxation or of serofula, the sodium-chloride springs are to be preferred. If, however, the hyperaemic liver is in an irritated condition,

characterized by tenderness to pressure, we may sometimes prefer the alkaline-sulphurated thermal-waters or the careful use of bitter-waters. In a considerable plethora of the abdominal vessels, in advanced haemorrhoidal affections the sulphurated springs do good service. In the incipient stage of chronic hepatitis, amyloid-degeneration, sometimes in carcinoma of the liver, the diagnosis may be doubtful. The thorough exploration of the previous history of the case, of the former mode of life and the duration of the disease will help considerably in clearing up the situation. In such cases we would recommend the cautious use of purging sodium-chloride springs, of alkaline-muriatic or alkaline-sulphatic springs for relieving the congestion.

Fatty liver. It is mostly a concomitant affection of general obesity, and due to the same aetiological factors. It is frequently also accompanied by other constitutional affections as gout, diabetes, anaemia, or it arises as the result of pulmonary affections, particularly of phthisis. In the former case the indications are analogous to those for obesity. The alkaline-sulphurated springs are above all recommended here, furthermore the sodium-chloride springs and the alkaline-muriatic springs. The effect of these waters will be considerably increased by the simultaneous use of mineral-baths and medico-mechanic treatment.

If the fatty liver is complicated by gout or diabetes, the alkaline springs are also useful besides these groups of waters mentioned above. If the fatty liver is associated with a pronounced anaemia, with pulmonary affections, with higher degrees of adipous heart or fatty degeneration of the heart, far more attention has to be paid to the extremely careful use than to the choice of the springs. In a good nutritional condition and regular bowel-movements small doses of the alkaline-sulphurated or simple alkaline-thermal-waters are agreed with, and are just as efficacious as sodium-chloride springs. Warm chalybeate water may also be very successful, especially after the preceding use of the former springs. Patients of this kind may, to their great advantage, also take a climatic cure in a not too elevated and well-protected alpine region.

Catarrh of the gall passages with jaundice may be due to various causes. It is very frequently the result of a gastro-duodenal catarrh extending to the mucosa of the bile-duct. Chronic hyperaemia of the liver and concretions in the gall-bladder and gall-passages may likewise very often bring about catarrhs of these parts and subsequent jaundice.

The balneotherapeutic treatment of a gastro-duodenal jaundice is very little different from that of the last mentioned. Above all, the alkaline-sulphurated thermal-waters are to be recommended, furthermore the simple alkaline and alkaline-muriatic springs, although the latter are somewhat less powerful than the former.

If the condition is complicated by habitual constipation we may just as well administer successfully the more energetically purgative sodium-chloride springs as the alkaline-sulphurated springs. They are in many cases combined with moderate doses of purgative salts.

For gall-stones the alkaline-sulphurated thermal waters are of old of the greatest repute; but also warm sodium-chloride waters are very powerful in diluting the bile and removing gall-stones. It is irrelevant whether we assume that the concretions are due to stasis and the subsequent concentration of the bile or to chemical processes of decomposition of bile preceding the formation of stones, or whether we hold that, as has been made probable by recent experiments, and as I also assume, a primary affection of the mucosa of the gall-bladder, and a subsequent decay of mucous epithelium is the basis of gall-stone disease. In any case the above mentioned springs are indicated, and first of all, the springs of Carlsbad. Theoretical considerations, and far more the thousand-fold experience of physicians speak in favour of their use. The powerful effect of these thermal-waters is most obviously demonstrated by the fact that in the majority of cases gall-stone colics appear even after a short use of the waters, although it is to be admitted

that certain occasional causes, such as active exercise, energetic peristalsis etc. may also be answerable for the occurrence of colics or the passage of stones. We can explain the effect of the springs concerned here by assuming that the portal system is discharged, that the compression of the blood-capillaries is removed, and that the flow of gall is promoted after the constriction of the gall-capillaries has ceased. The generally acknowledged results are not attained by stimulating directly the secretion of gall by the livercells and thus increasing the flow of bile. Moreover, the effect of the water is to remove the mechanical and chemical obstacles to the normal bile-secreting function of the livercells, to influence favourably the circulation in the liver, and in the gastro-intestinal canal. The waters also dilute the concentrated bile by influencing favourably the catarrhal and inflammatory processes in these organs as well as in the gall-bladder and gall-passages, and thus increase the flow of bile. From this it is obvious that the passage of gall-stones is facilitated, and a decidedly lithagogue (stone expelling) effect is to be ascribed to the above mentioned springs, but not a cholagogue effect in a strict sense.

It is furthermore obvious that this lithagogue action may lead to a permanent cure of cholelithiasis, the easier, the smaller the concretions are and the less the danger is of permanent incarcerations of larger stones. But even in grave and threatening incarcerations a favourable effect may be attained, if the stones are passed *per vias naturales* or by the way of fistulae, without other detrimental results.

The above mentioned powerful influence of the thermal-waters here in question on the catarrhal and inflammatory processes in the gall-bladder, in the gall-passages and on the property of the bile makes us understand easily why, even without the passage of concretions, the disease may be latent and show no symptoms for many years.

The balneological treatment is in grave cases of cholelithiasis not the only thing to be done. Moreover, great care is to be given to the dosage and the temperature of the springs, but especially to the diet. The use of the springs should be omitted entirely during attacks of fever.

The condition of the stomach and intestines is in the course and termination of gall-stone disease of a far greater significance than is generally supposed. We only need to emphasize that the gall-stone colics are most frequently elicited by disorders of the gastro-intestinal canal. Chronic coprostasis does not rarely lead to cholelithiasis. By combating this condition with cool springs we exert a powerful influence on the flow of bile, we increase intestinal peristalsis, and at the same time the muscular forces of expulsion in the gall-passages. We try to combat the catarrhal papillitis, a transitory consequence of chronic constipation, and we finally check the luxuriant growth of bacteria in the bowels. We should also not underestimate the diuretic effect of the springs by which a more profuse excretion of bilious substances through the kidney is brought about, and particularly in chronic jaundice, the dangers of hepatargia, hepatic intoxication are more or less prevented.

The concerned mineral-baths are applied in all the above mentioned forms of diseases, according to general principles, as an aid to the drinking-cures.

E. Diseases of the Spleen.

By Dr. *Jacques Meyer*, Geheimer Sanitätsrat, Berlin (formerly at Carlsbad).

For the treatment of swellings of the spleen several forms of this affection have to be considered. Firstly the congestive swellings, complications of diseases of the heart, the lung, of valvular insufficiencies, of hepatic cirrhosis etc.; secondly tumors of the spleen due to malaria and typhoid-fever or to amyloid degeneration as a concomitant symptom of constitutional diseases, as syphilis, rickets, osteal tuberculosis, and finally the leucaemic tumor of the spleen. Under all precautions a mild mineral-water cure may be applied unhesitatingly for all congestive swellings

of the spleen. These cures will indirectly also influence the organs which are the seat of the primary disease. The best are the alkaline-sulphurated springs and the alkaline-muriatic waters. If the total constitution of patients suffering from Malaria-spleen tumors is not too much broken down, the alkaline-sulphurated springs are likewise recommended; but a chalybeate spring should be used hereafter. In the opposite case the ferruginous sodium-chloride springs or genuine ferruginous springs should be used at once, if possible combined with mud-baths. The same holds good for swellings of the spleen being a residue of typhoid-fever. Arseniate and ferruginous springs (Levico, Roncegno and others) are often of an excellent result in cases of the latter type. The entire constitution is often also most favourably influenced by a stay in alpine climates of not too high an altitude. The stay in the mountains may sometimes be combined with thermal-baths (Gastein, Wildbad, Plombières), especially in individuals weakened very much by a long sojourn in the tropics.

The balneological treatment of the spleen-tumors coëxisting with the named constitutional diseases is analogous to the treatment of the latter.

VI. Diseases of the Uropœtic System.

By Dr. *W. Marc*, Geheimer Sanitätsrat, Wildungen.

A. Chronic Affections of the Kidney.

Recent inflammatory conditions of the kidney are of course no object of a balneological treatment. Patients with a very high degree of albuminuria, may it be a genuine disease or due to cardiac affections, are likewise not fit for a health-resort. They ought to stay in bed and should not be left without care at home or in a sanatorium. It is, however, a fact known for a long time that hot baths with subsequent packings and moderate sweating-cures will do good service in these conditions. Such a treatment is particularly indicated if hydropic conditions have developed.

Balneotherapeutic measures are only indicated if this disease has advanced to a more chronic stage. We may then allow travelling to a health-resort, and mineral-cures with alkaline and alkaline-muriatic springs are indicated in the first line. In the most conditions of this kind the careful stimulation of diuresis is usually very beneficial. It is strictly requisite to have the patients under a permanent control, as not all of them agree with such a drinking-cure. Many patients may show even in the chronic stage an increase of albuminuria, and an aggravation of the morbid status which compels us to interrupt the drinking-cure at once, and to confine ourselves to the use of sodium-chloride baths or natural baths.

If only hyperaemic conditions of the kidney are present, we recommend the use of warm baths, that do not irritate the skin too much, of a temperature of 34–45° C (93,2–113° F), and, besides, a cautious drinking of simple alkaline acidulous-waters.

In all cases the eventually existing primary disease, especially cardiac affection, requires the utmost care. The nutrition and the general strength of such patients may be improved by sending them to forest health-resorts of not too high an altitude, and having them take milk- and whey-cures and drink alkaline-acidulous waters, in the autumn also take grape-cures. In a very chronic course of the renal affection, with slight hydropic symptoms, and a pronounced anaemia, the cautious use of light chalybeate springs is indicated in small doses, to the best distributed over the whole day. As experience has shown, the Wildungen Victor-Quelle is of the most favourable influence. If carefully applied this spring will improve the nutrition as well as the anaemic condition, it will regulate the cardiac and digestive function and often do away entirely with albuminuria. The effect of the Victor-Quelle is most favourably aided by carbonic-acid chalybeate baths,

by the excellent forest-climate of Wildungen at an altitude of more than 1050 feet, and by the opportunity for Oertel-cures, if they are indicated for a disordered cardiac function.

B. Chronic catarrh of the Bladder and of the Renal Pelvis. Concretions in the Kidneys and Bladder.

In comparatively recent cases of chronic vesical catarrh, as long as pronounced sensibility and frequent urinary pressure are still present, the alkaline and alkaline-muriatic springs when taken in moderate quantities, will do good service. If the irritation has subsided, we may pass over to a more copious use of the alkaline-mineral springs. They exert an excellent influence on patients who are still able to empty their bladders entirely. If this is not so, we should never allow taking larger quantities of fluids, as this would increase the troubles of the patients instead of lessening them. Of sodium-chloride waters we should at most only allow the very weak acidulous waters with a slight degree of alkalinity.

The baths, especially hip-baths, are suitably applied as an aid to the cure; but the greatest caution is requisite, as almost all patients suffering from vesical affections show a tendency to colds. If the vesical catarrh has developed on a rheumatic or gouty basis, or if at the same time a pronounced stasis is existing in the abdomen or a habitual constipation, drinking cures with alkaline waters containing lithia, or alkaline-sulphurated springs are indicated, in some cases also sodium-chloride baths.

In a prolonged use of alkaline and mineral drinking-waters, great attention is to be paid to the reaction of the urine. Alkalinity of the urine should never occur. The excellent results of a direct treatment of the mucosa of the bladder are known well enough, and we may dispense here with mentioning them especially. At any rate, we should never omit this treatment if the drinking-cure does not give a good result in a short time. In urinary gravel and concretions in the kidney and bladder, above all, an exact determination of the chemical composition of the concretions is demanded. Although in many cases dilution of the urine and a thorough irrigation with warm water — the waters of natural springs are the best for this purpose — are the main thing, it is more rational to apply the alkaline waters for uric-acid and oxalate-concretions, and the alkaline-mineral waters on account of their more diuretic action; for phosphate concretions we should apply the simple acidulous waters. — Warm baths will be an aid to the cure in all cases. They are particularly beneficial in kidney-stone colics.

The catarrh very frequently accompanying the concretions is to be considered particularly. If the concretions are too large to be removed by a spring-water cure, we must of course think of a suitable surgical treatment at the proper time.

VII. Diseases of the Sexual Organs.

A. Chronic Affections in the Sphere of the Male Genital Organs.

By Dr. *W. Marc*, Geheimer Sanitätsrat, Wildungen.

1. Chronic Inflammatory Affections of the Testicles and Epididymis.

The treatment of these affections by means of drinking- and bathing-cures is in the main analogous to the treatment of chronic prostatic affections described below. We only wish to add here that mud- and sulphurated mud-baths, as well as local applications of mud and sulphurated mud, fango etc. are often successfully applied.

2. Spermatorrhoea, Impotentia virilis.

These extremely important affections with their detrimental effect on the psychological condition and on the nervous system, and their bearing on the entire constitution, require a very different treatment according to their aetiology. In the

first place the nervous system is to be considered. It will be our main object to strengthen it and to revive the lowered spirits. According to the power of reaction which is, as a rule, pretty exhausted, the patient will be benefited by carbonic acid thermal brine-baths or chalybeate baths, in combination with drinking-cures of carbonic-acid sodium-chloride or chalybeate springs, according to the complications in the digestive organs. If a sufficient power of reaction is present or has been regained, the hydrotherapeutic method, sea-baths and sea-climate will give excellent results. A high degree of general asthenia and irritability of the nervous system sometimes necessitate a cure at natural mineral springs, especially the tepid springs in a high altitude, or the sulphurated thermal waters at elevated places. We must above all take into account that spermatorrhoea and impotency are frequently the result of a previous gonorrhoea. We shall have to examine the case, therefore, in this direction, and in positive findings begin a suitable treatment

3. Chronic Catarrh of the Urethra.

In general, the chronic catarrh of the urethra is not subject to balneotherapeutic measures. As it, however, in most cases is associated with a catarrh of the collum of the bladder, it is relatively often to be treated by the bathing-physician. — The waters recommended above for the treatment of vesical catarrhs, are also here applied, and they influence the affection most favourably. — But as a rule it does not yield solely to the use of mineral-waters, and requires a rational local treatment for a definite cure.

Although this can be carried through by any surgeon, we cannot deny that this disease affecting also to a great extent the entire nervous system, will be more favourably influenced at health-resorts with physicians especially trained for the treatment of this disease, when the patient is at the same time removed from his customary occupation, and is living solely for sake of his good health. — If a vesical catarrh is not associated with chronic gonorrhoea, if there is only a mucous discharge free from pus and cocci, a cold-water cure is indicated above all, in addition to careful local treatment.

4. Affections of the Prostate.

Swellings and indurations of the prostate occur as symptoms of senility or as a result of infections of a gonorrhoeal, tuberculous or syphilitic nature. In the latter case an antisiphilitic treatment is to be carried through above all. As the tumor, however, often does not yield to the treatment, it is often treated with brine-baths, especially baths containing iodide or bromide, and also by the internal use of iodide drinking springs, unfortunately not always successfully. If the affection is of a tuberculous nature, the just mentioned treatment is also justified, the more so as direct treatment is always unsuccessful. In these cases the sensitiveness of the external skin is to be considered carefully, and if the condition of the skin is satisfactory, above all that of the scrotal skin, local applications of brine or iodous water may be used in addition.

The chronic inflammation and swelling of the prostate may be complicated by a vesical catarrh or a catarrh of the renal pelvis. These complications may be due to previous gonorrhoeal affections of the posterior part of the urethra, or they may result from an incomplete emptying the bladder and a subsequent decomposition of the urine. In all these cases the treatment is the same as stated above for vesical catarrhs. Simple mineral- or bathing-cures, however, will in such cases not furnish a favourable result, if the bladder is not emptied by catheterism and thoroughly disinfected by irrigations. — Of an excellent influence are the iodous brine-baths, prescribed best of all in form of tepid hip-baths. The senile swelling of the prostate requires the same treatment, although, unfortunately, balneotherapy cannot be of an essential value in this respect.

B. Chronic Diseases of the Female Genital Organs.

By Dr. *Bardach*, Bad Kreuznach.

In all chronic diseases of women with very few exceptions, balneotherapy plays a considerable part, and not many health-resorts can be found in which diseases of women do not find a broad field of indications. This is so for good reasons, since every bathing-place has the effect of stimulating and modifying metabolism, of raising the capacity of the organism to eliminate pathogenic substances and deposits, and strengthening it. These are in particular the indications which have to be answered in the treatment of diseases of women. Therefore, undoubtedly all kinds of baths are indicated for the latter. They may be applied most advantageously; some of them are, however, particularly distinguished by being especially powerful, and are of old in great repute. We speak, of course, of those which exert a more powerful influence upon metabolism and the reabsorptive functions of the organism.

As balneological treatment in the disease here referred to is of great importance, it might be useful to make some general remarks before entering into the discussion of the individual forms of diseases. There was a time, less than one generation ago, when the conscientious and experienced physician at a health-resort confined himself to treating the patients under his care in the traditional way sanctioned by long experience, i. e. he applied the spring in its various modes of application and, for the rest, dispensed with any direct treatment of the disease, or restricted himself to the very necessary things. This has become different nowadays. Very often the springs with their different modes of application and the other curative factors of a health-resort are simply applied as auxiliaries to a local treatment, chief stress being laid on the latter. Both ways do not lead the right tract; formerly to little, nowadays too much is being done. Many a case that might have been cured more smoothly and rapidly if in addition to the baths etc. a rational gynecological treatment had been carried through, required formerly much more time for a cure. This does, however, only hold good for a small number of cases; — in most of the cases such a rational treatment had preceded for some time, generally with an incomplete result; and it was surely better to have the patients be benefited by the other powerful curative factors, mental and bodily rest, enjoying the fresh air as much as possible, and to quiet and strengthen the nerves irritated by too long and annoying a treatment.

Nowadays, the physician practising at a health-resort considers it his duty, unfortunately too often, to apply, with the patients under his care if possible, all the factors that might appear suitable for combating the affection, no matter whether equal or similar means had been applied before or not. It must appear very doubtful whether the patients are benefited hereby. I should not like to be misunderstood. I do not suggest that the physician should confine himself in all cases strictly to applying the curative factors. There will always be cases enough, in which a systematic gynecological treatment will be indicated in addition to the cure, and very frequently patients are sent by their consulting physicians just for this purpose to the colleagues at health-resorts who are experienced in these things. What I wish to combat is the uncritical application of gynecological methods in every case, especially of methods that are en vogue at present. What a nuisance is nowadays the gynecological massage in many instances? In my opinion a gynecological treatment should only be combined with the bathing-cure if after a due exploration of the given case the physician expects from this combined procedure an abbreviation of the cure.

We scarcely need to emphasize especially that bathing-cures are only indicated if we have to deal with chronic conditions. As long as the process is acute powerful baths are contra-indicated, and in the extreme case only simple tepid baths are allowed which may be taken at home. On the other hand, it is not advisable to begin a bathing-cure too late, as it is a sure fact that a result

will be obtained the more rapidly the more recent the case is. It is often not very easy to determine the time when to begin. We may in general state that a bathing cure may be inaugurated, and mostly should begin, if the patient is able to stand all the troubles and fatigues of travelling without fear of a relapse. The kind of treatment indicated for the individual case can in general scarcely be fixed. Yet in most of the cases the external application of the springs will have to be combined with an internal cure or at least with any other solvent water stimulating the intestinal function.

It is obvious that in cases which have frequently persisted for years, a bathing-cure of a short duration cannot be successful. The longer the morbid condition has existed, the more the patients are broken down, the more time is required. The duration of the cure is mostly fixed for too short a time; six to eight weeks are almost always necessary in order to get a good result. It is up to the consulting physicians to give more attention to this point, and to prepare their patients for a longer duration of the cure.

We scarcely need to emphasize particularly that patients who have to go through a strenuous cure should abstain entirely from bodily exertions and excitements during the cure, and should not take part in the life at a health-resort. A permanent stay in the open air, moderate out-door exercise are necessary, and on the other hand, exerting walks as well as enjoying the entertainments may interfere with the good effect of the spring.

After the cure the patient should, if such is possible, not immediately return to her home where all the secret detrimental influences are threatening her; she should go through an after-cure for some weeks, or if that is not possible, at least for eight days. This after-cure may be had at any place where the air is good, the living comfortable, the food satisfactory, and society pleasant. It is in general irrelevant whether there is more or less forest, whether the place is situated some hundred feet higher or deeper. The patient should live quietly at this place, and should not try to compensate the long lasting rest at the health resort by taking part in amusements or in fatiguing excursions.

If the patient cannot afford to go through an after-cure, which for obvious reasons is unfortunately true in the majority of cases, the physician should insist upon having this after-cure carried through at home. For this purpose it will often suffice that the patient spares herself for some weeks, stays in bed for a longer time, avoids fatigue, society-life, in brief that she returns to her former mode of life but slowly and gradually. This is a point of strict attention. Disobedience to this old rule is only too frequently to be blamed, if the patient and the physician did not get the result of the cure which they otherwise were fully justified to expect.

1. Chronic Inflammations of the Uterus and the Adnexa.

By this designation we understand those morbid conditions which are usually denominated as metritis, endometritis, peri- and parametritis, oophoritis, salpingitis, pelvic cellulitis, pelvic exsudate. They are frequently found associated with one another, being due to the same cause and open to the same treatment. Hence it seems correct to deal with these conditions in common. This is, however, not the place to enter into the nature, the causes etc. of the various affections. Here, before all, we are only interested in the question, how far these conditions are an object of balneological treatment. From this point of view it will be necessary to enter briefly into the causes, and also into their influence upon the total organism as this often gives the direction for the treatment.

As in all these affections the question arises of removing the pathologic products, all those springs will come into consideration here by which the reabsorptive functions of the organism are stimulated. In selecting these springs the chief point will, however, be-what condition the general organism is in, whether a morbid disposition is existing, how the general strength is, and furthermore, how far the other organs of the body have been involved.

We may establish the general rule that in all these affections brine-baths are above all indicated, the simple ones as well as those containing iodine or bromide. Mud-baths assume the same rank, likewise natural-baths and sulphurated thermal waters, if there is a pronounced irritability. The choice of one of these baths is, above all, dependent upon the factors mentioned above.

If in these affections the body is otherwise healthy, showing no mark of morbid disposition and being as a whole not very much involved by the affection, the powerful brine-springs are indicated, in the first place those brine springs which can be optionally made more powerful by the addition of mother-lye rich in bromine and calcium-chloride. If individuals are concerned that were or still are scrofulous, a complication found pretty frequently and unduly delaying the cure, it will be of importance which form of scrofula, whether the torpid or the erethic form are existing. In the former case we may apply the most powerful brine-springs, while in the latter case weaker springs as well as carbonic acid sodium-chloride thermal-waters will be more suitable. If a gouty disposition is the cause of the delayed reabsorption of pathologic products, the springs active for gout are recommended, in a tendency for putting on fat, the alkaline-sulphurated waters are indicated. If chlorosis and anaemia are coexisting the ferruginous mud-baths as well as the ferruginous acidulous-waters are indicated, the latter more for after-cures after the recovery from the principal symptoms.

If symptoms of the nervous system are more in the foreground, the natural mineral-baths come into question in the first place, but, in addition, weak brine thermal-waters and sulphurated springs may be of advantage. The application of these waters will have to precede the use of stronger brine-springs instead of being applied first as is often prescribed, if considerable residues of inflammation have yet to be removed. Sea-baths and climatic cures can only enter into question for after-cures, and they are only indicated if the process of reabsorption has terminated or is at least steadily progressive.

The choice of the springs will furthermore depend on the condition the other organs are in, especially on the function of the intestines. If, as pretty often, a great tendency for constipation is existing, the more solvent springs, the saline purgative waters or alkaline sulphurated springs will be recommended for an internal use.

In the first place baths are active and applied. The more inveterate the process is, and the more resistant the patient, the stronger the bath may be, and the longer its duration.

But besides all the other modes of applying, springs are prescribed to a great extent, such as wrappings, douches, and especially the prolonged hot douches, up to 50° C (122° F), which is easily borne while in the bath. Steam-baths, especially those with brine-steam, have proved particularly powerful means for reabsorption.

The internal use of the springs will considerably support the external application, provided the springs be suitable for drinking-purposes.

2. New-Growths of the Uterus and the Ovaries.

There are many controversies nowadays as to the question whether fibromyomata of the uterus — we have to deal with these in the first place — are at all influenced by internal or external means, or by a balneological treatment. The most that is admitted by some authors is an influence upon the general condition and upon the regulation of the circulation. This must be strictly refuted. It has been proved undoubtedly by a broad experience that in many cases, perhaps in all of them, the tissue of the tumor itself is indeed influenced. It cannot be conceived theoretically why this should not be so, as the possibility of reabsorption is given in a uterine fibromyoma, though the conditions are here quite unfavourable on account of the scanty vascularization and the narrow juice-canals. We cannot understand why a reabsorption should not take place under favourable conditions.

A demonstrable reduction in size of the tumors has undoubtedly and not infrequently been observed, also a delay of growth for a considerable length of time.

But, of course, we must admit that this action upon the tumor is not the most striking effect of the cure: it is rather the influence on the general condition which is greatly improved, and on the symptoms, such as sensation of pressure, pain, haemorrhage that becomes manifest. With the exception of a few cases we may always be sure to improve the general condition of the patient by a sufficiently long bathing-cure, to stop haemorrhages or at least to reduce them considerably, and to relieve pain and pressure. The effect will, of course, in every case be different and depending upon the individual conditions.

Besides the effect upon the tissue of the tumor itself, we can also notice an influence on the hyperplasia and thickening of the uterine tissue, in the neighbourhood of the tumor, and this is unanimously admitted.

The springs to be applied for the treatment of uterine tumors are almost exclusively the strong brine-waters, above all those containing iodine and bromine, with their strong lyes containing calcium-chloride. Mud-baths are less recommendable, and they should only be applied very cautiously, especially where there is a tendency to haemorrhages. For such cases the strongest baths, cool and prolonged are borne well, and should be taken frequently. It is surprising that often anaemic and very weak patients agree best of all with these baths. Besides baths, douches, strong applications of mother-lye etc. are indicated.

For an after-cure chalybeate baths as well as climatic stations are useful, mountain- and sea-climate especially after an exerting bathing-cure. Sea-baths are contra-indicated if there is the slightest tendency to haemorrhages. Other tumors, above all ovarian cysts, are no object of a balneological treatment. This must be emphasized here, as patients with such tumors are still being sent to health-resorts. The same is true of carcinomatous affections for which bathing-cures are highly detrimental.

3. Chronic Catarrhs of the Vagina and the Uterus.

The balneological treatment of chronic catarrhs is dependent upon the cause of the disease. The most various conditions may be answerable, as for example scrofula, chlorosis, anaemia etc., or it is a concomitant symptom of other affections of the uterus and its adnexa. In all these cases the treatment of the catarrh will be analogous to that of the fundamental disease, and only local applications, hip-baths, douches etc. will be added.

For cases in which we have to deal with a simple catarrh the alkaline-muriatic springs, therefore, will be indicated. If the catarrh is a complication of chlorosis the ferruginous springs are indicated; invigorating forest- and alpine-climate, and last not least, the sea-climate are very beneficial for a principal as well as an after-cure. One should, however, take care of not taking cold and prolonged sea-baths, especially in a delicate constitution. A too much rarefied air is also not borne well by many anaemic patients. Douches should only be applied very cautiously, baths but shortly and not warm. In an extreme irritability of the nervous system the mild brine-baths, perhaps better the natural baths are indicated. If scrofula is existing, this condition is to be treated above all; the catarrh will then often disappear spontaneously.

In catarrhs of the cervical canal and the uterine cavity we shall mostly not get along without a local treatment. The latter is, however, considerably aided by a balneological treatment, combating the primary disease. In a tendency to obesity the saline-muriatic springs are in order, and the sodiumchloride waters, if constipation is coëxisting.

Specific catarrhs are, of course, subject to a specific treatment: yet they may be considerably improved by a bathing-cure. The strong brine-waters are especially recommended for such cases.

4. Anomalies of Menstruation.

Amenorrhoea. If this condition is not due to anomalies of the uterus or of development, it is mostly the result of constitutional disorders, scrofulous or tuberculous predisposition or a high-degree of chlorosis, sometimes also of obesity. In the latter case the primary diseases are to be treated, and for this purpose the above mentioned springs enter into consideration.

The general measures for strengthening the patient should, however, not be neglected, such as staying in a refreshing and stimulating mountain- and forest-climate; alpine stations are also very beneficial. Sea-baths are extremely efficacious, or rather the sea-climate, as cool sea-baths are only to be taken very cautiously, and under a thorough consideration of all conditions. If amenorrhoea is the result of local anomalies of development of the concerned organs, it is obvious that these disorders should above all be cured, if possible. Balneotherapy can only influence this condition indirectly. Besides carbonic-acid brine-baths, ferruginous- and ferruginous mud-baths have proved effective, in nervousness particularly the indifferent thermal waters; for an after-cure sea or alpine climate. In some instances a not too powerful hydropathic treatment with or without massage, gymnastics, bicycling etc. may be very beneficial.

Menorrhagia. By far the most cases of this kind are due to affections of the genital organs, and the treatment is analogous to that of the primary disease. Menorrhagia is but rarely the result of a general morbid condition, of scrofula, chlorosis, gout, plethora, general weakness etc. In these cases, too, the treatment of these conditions is the main thing. Special attention is to be paid to the haemorrhages occurring pretty frequently during the climacteric period. The haemorrhages are sometimes symptoms of constitutional anomalies, and not rarely of a plethoric condition; if so, the alkaline-sulphurated springs are indicated in the first place. The greatest care and the most thorough supervision of the patients are always requisite, in order not to overlook a malignant disease.

Dysmenorrhoea is rarely met with as a genuine disease; it is mostly the symptom of some other morbid condition. But it does not rarely occur without any demonstrable changes, particularly with young girls at the age of development or even later. In these cases we may perhaps blame an abnormal irritability of the genital nerves. Such conditions are, above all, benetically influenced by indifferent thermal waters; sea-baths, hydro pathic treatment may be indicated combined with the rational application of gymnastics.

5. Sterility.

This is probably always the result of a pathologic condition of the genital organs, and no genuine disease. There is, however, quite a number of cases in which the most thorough and painstaking examination does not reveal any anomaly or pathologic alteration. We are then compelled to assume some anomaly in the organism against which our treatment is to be directed.

Syphilis is not very rarely the cause of sterility, even without any manifest symptoms. Much more frequently gonorrhoea can be proved, or rather the sequelae of this disease which are so hard to be treated. But pretty often balneological treatment may be successful here. The sodium-chloride springs containing bromine and iodine are especially recommended for these cases. Let us never forget that the true cause of sterility is pretty frequently to be looked for in the man, instead of in the woman. We should, therefore, in such obscure cases always examine the husband thoroughly before subjecting the wife to a thorough cure.

In sterility due to weakening influences the well-known and repeatedly discussed remedies are to be applied.

The tendency to habitual abortions is often a grateful object of balneological treatment, as the essential cause of this condition is to be looked for in a weakness of the organism, if not local causes are interfering. We have to

consider most thoroughly and painstakingly all the conditions before deciding about the best that can be done. We must always bear in mind that the condition frequently depends upon a latent or manifest syphilis. A thorough inunction-cure combined with very powerful mother-lye baths containing calcium-chloride are often of a striking effect. The husband has to undergo the same treatment.

Before concluding this chapter I should like to consider with a few words the question whether a bathing-cure is to be allowed if pregnancy is existing. If there is an inclination for abortions, we shall, of course, dispense with a cure, and as, with a primipara, this is an open question we shall have to be very careful. A healthy pregnant woman may, however, unhesitatingly undergo a bathing-cure, at least in the first months, if the cure is not too strenuous. This will, however, only be recommended, if there is a definite, urgent indication for a cure.

VIII. Chronic Rheumatism of the Muscles and Joints.

By Dr. *Emil Pfeiffer*, Geheimer Sanitätsrat, Wiesbaden.

According to all the experiences made hitherto the external application of heat combined with a powerful stimulation of the cutaneous function and the production of profuse perspiration, is the most efficacious means among all the methods as yet known for both these forms of chronic rheumatism.

We apply accordingly balneotherapeutic warm baths, preferably the natural warm baths of all groups of mineral-waters.

Whether one should apply the natural springs or the sulphurated thermal waters, the brine-baths, carbonic acid thermal brine-waters, or should have recourse to mud- and fango-baths, or finally to pine-needle baths, to baths of a higher temperature in form of Roman-Irish-, of Russian steam-baths, of warm sand-baths, hot air and electric-light-baths, all this is merely depending upon the consideration to what extent the skin and the total organism will be able to react to thermal stimuli.

For the purpose of attaining the required increase of the cutaneous function, we may perhaps add mechanical stimuli, such as massage, electricity, douches. The latter which we use to apply as an auxiliary to bathing-cures, should only be given with the utmost caution, as the cold as well as the hot douches are very powerful irritants which may very easily produce an increase of the irritative condition uncalled for in the affected part. The mixed (Scotch) douche is relatively the least irritant and, from this reason, very much recommended, particularly for chronic articular rheumatism. The local application of mud- and fango-packings, wrappings in sand, hot-air baths are used to a great extent with satisfactory results; likewise electric light-radiations, hydrotherapeutic packings etc.

In rare instances only, with individuals that are still pretty resistant, hydrotherapeutics may be applied from the very beginning, experience having shown that cold irritants are badly agreed with, if symptoms of rheumatism are still manifest.

To the drinking-cures themselves a special curative effect on chronic rheumatism cannot be ascribed. They are, however, always of great value for combating complications in individual organs or for influencing the metabolism in general. We shall accordingly choose the one or the other group of springs. For drinking-cures the simple acidulous-waters, the sodium-chloride springs, as well as the alkaline-muriatic springs may be used unhesitatingly; on the other hand, all the purely alkaline waters, as well as alkaline-sulphurated and alkaline-mineral springs should be avoided, as they would increase the alkalinity of the body-juices, which is anyhow abnormally strong in chronic rheumatism. As a result of this, phosphaturia would be increased by taking these waters, and the disease would grow worse.

For choosing an individual health-resort, the location, the climate, and the season are also decisive factors; in winter, for instance, more protected places, in the hot season more elevated natural baths etc. will be preferred,

Unfortunately the balneotherapeutic methods result very rarely into an actual recovery; but quite a considerable improvement, often almost a recovery may be attained, or, let us state more correctly, an intermittence of the rheumatic complaints. The bathing-cures have to be repeated consequently every year, or even every half year.

Nevertheless, a good number of cases will be under the permanent influence of the weather, will be prone to relapses of the rheumatic affections, especially of the pain which becomes usually manifest before the occurrence of a change of weather.

For that reason it seems to be very important to try an inurement by hydrotherapeutic procedures, if possible even by means of sea-baths, staying in an invigorating climate (alpine or sea-climate), for the purpose of an inurement against external influences, and of combating the asthenic condition of the skin; these attempts for inurement should, however, not be made before the after-effect of thermal-bath cures, i. e. before the 6th to the 8th week after terminating a thermal-cure. These attempts should even be omitted entirely as long as distinct inflammatory or painful swellings of the joints are present. In such cases simply staying at the sea or in the mountains may even be very injurious. For patients of this kind a stay in sunny regions protected against winds in the summer, or the south (Italy) in the winter, are most suitable.

The nature of rheumatic affections of the joints and their complications calls for surgical interference in the majority of cases.

The same therapeutic measures as for chronic rheumatism are required for rheumatic diathesis, i. e. the inclination to frequent acute affections of the muscles and joints, for example the inclination to acute articular rheumatism, lumbago etc. In these cases, too, we try to combat the rheumatic diathesis by thermal cures, and to prevent a relapse of the attacks by inurement.

For articular- and osteal affections of a non-rheumatic nature, in the main, the same mode of treatment is to be applied as has been stated before. As far as constitutional factors, such as scrofula, rickets, syphilis or gout are concerned, the kind of drinking- or bathing-cures to be applied is conform to the special indications given by the primary disease.

For chronic osteal- and periosteal inflammations of a traumatic as well as of a constitutional origine, a special curative effect is often attributed to the internal and external application of iodine-waters or brine-waters containing iodine.

After the healing of gun-hot-wounds or other kinds of traumatism of the soft parts as well as of the bones, swellings or exudates into the tissues of the soft parts, of the bones, and joints are often persisting, and also a certain degree of general irritability of the entire nervous system. The thermal baths, especially the natural baths and the simple as well as carbonic acid brine thermal-waters, furthermore general as well as local brine- and mud-baths (fango) have proved most efficacious and favourable in almost all of these cases, and even after years.

IX. Diseases of the Nervous System.

By *Dr. Fr. W. Voigt*, Geheimer Sanitätsrat, Oeynhausens.

A. Some General Rules

for the treatment of diseases of the nervous system by bathing- and climatic cures.

1. As with all diseases, we should also with those of the nervous system try, above all, to satisfy the *indicatio causae*. From this reason we should in the cases where the real or only probable cause of the disease may have been recognized, choose those health resorts, above all, which, as experience has shown, are able to influence favourably that cause by their particular curative factors.

2. The choice of a health-resort does not only depend on an exact diagnosis of the case, important as it were; just as important, perhaps in many cases still

more important is the proper consideration of the individuality of the patient. The more irritable his entire nervous-system is, the more intensely he reacts to cutaneous irritants, the less he is able to bear bodily and psychical troubles, the more difficult it is to the patient to abstain from the comfort and conveniences he enjoyed at home and in his family, the more we must beware of sending him to health resorts which can only be reached by long and fatiguing journeys, or to places where social life is exciting, or where the location, and the climate are too irritant or too relaxing. We must, in such cases, also be cautious with regard to the temperature of the baths, particularly with baths which in themselves are powerful irritants an account of their content of solid and gaseous constituents. The more their natural or intentionally fixed temperature differs from the thermal point of indifference (about $35^{\circ}\text{C} = 95^{\circ}\text{F}$), above or below, the more irritative the bath usually is. Baths of too long a duration or taken in too short intervals, or continued for too long a time may likewise easily be detrimental.

3. No less important for the choice of a health-resort is the consideration of its particular conditions. Among the places which are equivalent in a given case with regard to their location, climate, baths etc., we shall by all means prefer those which on account of their hygienic contrivances, the conditions of living and society, the promenades, service, therapeutic appliances, special training of the physicians etc., are particularly suitable to answer all the requirements of the irritable and helpless nervous patients who are often suffering so much.

4. For the treatment of organic affections of the nervous system by sea-baths it is of value to know that only the warm and sedative baths of the southern coasts are particularly suitable.

5. We have to take care in not prescribing to the nervous patient bathing cures following too quickly one upon the other. It is, above all, not rational to prescribe various kinds of baths within too short intervals. The affected nervous system must be given time to recuperate from the irritations of the individual cures. It is, however, favourable in many cases to have bathing cures alternate with suitable climatic cures, particularly if the latter follow immediately upon the former.

B. The Individual Affections of the Nervous System and their Treatment by Bathing and Climatic Cures.

1. Cerebral Affections.

1. **Hyperaemia of the Brain.** Active cerebral hyperaemia, the inclination to congestions in the head, probably due to an inherited (*habitus apoplecticus*) or to an acquired (masturbation, alcohol etc.) abnormal irritability of the vascular-nervous-system, may be successfully combated by hydrotherapeutic cures (tepid half-baths, tepid washings). Natural baths in the plain or in a medium elevation, as well as brine-baths, especially carbonic acid sodium-chloride thermal waters may also prove useful, provided their temperature be somewhat ($1\text{--}3^{\circ}\text{C}$) below the thermal point of indifference, or at any rate do not surpass this point. Drinking-cures with purgative sodium-chloride, and bitter-waters are an aid to the bathing-cure.

The passive (congestive) hyperaemia can only be combated by doing away with the primary causes. But it may be of use to give relief especially to the skin and to the bowels by applying the just mentioned baths and springs.

2. For the syphilitic affections of the brain, above all their most frequent form, the gummatous inflammation of the basal meninges, with or without a concomitant involvement of the spinal meninges, the mercury or iodine-cures which are necessary in the first place, may be aided by a simultaneous or subsequent use of sulphurated baths, and with the same advantage by natural-baths, brine- and thermal brine-baths, even by cold-water cures. The latter must, however, be mild, and the temperature of the sulphurated, the natural, and weak brine-baths should at least not exceed the thermal point of indifference, and the temperature of the stronger

brine- and thermal brine-baths should be for some degrees lower. It is to be mentioned that a good result does often only become manifest some time after the cure, and sometimes only after a longer lasting after-cure in a southern climatic station (Oppenheim).

3. The usually unilateral paralysis due to cerebral haemorrhage may be influenced favourably by brine- and thermal-brine baths, by mild natural baths, cold-water cures, most favourably, of course, if the motor tracts have not been destroyed by the extravasate, but only injured by pressure etc. In those cases in which hemiplegia is persisting during the first months after the apoplexy in a slightly or not at all varying degree, a noteworthy result will not be obtained by the bathing-cure. The same is true of cases in which contractions have ensued; the bathing-treatment may perhaps help to prevent a progress of the disease, but it will never lead to a complete recovery. The treatment with baths is, therefore, preferably recommended for patients who have experienced a subsidence of the paralysis, day by day, from the very beginning. When to begin a bathing-treatment with these patients, is a question yet open to controversy. The author of these lines does not consider it correct to begin the treatment not before the 5th — 6th month after the apoplectic attack, as it is customary to do. He obtained very good results with a number of patients who were subject to a thermal-brine bathing-cure but a few weeks after the attack. In general, the bathing-treatment should always be cautious and sparing, no matter which bathing-place is chosen. As in the majority of cases concerned here an atheromatous degeneration of the arteries is existing, any abrupt or too powerful increase of blood-pressure is to be avoided. Climatic cures are recommended for a temporary sojourn.

4. The paralysis due to the embolic or thrombotic obstruction of certain cerebral vessels may also be treated by the above mentioned baths and climatic cures, if all the precautions are duly observed. We shall, however, scarcely be able to boast of remarkable results in these cases.

2. Spinal Affections.

It should always be the foremost principle of a bathing-treatment of these affections to apply neither very cold nor very warm baths, and to dispense with a simultaneous application of strong mechanic procedures. As many experiences teach, hot baths, steam-baths, sea-baths, at the most when taken in the very warm season and if the sea is very little stirred, forced cold-water cures, strong rubbings in or after the bath, dorsal douches etc. will not only be not useful, but in many cases even detrimental. It is likewise mostly noxious to have the baths follow too closely one upon the other, to apply baths of too long a duration, and to administer too many baths during the time of the cure. We should, therefore, choose for natural-baths and for the sulphurated-alkaline and weak salt-baths¹⁾, which all are of almost the same physiological effect, temperatures of 33° C (91,4° F), for brine- and thermal brine-baths of a greater salt-content, above all, for the brine- and ferruginous-baths rich in carbonic acid temperatures of 29—31° C (84,2° — 87,8° F). The single bath should not last longer than 20—25 minutes. We should only give at most 4—5 baths, and as a whole not more than 10—25. As to the hydrotherapeutic treatment, we should adhere to the rules of Winternitz who almost exclusively administers demi-baths of a temperature of 30—22° C (86,0—71,6° F), and a duration of 10—6 minutes, and who "at the same time never gives rubbings but at most simply a massage or a packing and washes the back rather than douching it with high pressure."

Of the various spinal affections:

1. *Tabes dorsualis* and the combined posterior-lateral-cord sclerosis are preferably treated by cold-water cures and carbonic-acid thermal brine-

¹⁾ How far this view is correct, will only be determined by continued researches. At present we know from definite results (after the discovery of radium) of recent physico-chemical investigations that, apart from the as yet known thermal and mechanic stimulative effects of the baths on the skin, curative potencies are in the springs which are superior to the former (Determann).

baths, occasionally also by simple brine-baths, natural-baths, or sulphurated baths. The latter are almost only applied if at the same time an inunction-cure is considered suitable (compare with reference to this point what has been said in 1.2). For after- and intermediate cures a longer stay at favourable climatic stations is recommended, especially at places of a low or medium elevation which are neither relaxing nor too stimulating; for the winter, southern stations. By all these baths and climatic cures, the effect of which may also be improved by air-baths, and especially open-air resting-cures in many cases, a definite cure is unfortunately not obtained. But in a great number of cases the progress of the disease may be checked or some symptoms may be alleviated, at least the progress of the disease may be retarded.

2. The spastic spinal paralysis (lateral-sclerosis) and the congenital or early acquired spastic paraparesis may be treated with the same baths. Yet the result is usually insignificant. The baths when taken at an almost indifferent temperature, may relieve the spasms, but mostly only for a short time.

3. All the baths are ineffective for hereditary Ataxia (Friedreich).

4. The palsies due to poliomyelitis anterior acuta of children and adults are but slightly influenced by natural-baths, pine-needle-baths, brine-baths. Brine- and thermal-brine-baths are mostly recommended in the beginning, cold-water cures in a later stage.

5. In poliomyelitis anterior subacuta and chronica, as well as amyotrophic lateral-sclerosis all the baths are ineffective.

6. For the various forms of progressive muscular atrophy baths are also mostly applied in vain. Simple and carbonic acid thermal brine baths and mild cold-water cures seem to be of some advantage in individual cases by retarding the natural course of the disease. The disease is, however, only rarely checked entirely.

7. The lesions of the spine and of the nerve-roots due to arthritis deformans, to fractures and luxations of the vertebrae, and the so-called compression-myelitis so frequently produced by spondylitis tuberculosa (caries) are not rarely considerably improved by indifferent highly tempered thermal-waters (Wildbad, Gastein), sulphurated-, mud-, hot sand-baths, above all, simple brine- and carbonic acid thermal brine-baths. Particularly in the cases of compression-myelitis air-baths, open-air resting-cures, and after-cures at the sea or in the mountains are often useful.

8. In cases of pachymeningitis cervicalis hypertrophica we recommend natural-, brine-, and thermal brine-baths of an approximately indifferent temperatures with subsequent sweating.

9. In cases of primary spinal inflammations (myelitis transversa, myelitis disseminata, perimyelitis), as well as in complications of acute leptomeningitis, above all, brine-, and thermal brine-baths, furthermore natural-baths, sulphurated baths, chalybeate baths, and cold-water cures are suitable. In the more acute cases, however, these baths should only be applied if the affection does not show a progressive tendency. That for cases with a predominance of an increased reflex-irritability and spastic symptoms one should beware of carbonic acid thermal brine-baths is contradicted by experiences gathered at Oeynhausen. It is, of course, necessary to apply the proper temperature and bathing-method. Result of bathing-cures: rarely a cure, often in part a great improvement.

10. Palsies due to a primary haemorrhage in or around the spinal cord are in some cases cured, in others more or less improved by simple brine-baths, but especially by carbonic acid thermal brine-baths, and occasionally, by natural mineral-baths, and mild cold-water cures.

11. The same baths are used for the treatment of multiple sclerosis, syringomyelia, and gliosis of the spinal cord, both the latter, as a rule, without any, the former only in rare cases with a noteworthy success.

12. The bathing-cure for meningitis chronica syphilitica as well as for other spinal affections of a true syphilitic character is not different from that described sub I. 2.

3. Affections of the Medulla Oblongata.

For paralysis due to bulbar affections the baths recommended for myelitis are applied occasionally: but with none of them remarkable results can be boasted of.

4. Angio- and Throphoneurosis, Grave's Disease.

Hydrops articularum intermittens, aero-paraesthesia, Raynaud's-disease, erythromelalgia are refractory to any bathing-treatment. Grave's disease is most favourably influenced by cold-water cures, carbonic acid thermal brine-cures, ferruginous baths, especially when combined with a drinking-cure of ferruginous waters, alpine and mountain-climate, short daily travels at sea.

5. Affections of the Peripheral Nerves.

1. Simple and multiple neuritis. The bathing-treatment of neuritis, as we know by experience, should not be ushered in, unless the natural recovery of the inflammatory symptoms favoured by absolute rest has commenced; we must begin the treatment if the recovery is unduly delayed or if it runs too slow or tardive a course. In this case we should in the first place prescribe short tepid (33—28° C = 91,4—82,4° F) brine- or better carbonic acid thermal brine-baths, furthermore, mild water cures or natural mineral-baths of an almost indifferent temperature. In very obstinate and inveterate cases one may proceed to powerful cold-water cures or stronger salt baths (up to 10 per cent. salt and more), to higher temperatures of brine-, carbonic acid thermal-brine and natural-mineral baths, and one may also try general and local mud- and fango-baths. In the summer, the patients may be sent to inland climatic stations, in the winter, to southern places. Which of these stations or places should be chosen is entirely dependent upon the question whether in the given case a more stimulant or a sedative permanent effect is desirable. The results of the above treatment are mostly satisfactory. The author observed complete recovery, in many cases, especially by the use of carbonic acid thermal brine baths.

2. Neuralgia. In the treatment of neuralgia by baths our first object must be to do away with all those conditions which in the given case must be regarded as the cause of neuralgia. Many a case of neuralgia due to anaemia, chlorosis and exsudates etc., may be cured by chalybeate-, brine-, thermal brine- and other baths. In all the other cases the main thing will always be the application of the most sedative baths and bathing-methods, since the affected nerve is in a certain condition of irritability. Such neuralgic patients are from this reason preferably sent to natural mineral-baths, perhaps also to sulphurated or brine-baths with a slight salt-content. The baths ought to have an approximately indifferent temperature, which is lowered for patients with an irritable nervous system and raised in inveterate rheumatic or traumatic forms. There can be no doubt that by such baths many a case of neuralgia may be improved or even cured. But it is likewise undoubtedly true that there is quite a number of patients who are not benefited as desired. We must then try "to compensate the circulatory disorders caused by direct or reflex nervous irritations in the affected nerve by a stronger nerve irritant bringing about a powerful reaction" (Winternitz). For this purpose we apply cold-water cures, steam-baths (Baden-Baden and others), strong simple brine-baths, carbonic acid thermal brine or chalybeate baths of at least indifferent temperature, hot sulphurated and natural mineral-baths, general and local mud- and fango-baths, hot sand-baths, strong douches etc. We are unfortunately lacking very often in characteristic symptoms giving a clue as to the application of the one or the other bathing-cure, of a sedative or a stimulant one: we are, therefore, mostly confined to finding out by a trial. As for the rest, climatic cures combined with open-air

resting-cures, especially a sojourn in a warm and uniform climate, or with exhausted or depressed patients a stay at the sea-coast or in a mountain-region of a medium or high altitude, are of a favourable influence on the course of some cases of neuralgia.

6. Neurosis.

1. *Hysteria.* As in hysteria chief stress is to be laid upon influencing the patient psychically in a suitable way, a treatment in a sanatorium is, as we know, for many hysterical patients the best. Now experience has shown that in many cases of hysteria a combination of a hydrotherapeutic with a psychical treatment is particularly beneficial. Such patients should from this reason be sent to sanatoria the directors of which are familiar with both these therapeutic methods. Not all hysterical patients, however, will submit to this combined treatment, and there is even quite a number of cases in which we have to dispense with it, at least temporarily, from somatic, psychical or other reasons. For such cases the chalybeate-, simple brine, and carbonic acid thermal brine-baths are principally applied, especially if we have reason to trace back the hysterical condition to a primary or secondary anaemia, to scrofula, to persistent diseases of important organs (uterus etc.). It is obvious that the good result which is often enough obtained after applying these baths is, to a great extent, to be attributed to the confidence of the patients in the well-known and far recommended curative power of the concerned springs. The influence of climatic cures, air-baths, resting-cures (a stay at the sea-coast [to the best in sanatoria], in the forest, in mountains of a medium and high altitude, at winter-stations on this side or that side of the Alps), which are exclusively applied for hysteria, in the most cases after or between bathing-cures, is frequently very beneficial. Yet not rarely the condition remains unaltered or is even deteriorated. This is in the nature of hysteria, and the climate of the concerned health-resort cannot always be made answerable.

2. *Neurasthenia.* In the treatment of neurasthenia, too, hydrotherapeutic cures taken best of all in a closed sanatorium, play a great part; favourable results are, however, often obtained by natural mineral-baths, ferruginous, brine- and thermal brine-baths. As the carbonic-acid thermal brine-baths are known to agree well with and to be taken willingly by weak, exhausted patients needing much heat, even when taken at comparatively cool temperatures, just these baths may compete successfully with hydrotherapeutics in neurasthenia as well as in hysteria. At any rate, it is sure that a great number of important symptoms of these affections (insomnia and vertigo, head-ache, nervous dyspepsia, palpitation of the heart, cardiac neurasthenia etc.) is influenced in the same favourable way by both these methods of treatment. Sea-baths as well as daily short travels on the sea and sea-voyages of a longer duration have proved useful in many cases of neurasthenia, they are, however, almost exclusively indicated for strong individuals in the incipient stage of the disease. Climatic cures are in the average more useful in neurasthenia than in hysteria; these cures are, however, to the best also taken in closed sanatoria combined with the simultaneous abundant use of air-baths and open-air resting-cures. Whether this be done in a wooded plain, at the sea-coast, in mountains of medium- or high altitude, is altogether dependent upon the degree of irritability and asthenia of the nervous system. One should take care of not sending very irritable or prostrated patients, or those suffering from insomnia or arteriosclerosis, to the alpine regions or to sea-baths, which, as most of those situated at the North-Sea, ask too much power of resistance of the nervous system. We should also avoid prescribing to neurasthenic patients with prevailing depressive symptoms a stay in a moist and cool insular or coast-climate; at any rate they will agree far better with a dry alpine climate. The same is true of patients with cardiac neurosis.

3. The morbid conditions known as anxiety, compulsory, delusions, astasia, abasia, akinesia algera develop usually on the basis of hysteria or

neurasthenia; the bathing and climatic cures are consequently the same as for the latter.

4. The treatment of the cases grouped under the so-called traumatic neurosis which is so frequently associated with hysteroneurasthenic symptoms, is not different from the treatment usually applied for hysteria and neurasthenia.

5. Hemicrania (migraine) offers no grateful field for bathing-cures. If, however, anaemia is playing a part in the affection, we do not rarely succeed in alleviating or perhaps curing the attacks by ferruginous-baths and drinking-cures, and, if obstinate constipation is existing, by purgative spring-cures. Cold-water cures, brine or thermal brine bathing-cures, climatic cures in mountains of a medium or high altitude, at the sea-coast or at winter stations may also, now and then, act favourably upon the course of migraine by improving the general condition.

6. Idiopathic as well as reflex epilepsy are never improved by bathing-drinking-, or climatic cures; we may, however, succeed in reducing the doses of bromine the patient was accustomed to take, by applying a mild hydrotherapeutic treatment.

7. The various localized muscular spasms may, as we know by experience, sometimes be benefited in those cases in which there is a causal relation to some general nutritional disorder, above all, however, to hysteria or neurasthenia: if so, the cures indicated for these conditions are recommended.

In other cases, especially in Chorea minor, the mild cold-water cures are of particular value, occasionally also carbonic acid thermal brine-baths, provided the patient may have, at the same time, as much repose as possible (resting-cures in or out-side the room).

In cases of paralysis agitans most of all an undisturbed stay in the country is recommended; besides, mild hydrotherapeutic measures may also be of some advantage.

X. Diseases of the Skin.

By Dr. B. Brandis, Geheimer Sanitätsrat, Godesberg, and Dr. J. Beissel, Geheimer Sanitätsrat and Bathing-Inspector, Aachen.

Balneotherapeutic methods have most naturally their principal point of attack on the general coating of the body. The mechanical action of the baths, their content of chemically not indifferent substances, their thermal irritation on the peripheral cells and nerves of the skin call forth a reactive function in the whole body manifesting itself in centrifugal flow of juices from the internal organs to the skin. This flow of secretion breaks the vital contact of the cells of the epidermis, and dilates the meshes of the connective tissue cutis. By this flow of juices toxins and pathologic substances of any kind are excreted, as the different bath elicits an increase of metabolism in the whole body. As the skin, however, itself is involved in a great number of internal diseases, it is obvious that a bathing-cure will indirectly be a powerful remedy for diseases. The bath is, however, in the first place also directly of a very great influence on the external integument of the body. The cutaneous congestions are removed by baths, the vital functions of the skin are increased, and the local inflammatory products are reabsorbed. The bath is an indispensable means for cosmetics and for removing uncleanness of the skin, for which purpose some mineral-waters are especially suitable on account of their content of alkalis, their soapy property, and their content of carbonic acid. The removal of deposits of pathologic substances on the skin, of scales and crusts by means of baths is a valuable aid to the application of the remedies applied in dermatology, since only the cleaned and softened skin is prepared for the effect of those remedies. This purpose may be answered by general as well as local baths, especially with flowing water or vapours. The sparing removal of dried secretions, scales and crusts which furnish a permanent culture medium for numberless microorganisms and exert irritations on the affected parts of the skin, is particularly one of the requirements for a successful treatment of skin diseases.

A further advantage of a bathing treatment of skin-diseases consists in isolating the affected skin from the irritative influence of the external air. Pathologic exsudates are removed by the bath, and a drying up of secretions is prevented. As the salt content of the latter is increased by drying, and the secreting part of the skin is irritated thereby, the brittleness of the skin, and fissures, and the formations of cracks on the affected part of the skin will be prevented in the bath, and also for a long time after having taken the bath, if suitable dressings, salves, pastes, gelatine are applied at once. From this reason a bathing cure furnishes for example "in eczema almost without exception the most grateful results obviously only to be attributed to the mode of treatment".

According to their duration, their temperature, and their salt content mineral-baths may either mitigate an inflammation or, when in a prolonged contact with the skin, irritate it and produce dermatitis. The "To- and fro-bathing" of our ancestors, as it is still en vogue at Leuk, aimed at producing a dermatitis by hot baths continued for hours which proved pretty useful in scabies and psoriasis. — The reddening, urticaria, the formation of pustulae even after baths of a shorter duration, occurring especially in brine baths in sensitive individuals, show distinctly to what an extent the affected skin is altered by the baths. For dermatosis due to animal and vegetable parasites with a mostly acute course, there is nowadays a great number of antiparasitic remedies at disposal, and we may in these cases, consequently, dispense with powerful bathing-methods. On the other hand, the culture medium for many pathogenic germs and microbes is altered, the germs are destroyed, or at least prevented from producing detrimental vital products — toxins — by baths. According to recent researches the radium-emanations of many mineral-waters are very likely of a bactericidal influence in many skin-diseases.

Cold baths, i. e. baths below a temperature of 35° C (95° F) mitigate the inflammation, particularly in subcutaneous inflammations, phlegmones and ulcers. — The same bath is recommended for lowering a hypersensitiveness of the skin, for anomalies of cutaneous secretion, for comedones, acne, inclination to urticaria, erysipelas and erythema.

Hot baths, especially thermal steam-baths (in form of box-steam-baths, or currents of vapour or steam-douches) are specific remedies in congestions, in nodules or denudation of the cutis, as for example in furunculosis, in phlegmone, acne, lupus vulgaris and erythematosus, ulcers of the feet, in which cases the healing is to be ascribed to active hyperaemia.

The internal application of mineral-waters is likewise not immaterial for the treatment of skin-diseases. It influences the general nutrition, increases the metabolism of the whole body, raises the cutaneous function, the secretion of sweat, the urinary excretion, it calls forth an increased respiratory exchange and raises the intestinal function. The affections of internal organs which very often constitute the cause of a cutaneous affection or give rise to relapses of the latter, are favourably influenced by drinking the proper mineral-waters, and the cutaneous affection may also be improved. All the vital functions of the body may be modified in the way of assisting in the improvement of the cutaneous affection, which under the influence of the detrimental effects at home was aimed at in vain.

The drugs prescribed internally for cutaneous affections, as arsenic, mercury, iodine etc. are more agreeable when combined with a mineral-water cure, and their passage through the body is accelerated. This explains their less toxic and greater curative effect.

Though efficacious, however, mineral-water cures may be for skin-diseases, they are yet not sufficient for the cure of many cutaneous affections. But a great number of indispensable skin-remedies is not only agreed with very well just when combined with a bathing cure, they develop, moreover, a remarkably favourable effect. Let us only mention here the application of tar-preparations which are extremely efficacious, particularly when applied in a bath; furthermore, chrysophanic acid, chryso-robin, pyrogallie acid etc., the pyrogenic effect of which is lowered by the baths, so much so that they can only be applied in sensitive patients when combined with baths.

There are but few skin-diseases that are not treated at the various health-resorts. The most frequent affections are the various forms of eczema, urticaria, exanthema, for example drug-exanthema after the use of iodine and bromine, dermatitis particularly in diabetes and jaundice, prurigo, intertrigo, acne, hypertrophy and atrophy of the skin, lupus, neurosis, functional disorders of the skin, and especially psoriasis, which on account of its various forms and extension is often a grateful, but often also quite an obstinate object to treatment at mineral-baths. —

For the choice of a bathing-place in all these diseases not only the form of the cutaneous disease, but in many cases the affection which is to be considered the cause of the cutaneous affection, are decisive. Anaemia, chlorosis, scrofula, gout, rheumatism, diabetes, congestions of the liver and the portal circulation are known by experience to be conditions which are associated with cutaneous affections and, as the cause of the latter, are of a determinative value when selecting a health-resort.

The alkaline sulphurated-sodium-chloride thermal waters are most frequently recommended for skin-diseases. They owe their repute not so much to the small amounts of unstable sulphurous compounds contained in them as to the non-irritative property of the baths, and to the rational modes of application. Psoriasis is pretty often improved or cured by these baths, as chrysophanic acid, strong preparations of precipitate ointments and tar-preparations may be applied in strong concentrations when combined with such warm prolonged baths. The latter remove the psoriatic scales, the douches and steam baths applied promote perspiration and have a tonic effect upon the hyperaemic layers below the psoriatic efflorescences. The internal use of the sulphurated water is apparently not without influence upon psoriasis on account of its curative effect on the coëxisting gastro-intestinal catarrh. Eczema is cured very rapidly by the use of the above mentioned thermal waters with or without the simultaneous application of salves, pastes, or dressings. Douches, especially in combination with massage, are very suitable for the treatment of acne and sycosis: prolonged full-baths for prurigo. An indication for the application of sulphurated thermal waters is given in lichen with a slight degree of irritation, chronic impetigo, intertrigo, cutaneous neurosis, especially pruritus cutaneus.

Strong sodium-chloride waters and brines are especially indicated for cutaneous affections on a scrofulous basis, for eczema of infants and non-scrofulous, eczematous psoriasis; they may also be applied for the treatment of skin-diseases in which an infectious agent, for example tubercle-bacilli, have penetrated into the deeper layers of the skin, and can only be attacked by balneological procedures acting upon the surface of the skin. Furunculosis, lupus, scrofuloderma, lichen, lichen planus with a simultaneous internal or subcutaneous treatment by arsenic, acnerosacea, are treated with brine-baths. These serve, above all, as an aid to the local treatment and the phototherapy necessary for these conditions. — Although sea-baths are mentioned here as strong sodium-chloride waters, we must especially warn of applying North-Sea baths for psoriasis. — Chalybeate-springs, especially the ferruginous acidulous waters rich in carbonic acid, are used as tonic agents in skin-diseases. They should be applied if the latter are associated with pathologic alterations of the blood, with disorders of the gastro-intestinal function, with diseases of the female genital organs. In urticaria, acne rosacea, individual forms of eczema, atrophic conditions of the skin, great success may be expected from using ferruginous waters.

Special attention is to be paid to arseniate-ferruginous waters, above all, in combination with tonic baths. They are recommended for urticaria, psoriasis, eczema on an anaemic or scrofulous basis, in atrophy of the skin, applying at the same time stimulant or sedative douches.

Bitter-waters and Glauber's salt-waters are in the right place for treating skin diseases if toxic substances are to be eliminated from the body, as particularly in drug-exanthema, and urticaria. They are principally indicated in those cutaneous

affections which seem to be due to diseases of the liver or disorders in the portal system, among others in pruritus cutaneus and ani, intertrigo, furunculosis, dermatitis, acne rosacea, and in pigment-atrophy of the skin. Profuse secretion of sweat, often a symptom of fatty and lymphatic degeneration, may be cured by the combined application of bitter-waters and ferruginous waters, provided the mode of life be rational.

Alkaline springs and alkaline sodium-chloride thermal waters are applied in suitable cases of anomalies of secretion of the sebaceous glands as well as in hypertrophy of the epidermis (scleroderma, ichthyosis, elephantiasis). For the treatment of dermatitis due to diabetes, of prurigo vulvae, and of the rare impetigo herpetiformis gravidarum, these waters are of an undeniable value.

For the cure or mitigation of prurigo on a neuropathic basis many health-resorts are visited. For a direct alleviation of the condition and a gradual modification of the cutaneous nerves those bathing-places might, however, be the most efficacious, the springs of which permit of a prolonged stay in the bath or a frequent repetition of the bath, as for example the sulphurated thermal or the indifferent thermal baths.

Herpes, pemphigus, erythema exsudativum, multiforme and nodosum cannot be benefited very much by balneotherapy.

XI. Chronic Affections of the Sensory Organs.

By Dr. *O. Thilenius*, Geheimer Sanitätsrat, Soden at the Taunus.

Formerly when ophthalmoscopy and otiatrics were not on as high a stage of development as nowadays, drinking- and bathing-cures were often applied for chronic affections of the eye and the auditory organ. Nowadays, they are only taken into consideration, if complications, especially catarrh of the mucous membranes of neighbouring organs or circulatory disorders in the abdomen, are influencing the blood-circulation of the eye or the ear.

Drinking-cures with sodium-chloride springs, alkaline-sulphurated waters, and bitter-waters serve to this purpose according to the individual case. Bathing-cures are only prescribed with regard to the general condition.

COMPARATIVE TABLES

OF THE

Centigrade, Réaumur, and Fahrenheit Thermometers

Cent.	Réaumur.	Fahr.	Cent.	Réaumur.	Fahr.	Cent.	Réaumur.	Fahr.
°	°	°	°	°	°	°	°	°
100	80·0	212·0	66	52·8	150·8	32	25·6	89·6
99	79·2	210·2	65	52·0	149·0	31	24·8	87·8
98	78·4	208·4	64	51·2	147·2	30	24·0	86·0
97	77·6	206·6	63	50·4	145·4	29	23·2	84·2
96	76·8	204·8	62	49·6	143·6	28	22·4	82·4
95	75·0	203·0	61	48·8	141·8	27	21·6	80·6
94	75·2	201·2	60	48·0	140·0	26	20·8	78·8
93	74·4	199·4	59	47·2	138·2	25	20·0	77·0
92	73·6	197·6	58	46·4	136·4	24	19·2	75·2
91	72·8	195·8	57	45·6	134·6	23	18·4	73·4
90	72·0	194·0	56	44·8	132·8	22	17·6	71·6
89	71·2	192·2	55	44·0	131·0	21	16·8	69·8
88	70·4	190·4	54	43·2	129·2	20	16·0	68·0
87	69·6	188·6	53	42·4	127·4	19	15·2	66·2
86	68·8	186·8	52	41·6	125·6	18	14·4	64·4
85	68·0	185·0	51	40·8	123·8	17	13·6	62·6
84	67·2	183·2	50	40·0	122·0	16	12·8	60·8
83	66·4	181·4	49	39·2	120·2	15	12·0	59·0
82	65·6	179·6	48	38·4	118·4	14	11·2	57·2
81	64·8	177·8	47	37·6	116·6	13	10·4	55·4
80	64·0	176·0	46	36·8	114·8	12	9·6	53·6
79	63·2	174·2	45	36·0	113·0	11	8·8	51·8
78	62·4	172·4	44	35·2	111·2	10	8·0	50·0
77	61·6	170·6	43	34·4	109·4	9	7·2	48·2
76	60·8	168·8	42	33·6	107·6	8	6·4	46·4
75	60·0	167·0	41	32·8	105·8	7	5·6	44·6
74	59·2	165·2	40	32·0	104·0	6	4·8	42·8
73	58·4	163·4	39	31·2	102·2	5	4·0	41·0
72	57·6	161·6	38	30·4	100·4	4	3·2	39·2
71	56·8	159·8	37	29·6	98·6	3	2·4	37·4
70	56·0	158·0	36	28·8	96·8	2	1·6	35·6
69	55·2	156·2	35	28·0	95·0	1	0·8	33·8
68	54·4	154·4	34	27·2	93·2	zero.	zero.	32·0
67	53·6	152·6	33	26·4	91·4			

Balneography.

SECTION I.

Bathing Places and Climatic Health-Resorts.

Bad Aachen (Aix-la-Chapelle).

(Aachen-Burtscheid.)

Situation and Climate: Bad Aachen (Aachen-Burtscheid) is situated in a pleasant basin-shaped valley, 6 km distant from the frontiers of Belgium and Holland. The town has 156 008 inhabitants, and many kinds of industry (cloth- and needle-manufacture). On account of its sulphurous springs it is a health-resort renowned since thousand years. Toward the south and south-west the basin-shaped valley of Aachen is closed by large forests, passing over toward south-east into the romantic Eifel-mountains. The soil is porous and well drained. The drainage-system answers all the requirements of modern hygiene, and there is, besides, excellent water-pipe system supplied with water originating from the chalky mountains in the south-east.

Curative factors: Alkaline-sulphurated sodium-chloride thermal waters originating from 10 springs at Aachen, and 18 springs at Aachen-Burtscheid. The temperature of the various springs is $73,4^{\circ}$ C. — 38° C. (164° — $100,4^{\circ}$ F.), and they belong therefore to the hottest springs to be found in Middle-Europe (Carlsbad Sprudel $72,5^{\circ}$ C. = $161,6^{\circ}$ F.). The waters are applied for single baths, douches, steam-baths, inhalations and for drinking-cures. The thermal waters are extremely copious, yielding in 24 hours the amount of 5000–6000 cc. of water, which would be sufficient for as many baths.

Indications: The cure in Aachen is recommended for the following diseases:

1. Rheumatism and gout for which the cure of Aachen, especially the douches, are of an almost specific effect.
2. Affections of the nervous system such as: a) Affections of the central-organs (brain and spinal-cord), and complications as paralysis, muscular atrophy, radiating pains etc.; b) Affections of the peripheral nerves, particularly sciatica, toxic palsy due to alcohol or metal poisoning; c) general nervousness, especially irritability and insomnia.
3. After-treatment of inflammations, of traumatism and complications.
4. Affections due to mercury treatment, to lead- and arsenic-poisoning.
5. Scrofula.
6. Skin-diseases, especially eczema, acne, furunculosis, psoriasis, prurigo, pruritus cutaneus, and ulcers of the legs.
7. Diseases of the blood.
8. Torpid conditions of the liver, spleen, of the stomach, the intestines, and chronic dysentery.
9. Chronic catarrhs of the mucous membranes, of the naso-pharynx and the air-passages.
10. After-treatment of inflammations of the female sexual organs.

Entertainments: The Kurhaus in Camphausbadstrasse is open all the year round. Concert-halls, playing and reading-rooms, parlours and bars etc. In the reading-room permanently 200 newspapers and journals of any political colour. A second Kurhaus with magnificent park is situated in the district of Burtscheid in the Kurbrunnenstrasse. Excursions to the delightful surroundings. The grand forest of Aachen is to be reached within a few minutes by the electric tram.

Aachen is situated on the route Antwerp and Ostende to Cologne, and is reached in about 12 hours from London via Calais, Ostende or Flushing.

Detailed illustrated prospectus (in German, English, French), and medical descriptions are sent free of charge on application to the

Kurdirektor.

Abbazia (Austrian Riviera).

Winter health resort.

Open all the year round.

Topography. On the eastern coast of Istria, latitude $45^{\circ} 29'$, longitude $31^{\circ} 58'$, one hour from Fiume, protected from north-west by the Monte Maggiore, 4886 feet high, and from the north by the huge spurs of the Dinaric Alps, surrounded by an abundant southern vegetation and extensive laurel-groves, is situated Abbazia, the principal climatic coast spa of Austria.

Climate: The climatic conditions are extremely favourable, owing partly to the equalizing effect of the ocean on the temperature, partly to the protection offered by the high mountains from the north. The mean annual temperature is 13.2°C . (55.5°F .); the mean winter temperature 7.9°C . (46°F .). Thus approaching that of Nice (8.5°C . = 47°F .). The relative moisture of the air in Abbazia amounting to 78% on the average, is superior to that of the Riviera. Atmospheric pressure 760.2.

Curative factors and Sanatoria: Warm sea- and fresh-water baths. Hydrotherapeutic institutes with separate departments for ladies and gentlemen. Carbonic acid sea-baths and ozet-baths. Electric baths, system Prof. Gärtner and Dr. Schnée, electric light-baths, appliances for galvanization, faradization and franklinization. Massage and apparatus for Swedish vibration-massage, Finsen light-treatment, Arsonization, Rumpf-apparatus, inhalatorium, air- and sun-baths, medico-mechanic Zander-institute of Dr. Stein, Röntgen-institute. Dr. Mahler's Sanatorium for heart-diseases, New Kurhaus (Dr. Franz Schalk), Sanatorium of Dr. K. Szegö. Milk-, kephir- and whey-cures, mineral-water and grape-cure, roads for Terrainkur, sea baths at the coast from end of April to beginning of November (instruction in swimming). Mean temperature of water in May 19°C . (66.2°F .), June 23.1°C . (73.5°F .), July and August $25-26^{\circ} \text{C}$. ($77-78^{\circ} \text{F}$.), September 22°C . (71.6°F .), October 18.1°C . (64.5°F .). Very high salt-content: 38-39 per mille.

Indications: Diseases of the circulatory organs (chron. myocarditis, adipose heart, valvular lesions, atheroma, cardiac neuroses including Grave's disease). Functional and organic nervous affections. Hay-fever, chronic laryngeal catarrh, catarrh of the pharynx and bronchial catarrh (particularly during the moist months of October, November, December, March and April). Apical catarrh and infiltrations without fever (in spring and in autumn as a transitory station). Pleuritic exsudates, scrophulosis, grave convalescence.

Physicians: Regierungsrat Prof. Dr. Glax, leading physician, and 32 physicians.

Hotels: Numerous Hotels of 1st and 2nd class, excellent pensions, private-boarding and country houses. In all the large pensions you don't only find electric light and an excellent water-supply from the Monte-Maggiore spring-aqueduct, but also rooms with good stoves, double windows and boarded flooring as well as rooms heated with hot-air. Prices of pensions (room including full board) range according to location, size and furnishing of the room from 7 to 20 Kronen per day and person. Excellent canalization (biological system), clean removal of rubbish and combustion of refuse. Vacuum-cleaner and other suction-apparatus. No mosquitoes.

Amusements: Kur-orchestra, tennis-lawns, theatre, concerts, Adria-club, international swimming races and lawn-tennis matches, boat-races. Magnificent smooth strand-promenades wholly free from dust (9 km long); splendid parks with subtropical vegetation, long and well kept promenades to the surrounding mountains; daily short excursions by water. Trips by water to the islands, and as far as Venice and Dalmatia.

Kurtaxe: 3 Kronen, and 2 Kronen music-tax per week and person. Physicians and their families free.

Means of **Communication:** Abbazia is half an hour distant from the Southern Railway-station Abbazia—**Mattuglie**, whence an electric branch-line runs to the health-resort in 30 minutes. Travellers arriving at Fiume with the Hungarian States railway reach Abbazia within an hour by car or within 40 minutes on the steamers passing every hour between Fiume and Abbazia.

Running-time. Abbazia can be reached from Vienna in 12, from Berlin in 24, from Munich in 18, from Paris in 29, from London in 34 hours.

Abbazia—Triest with post-automobile in 3 hours.

Number of visitors: 45 000 persons a year.

Information is given and prospectus promptly delivered by the

Kur-Committee.

Acquarossa.

Situation: The bathing establishment of Acquarossa is situated in the Val Blenio (Canton of Tessin, Switzerland), about 10 km. from the Gotthard-line station of Biasca. From Biasca to Acquarossa 20 minutes' drive by electric railway. It can be reached in about three hours from Lucerne as well as from Milan. The baths are in connection with a large Hotel offering all modern comfort (large drawing rooms and 80 beds); it is standing on a hill dominating the valley. There are large pine-forests close by; there is likewise no lack of opportunity for excursions to Piora, Disentis or to the Oberland of Grisons.

Climate: Acquarossa offers the advantages of a moderate climate, even mild in mid-summer (18—22° C = 64,4 — 71,6° F): 2100 feet above sea level. The lofty mountain crest of the Rheinwaldhorn gives shelter against rough winds, and moderates disagreeable heat.

Bathing-cures: The thermal springs of Acquarossa contain iron, arsenic and lithium. The analyses made by Professor G. Bertoni, and Professor Scarenzio's experiences of many years, confirm fully that these baths are of an extreme efficacy in skin-diseases (eczema, lupus, psoriasis), in anaemia, weakness of the genital organs, and likewise in urinary diseases and gout.

Fango is especially applied for chronic eczema, rheumatic exsudates, gout, and chronic arthritic affections, and certain complications of fractures.

Many certificates of physicians about the effects of the baths and of fango are at disposal.

Drinking-cure: At the grotto of the spring, according to special prescription of the physician. Kurtaxe 15 frcs. for the entire duration of the cure.

Doctors: There is a resident physician in the hotel during the whole season, under the supervision of the leading physician Professor Bertazzoli of Milan.

Alexandersbad in the Fichtelgebirge.

Chalybeate-Bath, Mud- and Pine-Needle Bath.

Alexandersbad is situated at the foot of the renowned and most picturesque rocks of Luisenbad, protected against winds, amidst grand pine-needle forests extending for miles, near Bayreuth and Hof, and also near the Bohemian health-resorts of Franzensbad, Marienbad, Carlsbad, in a mountainous region, 2065 feet above sea level. Aromatic air, rich in ozone and free from dust. No oppressive heat in mid-summer. Favourable combination of alpine and forest climate, bracing and invigorating.

Curative Factors of the chalybeate bath: 1. Three ferruginous springs: a) Königin Luisenquelle, b) (bored in 1905) Prinz Ludwigsquelle, c) die alte Quelle. The pure acidulous chalybeate spring (0,058 bicarbonate of ferrous oxide, 1,214 carbonic acid, temperature 9,4° C. = 48,5° F.) rich in carbonic acid, is amongst the best ferruginous waters. It agrees well even with a weak stomach, and is excellent for natural carbonic acid baths. The latter are prepared in the bathing establishment enlarged in 1902 by two new wings, and furnished in the most modern style. 2. Mud-baths prepared from excellent mud with the above mentioned chalybeate water. 3. Pine needle baths, prepared daily by extraction from fresh needles. 4. Pine-needle vapour inhalation in two cabinets equipped for this purpose. 5. Alpine and forest climate with aromatic air, free from dust. Very quiet place. Resting-cures in large parks and in the adjacent forests. 6. As the health-resort also owns a "Kuranstalt", visitors of the bath may take advantage of all the hydrotherapeutic, electric, mechanic and dietetic methods, and also of the sun- and open-air baths of this institute.

Indications: Chlorosis, anaemia, nervous affections and myasthenia caused by anaemia, exhaustion due to puerperium and severe operations, delayed convalescence after affections of internal organs, diseases of women, rickets, scrofula, muscular and articular rheumatism, gout, paralysis, inveterate exsudates, chronic bronchitis.

Resident physicians: Dr. Haffner, and Dr. Scharff, consulting physician.

There are at the chalybeate bath station more than 150 rooms for lodging in Schloss Ludwigsburg, Marienburg and Schweizerhaus. Price for room with 1 bed from Mk. 1.25 per day according to size and furnishing. Up to June 25th and after September 1st reduced rates.

Boarding: Excellent cooking. Meals à la carte or pension Mk. 5.00 per day. Restaurant in the new Kurhaus with the dining-rooms for "Kuranstalt" and "Stahlbad", connected with boarding houses by colonnade; verandas and bar-rooms.

Playing-grounds for children and adults, tennis, croquet, nine-pins, gondoling, fishing, library, great variety of excursions.

Kurtaxe including tax for music: For 1 person Mks. 10, for 2 persons Mk. 15, for 3 and more persons Mk. 18. Prices for baths at fixed tariff (carbonic acid baths Mk. 1.50).

Post- and telegraph-office, 4 telephones. Spring-water supply and W. C. in all houses.

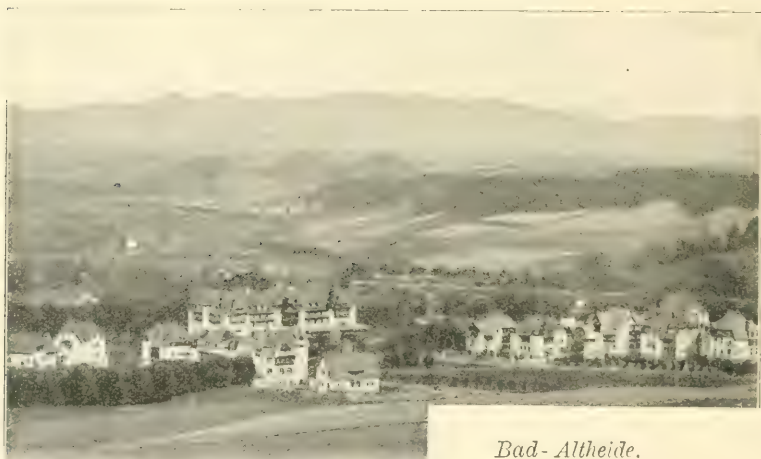
Season from Mai 15th to October 1st.

Means of communication: Railway-station of Markt-Redwitz within 40 minutes' distance, station of all express trains of the lines Berlin—Hof—Munich and Francfort—Nuremberg—Eger—Carlsbad—Vienne. Fiscal motor-post for the principal trains from and to Alexandersbad. Travellers coming from the north may also get off at Hohenbrunn—Wunsiedel. Carriages are most willingly sent to the station on application to the Administration.

Information and detailed prospectus by the

Badeverwaltung.

Bad-Altheide in Silesia.



Bad-Altheide.

Situation: Bath Altheide protected against the wind, 1400 feet above sea level, situated at the outlet of the romantic Hölental, and enclosed by a girdle of wooded hills. Owing to its salubrious springs and its splendid situation between forests and hills, this place was visited already in mediaeval ages by people wanting health and recreation. During the past 7 years, however, this bathing-resort gained considerably in importance, after 2 enormous carbonic acid springs (sprudle) had been drilled, and a magnificent Kurhaus as well as 50 country-houses were built. Pleasant chains of hills easily ascendable, and 2100 to 3150 feet high, enclose a deep valley on the bottom of which the springs originate. From the hills down almost to the springs there extend huge old fir- and pine-forests, imbuing the air for long distances with their resinous scent.

Climate: A uniformly-refreshing mountainous and forest-climate; mean seasonal temperature 17,4^o C. (63^o F.)

Curative factors: 1. Ferruginous springs rich in carbonic acid: the "Grosse Sprudel", "Charlotten-Sprudel", "Josephs-Quelle", the "Badhaus-Quelle" spring with a total capacity of 2 millions of liters daily. 2. The physico-hydrotherapeutic appliances:

hydrotherapy, electric baths, in general all contrivances procured by modern science in the direction of hydro- and electro-therapeutics. 3. Dietetic cures Milk-, whey-, feeding-cures etc.)

The natural carbonic baths of Altheide, acting as an extremely refreshing and invigorating stimulus, belong to the most excellent of their kind.

The ferruginous mineral mud employed for mud-baths is obtained from the fen-district belonging to the bath. It is rich in active principles, such as particularly sulphate of ferrous oxide, sulphuric alkali, formic- and sulphuric acid, humus-acid.

Indications: Especially heart-diseases (valvular lesions, dilatation of the heart, cardiac neuroses, adipose heart, arterio-sclerosis), anaemia, the various kinds of anaemia, constitutional debility (especially after malaria and long stay in the tropics), chlorosis, women's diseases of various kinds, light nervous disorders, rheumatic affections of the muscles and joints, gout with its various symptoms, people wanting recreation, and convalescents.

Physicians: (according to the time of their establishment): Dr. Klose, Sanitätsrat Dr. Beerwald (during Winter in Berlin), at the same time leading physician of the sanatorium; Dr. Pohl, Dr. Bauke, Dr. Fundner, Dr. Lewinsohn.

In 1905 a new Kurhaus was built, in which the comfort of a first class hotel is associated with a more intimate family-character. In a side-wing of this Kurhaus are the well-aired, fine bath-rooms, supplied with all contrivances of modern technique for natural carbonic-acid and mud-baths. The Kur- and bathing-house is surrounded by large parks extending as far as the forests.

There is a great number of recently built country-houses in Altheide suitable for the constantly increasing number of visitors, and, in addition, in the village of Altheide an abundance of cheap and good boarding places with and without pension. A first class Sanatorium is opened during the whole year. The prices are moderate and the natural spring baths of Altheide can be taken in the Sanatorium.

Amusements: There are to be mentioned, above all, beautiful excursions through the Höllental or, on the other side, to the Heuscheuer Mountain, or beyond Falkenhain to the Glatzer Schneeberg. — Concert of the Kur-music band in the Kurpark three times a day, réunions every week, many concerts and theatre-performances, garden-parties, lawn-tennis, children's-parties and play-grounds.

Kurtaxe: For one person Mk. 20, for a family of 2 persons Mk. 26, of 3 and more persons Mk. 35. Children below 10 years of age free.

Prices of Baths: 1 carbonic acid ferruginous bath Mk. 2, 1 full mud-bath with cleansing-bath Mk. 3.50, 1 half-bath with cleansing-bath Mk. 2.75, 1 pine needle-bath Mk. 2, steam-bath Mk. 1.75, electric light-bath Mk. 3, 1 full-massage Mk. 2, 1 demi-massage Mk. 1.

Divine services: Protestant every Sunday in the Kurhaus, Roman-catholic daily in the conventual church of Altheide, and in the parish-church of Oberschwedeldorf.

Means of Communication: Altheide is a railway-station on the line Breslau—Glatz—Altheide—Cudowa. To be reached from Glatz in 20 minutes with the express. All fast trains stop at Altheide (bath-trains). The Kurhaus can be reached with a car in 10 minutes. The omnibus of the bath-administration is at the railway station on the arrival of every train.

Prospectus and information by the

Bath-Administration Altheide, Silesia.

Alvaneu-Bath.

(3500 feet above sea level close by station Albula-Railway Engadine.)

Season from June 1st to September 15th.

Climatically a very favourable and quiet place with picturesque-surroundings. Comfortable Kurhaus with 150 beds.

Climate: mild, moderately stimulating and invigorating. Air pure, free from dust and fog.

Curative factors: Strong sulphurous springs suitable for drinking and bathing cures. All modern appliances. Good curative results.

Indications: Gout and all forms of chronic rheumatism; nervous diseases; chronic catarrhs of the respiratory organs; chronic gastro-intestinal catarrh, swellings of the liver and spleen, congestions; chronic skin diseases; diseases of women; chronic catarrhs etc.

Alvaneu is to be recommended quite especially as a transitional station to the Engadine. — Abundant opportunity for excursions.

Resident **Physician**: Dr. Ed. Schmidt-Florinet.

Prices of Pensions: from 7 Frs. upward per day including rooms. Telephone. Mail-delivery and telegraph near the house. *H. Toggweiler, Proprietor.*

Andermatt.

5054 feet above sea level.

First-class Summer- and Winter-station.

Andermatt, situated in the centre of the Gothard-massive and embedded in the sunny valley of Ursern (Urserntal) offers all the advantages of the high Alpine climate. Excellent spring-water, canalization, electric light. Owing to its magnificent surroundings, Andermatt is of an old and good repute as a summer health-resort.

Season: June to October.

As a winter sporting place Andermatt is especially favoured by nature. (Beside several ice-fields and sledging-roads the slopes of the Gothard-massive offer great diversity for ski-tours: Oberalp—Colmot, Sellatal—Gothard-Hospice, Wyttenwassergletscher, Furka, and Rhonegletscher are renowned as first-class ski-roads.)

Entirely free from fog.

Sporting-season from December 1st to March 15th.

A cure in the winter in Andermatt is especially to be recommended in cases of anaemia of different kind, of insomnia and exhaustion, for neurasthenics and convalescents.

Resident physicians: Dr. Th. Monteagle, Dr. C. Schönbächler.

Kur-orchestras in the hotels.

Divine services: Roman-catholic service in the village church; Protestant, English.

Means of Communication: Andermatt is situated 5 km from the station of Göschenen of the Gothard-express-line; all fast trains stop at Göschenen. Running-time from London 23 hours, from Paris 13 hours.

Information by the

Travelling-Office.

Arosa.

Arosa, a climatic summer- and winter-station, hotels and pensions, 6020—6510 feet above sea level, situated in the highland valley of Plessur extending from north-east to south-west and parallel to the highland valleys of Davos and Upper-Engadine. This valley forms the upper part of the south-western branch of the Schanfigger-Valley extending from the east to the south-west, through which the larger part of the Coire-Arosa mail-road (31.9 km long) is running.

The railway-station of Coire is in direct express-communication with all the larger cities. The mail-coach goes three times a day to Arosa over Langwies, a ride of 5 $\frac{1}{2}$ hours (down hill 3 $\frac{1}{2}$ hours) through an extremely attractive scenery, during the time of snowfall in a closed sledge supplied with feet-warmers.

The **climate** of Arosa is that of the High-Alps. The mean atmospheric pressure is 610 mm. Excessive temperatures, in summer above 20° C. (68,0° F.), in winter below 10° C. (50° F.) are extremely rare. The summer is moderately warm, the winter uniformly cold. The situation at a free slope and the neighbourhood of the forest have a moderating influence upon the temperature. The relative moisture is in the winter 62 $\frac{0}{10}$ in the average. Arosa is almost entirely protected against winds, better than any other mountain air station. The clouding is less than in the plain, especially in the winter, when the duration of sunshine, according to the registrations of the sunshine-auto-graph, is greater than in any other mountain air station of which registrations are existing. The great intensity of the sunbeams and the relatively high temperature of the ground are corresponding to the altitude of Arosa, as almost half of the amount of atmospheric vapor is below, and the more rarefied atmosphere does not absorb so much solar heat. In the winter there is in, addition, a considerable reflex of heat from the snow. Fog is very rare, mostly ascending from the foot of the mountain-chain opposite Arosa. The purity of the air is due to the altitude above the sea level, to the absence of smoke and to the wide spaces between the houses. In the summer there is almost never any

considerable dust, while in the winter the snow lying for almost five months protects against it. The vicinity of large pine-forests adds remarkably to the advantages of the altitude of Arosa. Numerous smooth and slightly ascending promenades with benches run through these forests, the summer roads being open all the winter round.

Travellers are attracted during the summer by a variety of excursions, and promising mountain-trips. There is also opportunity for rowing on two beautifully situated lakes. In the winter healthy visitors enjoy the splendid skating-grounds and sledging-roads.

Instruction in all branches is provided for by a sufficient number of qualified teachers.

There is a high-pressure aqueduct with excellent spring-water in Arosa, likewise a rinsing-canalization; furthermore, telephone-communication to Coire and electric light over the whole place.

Indications: Debility of constitution, anaemia, pulmonary tuberculosis, malaria, neurasthenia, nervous asthma, convalescence after acute diseases.

Contraindications: Atheromatosis, non-compensated cardiac lesions, nephritis, leucaemia, pernicious anaemia, advanced pulmonary affections with serious complications of respiration.

Resident physicians: Sanitätsrat Dr. E. Jacobi (Sanatorium), Dr. O. Herwig (house of his own), Sanitätsrat Dr. W. Römisch, Dr. O. Amrein, Dr. A. Pedolin, Dr. E. C. Morland, Dr. F. Bauer, Dr. G. Hartmann, Dr. F. Lichtenhahn, Apothecary: Dr. A. Schäuble. — **Dentist:** Dr. med. G. Weber, two Röntgen-Institutes: Dr. med. A. Pedolin, Dr. med. F. Lichtenhahn.

Hotels and Pensions (open all the year¹): Hotel Pension Alexandra (C), Hotel des Alpes and Villa Zürrer (C), Pension Alpina (C), Hotel Arosa-Kulm and Villa Bergfried (C*), Pension Beauvillage (C), Hotel Pension Bellevue (C), Pension Bergheim (C), Hotel Pension Bristol and Schweizerhaus (C), Pension Daheim (C), Hotel Pension Eden (C), Hotel Excelsior (C), Pension Freia (C), Pension Furka (C), Villa Gentiana (Engl. Sanat.) (C), Grand Hotel (C*), Villa Dr. Herwig (C), Hotel Hof Arosa (C), Hotel Pension Hohenfels (C), Chalet Jugendheim (C), Kinder-Sanatorium Dr. Pedolin (C), Hotel Merkur (C*), Pension Quellenhof, Hotel Rhätia and Villa Germania (C), Sanatorium Arosa (C), Sanatorium Villa Montana (C), Hotel Pension Seehof (C), Chalet Soldanella, Pension Sonneck (C), Pension Sonnenschein, Chalet Tanneck (C), Hotel Pension Valsana (C), Hotel Victoria (C), Hotel Waldhaus (C*), Waldsanatorium. **Arosa-Maran** (6125 feet): (C), *Hotel Pension Hof Maran.

Private houses, letting flats and single rooms: Kornmann, Weisshorn, Semadeni, Häfely, Anna, Silesia, Waldrand, Helvetia, Valbella, Midi, Flora, Hohenzollern, Halder, Schöneck, Franca, Domenig, Edelweiss.

Very pleasant social life in the hotels. Kur-music, amateur-concerts, excursions, picnicks, pleasure-trips to the mountains, photographic exhibitions and bazars.

Kurtaxe: 1.40 Frs. per week for every person, children and servants excluded.

Means of Communication: Mail-coach three times a day both to and from Coire. Coire has very good communication to all neighbouring countries. Night-train Zürich—Gothardt, through train Basle—Paris: Basle—Frankfurt; Basle—Metz—Luxembourg; Zürich—Schaffhausen—Stuttgart; Sargans—Buchs—Feldkirch—Vienne or Brenner—Meran; Sargans—Rorschach—Lindau—Munich or Augsburg, Nuremberg, Hof, Leipzig, Berlin, Hamburg.

Direct cars from Salzburg, Amsterdam, Hamburg and Francfort on-the-Main to Coire and back

Detailed information supplied free of cost by the

Official Enquiry Office Arosa.

Arosa, Sanatorium Gentinana, Morland M. B., B. Sc. London, see Section II. "Sanatoria and Cure-Establishments".

Arosa, Sanatorium for Children, Dr. A. Pedol'n, see Section II, "Sanatoria and Cure-Establishments".

¹) Hotels marked with * take no invalids. — „C“ means Central-Heating.

Axen-Fels.

Climatic health Resort

2,200 feet above sea level.

Topography: Axen-Fels is beautifully situated amidst woods and green meadows, on the Lake of Lucerne, standing above it on a huge massive terrace of the celebrated Frohnalp, and is protected on the North and East by mountain ranges, whilst on the South commanding a superb panoramic view of the Lake.

Climate: Axen-Fels possesses all the great advantages of a subalpine climate. Amongst the many factors influencing this climate, may be mentioned the pureness of the air, the absence of dust, and the delicious odour of the pine-forests.

The temperature is always between 18—28° C (65—83° F) even during the summer, the daily variations being slight, the evenings being beautifully mild.

Axen-Fels is undoubtedly a very suitable stopping station for those going home from the South, or to the Alps, and vice-versa.

Health Indications: Extremely favourable results are derived from this climate of Axen-Fels, in connection with cases requiring bracing air during convalescence after many kinds of exhausting diseases, as well as in cases of all forms of neurasthenia, in general debility, in anaemia, and chlorosis, but no consumptives are admitted. To those who have been undergoing a cure at other Health Resorts, Axen-Fels can be specially recommended chiefly on account of its stimulating air, and of the unique facilities, which are to be found for taking exercise of all descriptions.

Palace Hotel: This Hotel may very aptly be called the "English Resort" above the Lake of Lucerne. It is a first class hotel, standing in its own spacious grounds, standing well above the Lake, and commanding unique views of Lake and mountain scenery. The House is massively built and can accommodate 250 guests, and is handsomely and tastefully furnished. The hygienic and sanitary arrangements are excellent. Special suites of apartments and bedrooms, with adjoining bathroom and toilette, can be obtained. Electric light is installed throughout the building, and there is a lift. Most of the apartments open on to a balcony, and all the rooms command a magnificent view. The rooms on the first floor facing the Lake, open on to a veranda 14 feet in breadth. The public rooms on the ground floor: the spacious lounge and vestibule, the three airy dining rooms, the billiard room, the ladies' drawing room, the library, the nursery, and the glass hall—offer ample accommodation for guests, even when the hotel is full. Several of these public rooms open directly on to a magnificent roofed veranda, 14 feet broad, and running the entire length of the building, a distance of 255 feet. Guests can sit here at any time (wet or fine) enjoying the open air, and in bad weather plenty of exercise can be taken. This veranda is furnished with comfortable cane chairs, lounges, and small tables, each supplied with an electric lamp for reading purposes, in addition to the general electric lighting. It is here the guests love to congregate in the evenings after dinner, and listen to the concerts, which are frequently given.

The Park in which the Palace Hotel stands, is one of the finest in Switzerland, situated high up on the Lake side, and extending for a distance of over one kilometre. It is very tastefully and artistically laid out, and there are many shady walks, providing an excellent exercise ground for any patients who may be suffering with cardiac trouble. Over one hundred comfortable seats are provided, each seat being cleverly arranged, so as to command a peep of some distant mountain or Lake scene.

Sports: The Axen-Fels Golf Club has rapidly become one of the most popular in Switzerland, and is managed by an English Committee, elected annually by the permanent members of the Club. The Club House, which is within two minutes' walk of the Hotel, is most commodious and comfortable, providing on the ground floor, rooms for Men and Ladies, and a Professional's shop, where Clubs and Balls and all the requisites can always be obtained, and on the first floor, a reading and writing room for the exclusive use of the permanent members, a very large general Tea room, Secretary's office, and Bar. All these rooms opening on to a balcony some 6 feet wide, and from which an extensive view of the Course can be obtained. The Committee have recently acquired ground, which they have laid out for the use of the Professional for giving lessons.

Captain: Dr. E. F. Eliot, F. R. C. S.; Hon. Secretary: Douglas Charnley Esqre.

There are three full sized Tennis Courts attached to the Hotel, as well as a Croquet Lawn.

Concerts and Balls are arranged frequently during the Season.

Railway communication: Owing to its central position on Lake Lucerne, Axen-Fels is very easily reached from all directions.

The railway station at Brunnen is on the St. Gotthard Railway, and from this station and the steamer pier at Brunnen, Axen-Fels is reached in ten minutes by the Electric Cog railway. Axen-Fels can be reached from **London in 22 hours.**

Excursions: Axen-Fels is in the centre of a historically interesting country, and there are innumerable excursions to be made, the most important being to the Rigi, Pilatus, Stanserhorn, Miethen, Stoos-Frohnapstock, Bauen, Urirotstock, etc.

Terms: In the early and after Seasons, the Pension Terms are from Francs 10, in the high Season from Francs 14 a day. Resident Physician.

Church Services: English Church Service in the Hotel. Roman Catholic Church in the Village of Morschach (four minutes' walk from the Hotel). Protestant Service in the Church at Brunnen.

For copy of prospectus and album (free), please apply to the Proprietor (P. Schnack). Palace Hotel, Axen-Fels.

Axenstein on the Lake of Lucerne.

Topography: 2625 feet above sea level. Notoriously the finest climatic alpine station on the Lake of Lucerne with a wonderful and charming scenery, 875 above Brunnen. Queen Victoria of England said of this place: "Axenstein is the loveliest spot I met with on my journey through Switzerland", and Berlepsch in his book "Luzern und der Vierwaldstätter See" says about Axenstein: "Its reputation in Europe is due to the wonderful location of this establishment and to the large forest park." From Lucerne it is to be reached within 1½ hours. Large, world-renowned forest-park extending for 2 hours. Odoriferous and aromatic pine-forests close by the hotels. Many smooth and well-kept promenades.

Climate and indications: Axenstein is recommended above all as a climatic station by native and foreign medical authorities of first rank. The influence of the stimulating and pure alpine atmosphere, the regular change of air by the currents coming from the lake and descending from the mountains, and the permanent ventilation due to the persevering insolation, add to the therapeutic influence of the forest park.

Hotels: a) Grand Hotel with Dépendance "Villa Victoria". A massive and stylish edifice furnished according to the most up-to-date comfort. Best hygienic conditions. Drainage directly into the lake. Rooms with separate bath and W. C. — Price of pension, all included: from Frcs. 9 in the early season; during the season from 12 Frcs. upwards.

b) Park-Hotel, smaller, first-class family hotel. Large roofed veranda. Price of pension in the early season from Frcs. 7, during the season from Frcs. 9.— upwards.

Entertainments: Permanent music-band. Balls. Fire-works. 2 Lawn-tennis.

Kurtaxe: Frcs. 2,50 per week and person. Reduced fee for families.

Divine Services: Protestant and Anglican in the English Church in Axenstein-park.

Roman Catholic in the parish-church at Morschach (10 minutes from Axenstein).

Means of communication: Electric railway from Brunnen; half hourly service of Trains. 15 minutes' drive. One hour's drive by road. 40 minutes' walk.

Elegant cabs. — Post- and telegraph-office, telephone in the house. Open from the beginning of May to beginning of October.

Illustrated prospectus free of charge on application.

Resident physician: Dr. med. J. Eberle. Brunnen-Axenstein.

M. Theiler-Eberle, Proprietor.

Bad-Gastein, Austria, Duchy of Salzburg, 3000 feet above sea level, sheltered from all sides against rough winds; eighteen springs, of which eleven are utilised for drinking and bathing cures. Very high radioactivity of the waters.

Bad-Ischl, Austria, Salzkammergut, 1600 feet above sea level, situated in a valley where the rivers Traun and Ischl join. Climate is very mild and equable. Ischl is very frequented for its brine-baths.

Baden-Baden.

Grand Duchy of Baden — Alkaline sodium-chloride baths. Thermal spring with greatest as yet known content of lithium. — Arsenious spring.

Baden-Baden is situated in the Oos-Valley of the northern Black-Forest, about 700 feet above sea level, protected against winds, surrounded by mountains more than 3500 feet high, and by large leafy and fir-pine woods extending as far as the city.

The **climate** of Baden is mild, slightly stimulating, the mean annual temperature $9,69^{\circ}$ C. (about 50° F.).

From a **hygienic point of view** are remarkable the airing of the valley by a current of air in the evening; the perviousness of the soil and the subsequent rapid drying of the paths after rain; the absence of dust in the air; the excellent drinking-water supplied by the municipal aqueduct; the recently finished canalisation of the town.

Curative Factors: The thermal springs, about 20, of a temperature of 69° C. ($156,2^{\circ}$ F.), yielding more than one million of liters within 24 hours, belong to the alkaline sodium-chloride thermes. They contain 2,7—2,9 solids per liter consisting of 2 g. chloride of sodium, 54 mg. of chloride of lithium and 0,264 mg. of arsenic.

According to the latest researches the thermal waters of Baden are classified among the most radioactive waters, and the mud among those substances which contain the greatest quantity of radium and the rarest of all bodies — viz., radiothorium. The tepid spring "Büttquelle" of Baden is the most radioactive spring of Germany.

The analyses of the principal springs made by Geheimrat Dr. Bunsen at Heidelberg, show as the most essential constituents:

Constituents in 10000 parts of water (gravimetical)	Hauptstollen- quelle	Fettquelle	Büttquelle	Murquelle
Chloride of sodium	20,1474	22,1050	18,9810	19,4280
Chloride of lithium	0,5367	0,3060	0,4270	0,2950
Tribasic calcium arseniate.....	0,0070	0,0068	0,0041	0,0067
Silica	1,2734	0,6610	1,2470	0,4250

The **drinking-cure** with radioactive springs has been considerably advanced by the knowledge, that radium-emanation is most safely brought into the organism and made active by drinking the water containing emanation.

In the grand-ducal drinking-hall, with its large roofed colonnade for promenading, the thermal springs are used internally as well as for gargling. Besides, all the most frequently applied native and foreign mineral waters are served here, where also the products of these sources are sold.

Several **public thermal springs** are open to everybody at different parts of the city. The water of the Friedrichquelle is exported in order to answer the great demand. Information referring to this will be given by the Grand-ducal Administration of the drinking-hall. Recently the thermal water of Baden with an addition of carbonic acid has become renowned as a table-water.

For **bathing purposes** the springs are used in form of thermal baths, of thermal spring-baths (Wildbad), and as steam-baths, the latter being unique in Europe on account of their being prepared by the natural steam of the thermal water.

Indications for drinking- and bathing-cures: **Gout** with all of its symptoms (urinary gravel with irritations of the renal pelvis and of the bladder). Other disorders of metabolism and constitutional anomalies (anaemia and chlorosis, scrophulosis etc.), malaria, syphilis.

Rheumatism of all types (subacute and chronic articular rheumatism, muscular rheumatism, arthritis deformans).

Catarrhs of the upper air-passages (nose, pharynx, larynx, bronchi), — also inhalation-cure. Diseases of the organs of locomotion (sequelae of injuries and l-sions, of fractures of the bone, shot-wounds etc., of inflammations of the bones or soft parts).

Sciatic pain, neuralgia of any kind, neuritis.

Sequelae of apoplexia, inflammation of the spine and its integument.

Neurosis, neurasthenia and peripheral neurosis.

Skin diseases (itching, furunculosis, chronic ulcers of the leg).

Women's diseases (catarrhs and exsudates of the pelvis).

Convalescence after diseases, and all conditions for which a mild climate, thermal baths, and all the therapeutic means of physical therapeutics are indicated (e. g. cardiac and nervous diseases).

The chemical contents of the thermal waters permit of the most various medicinal additions to the baths.

The grand-ducal bathing-establishments: Friedrichsbad (for men), and Kaiserin Augustabad (for women) — unexcelled model baths as to their equipment and elegance — offer likewise:

- a) thermal baths in tubs;
- b) natural thermal baths, single or in common (thermal spring);
- c) large swimming-tank;
- d) vapour-baths (Irish-Roman and Russian, single and in common);
- e) steam-baths in boxes, local steam-baths;
- f) electric baths and light baths; four-cell baths and sinusoidal alternating current baths;
- g) department for cold-water treatment;
- h) carbonic acid baths;
- i) inhalatorium with latest systems (special house since 1900);
- k) fango-treatment;
- l) Tallermann's apparatus for local treatment with over-heated dry air.

Besides, there are in both grand-ducal bathing establishments magnificent halls for therapeutical gymnastics and massage (medico-mechanic institutes, Dr. Zander's system). In all departments well trained persons are at the disposal of the patients.

The grand-ducal establishments are open all the year round, and in winter all the halls and stair-cases etc. are well heated.

A Radium-Emanatorium has also been established, taking its emanations direct from the Büttenquelle.

All the physicians of Baden practise in the grand-ducal bathing establishments, and are allowed to treat and supervise their patients here in all departments.

Apart from the grand-ducal bathing establishments, thermal-water baths may be taken in the following hotels and bathing houses: Badischer Hof, Hotel zum Baldreit, Darmstädter Hof, Peters' Hotel zum Hirsch, Zähringer Hof. The prices and arrangements of the baths correspond to the class of the house chosen. Persons not living in these hotels and bathing houses are equally admitted to these baths. Bath-ports provide thermal-water for tub-baths in private houses, pensions and hotels.

The municipal river- and swimming-bath with two large tanks and a number of single baths give opportunity for river baths.

There are furthermore applied:

Cures with kephir, whey and fresh cows' and goats'-milk from the dairy under veterinary supervision; cures with fresh juice of herbs; grape-cures.

Terrainkur for the treatment of obesity, cardiac diseases, disorders of circulation etc. for which the situation of Baden in a valley, the excellent paths ascending in various degrees, are particularly suitable.

Pneumatic cures in the grand-ducal inhalatorium and in the pneumatic institute (director: Geh. Sanitätsrat Dr. Schliep) with two chambers for four persons each, and the best appliances for heating and cooling the air (compressed air).

The **municipal hospital**, and a number of sanatoria see below.

Physicians (according to the report of the grand-ducal district-physician.): Drs. Apfel, Auerbach (Diseases of the larynx and ears), Baumann, Baumgärtner sen., Baumgärtner jun. (Gynecologist, in the winter in Monte Carlo), Barth, Becker, Beissinger, Belzer, Berberich (Lichtenthal), Berton, Brügelmann, Burger (gastro-intestinal diseases), Dengler (Sanatorium Frey-Dengler), Dreyfuss, Ebers (Sanatorium Ebers), Erlanger, Frey (Sanatorium Frey-Dengler), Giese (Sanatorium Schambacher-Giese), Groddeck (Sanatorium), Grünen, Heiligenthal, Heinsheimer, v. Hoffmann (Sanatorium for eye-diseases), v. Hoffmann jun., Hübner (Lichtenthal), Klare, Krebber, Krieg, v. Langsdorff, Lippert (Sanatorium), Löbell, Mayer, Jos. (Sanatorium Quisisana), Mayer, Arthur (Sanatorium for drug habits), Modrzej (Opthalmologist), Möller, Muggenthaler, Müser (Gynecologist), Müller, Neumann, Obkircher (Bathing-physician), Oster, Roitt (Surgeon), Rumpff (Sanatorium Ebersteinburg), Schacht (in the winter in Assuan), Schäfer, Schambacher (Sanatorium), Schindler, Schüssele (Opthalmologist), Schliep (Sanatorium), Schmid, Schwarz (Homoeopath), Stuffer, Thomann (District physician), Vermeil, Zacher (Sanatorium Ebers). — 7 dentists, 14 masseurs (7 male, 7 female), 3 apothecaries.

Grand-ducal Committee for Bathing-Establishments: Council: Geh. Ober-Regierungsrat Lang; members: Freiherr v. Stetten, first commissioner of woods and forests, Gehl. Hofrat Dr. Obkircher (Grand-ducal bathing physician), district superintendent of building-operations Forscheuer, Medicinalrat Dr. Thomann (Grand-ducal district physician), Oberbürgermeister Fieser.

Kur-committee: Oberbürgermeister Fieser, Kurdirektor Graf Vitzthum and Dr. Rössler.

Municipal Enquiry Office: Luisenstr. 1. (Information and prospectus free of charge. Payment of the Kurtaxe.) Director: O. Kessebring.

Kurhaus with magnificent concert-halls, dancing and reading rooms, restaurants, open all the year round. — Great concerts, symphony and quartett-soirées, extra-concerts of excellent artists. Bals-parés, Réunions. — Children's parties. — Excellent municipal band (52 members) with solo-players. Concerts three times daily. — Military concerts. — Exhibitions of prominent pieces of art, painting and sculpture. — Opera and theatre. — Fire-works and illumination. — Illumination of meadows. — Fine lawn-tennis and croquet-golfs with recently built pavilion. — Excellent horse-roads and velo-path at the Lichtenthaler Allee, wonderfully situated. — Golf-links. — Shooting-grounds. Pigeon-shooting. — Hunting and fishing. — Great international races in the last week of August. — First German air-ship station.

Baden-Baden is surrounded by a number of splendid country houses and beautiful villas. It is situated amidst a vegetation favoured by the best climatic conditions, and it grows and is improving every year by new buildings and establishments. It is, therefore, not only one of the most frequently visited health resorts, but also one of the finest and most pleasant residences for healthy people and those needing recreation.

Communications: From Berlin 11³/₄, from Hamburg 13³/₄, from Cologne 6¹/₂, from Frankfurt 3, from Strassburg 1, from London 17, from Vienna 15, from Paris 9¹/₄, from Basle 2¹/₂ hours.

Sanatorium Dr. Burger
Sanatorium Dr. Ebers
Sanatorium Dr. Groddeck

Sanatorium Dr. Heinsheimer
Sanatorium Dr. Lippert
Pneumatic Institute Dr. Schliep

see Section II ("Sanatoria and Cure-Establishments").

Thermal Health-Resort Baden near Zurich, Switzerland.

The thermal-springs of Baden rise from a considerable depth in numerous branches on both banks of the Limmat. The curbed springs furnish daily more than one million liters of mineral water at a temperature of 48° C. (118,4 F). Above and near the various springs, 14 Kur-hotels have been built with altogether more than 1200 beds and more than 650 bathing-tubs.

The principal constituents of the springs are: sulphuric acid, chloride, sodium, calcium, and carbonic acid. The thermal water is used for full and local baths, for steam-baths, shower-baths, for inhalation, drinking cures etc. Further effective resources are: massage and medical gymnastics as well as Oertel's Terrainkur, electric light and carbonic acid-baths. Brine-baths, pine-needle-baths and artificial ferruginous baths are likewise prepared. — All kinds of native and foreign mineral waters can be obtained in the hotels.

Indications: Excellent results in subacute and chronic gouty, rheumatic, and pseudorheumatic affections of the joints, muscles, tendon-sheaths, and synovial bursae etc., in typical gout during the latent period, and as a prophylactic after acute articular rheumatism; in urinary gravel, in neuralgia and neuritis (especially sciatica with and without lumbago); in traumatic articular and muscular affections; in chronic catarrhs of the various mucous membranes; in women's diseases, especially chronic peri- and parametritis.

Resident physicians (alphabetically arranged): Dr. W. Jann; Dr. A. Keller; Dr. E. Markwalder; Dr. med. et phil. Josef Markwalder; Dr. A. Mauchle; Dr. A. Münch; Dr. J. Nieltspach; Dr. E. Steffen; Dr. H. Zehnder; Dr. J. Zellweger; Mrs. Zellweger-Wyss. M. D. Specialists: Dr. F. Diebold (practice limited to nose and throat); Dr. Kälin-Benziger (ophthalmologist).

Entertainment is provided for by concerts etc. in the Kursaal and performances in the summer-theatre.

Religious needs are satisfied by three churches. English church service.

In the vicinity of Baden is a great number of beautiful promenades and hills with surprising views.

Baden is a principal station of the Switzerland union-railways on the route of Berne-Basle to Zurich.

Kur-Hotels a) Hotels on the left bank of the Limmat: Hotel Bären (K-Gugolz-Gyr), Hotel Blume (A. Borsinger-Walser), Grand Hotel (W. Hafen), Hotel Limmathof (Jos. Borsinger), Hotel Ochsen (R. Diebold), Hotel Quellenhof (W. Amsler-Hunerwald), Hotel Schweizerhof (A. Baumgarten), Hotel Verenaehof (Jos. Borsinger); b) Hotels on the right bank of the Limmat: Hotel Adler (Blunshi-Markwalder), Hotel Hirschen (Family Trzeinski-Suter), Hotel Rebstock (H. Heitz), Hotel Schwanen (C. Küpfer), Hotel Sternen (A. Bucher-Werder).

Detailed information by the

Kurverwaltung.

Bad-Reichenhall.

Renowned brine-bath, first-class climatic health-resort and summer residence, very popular station for tourists in the Bavarian Alps.

Bad-Reichenhall, yearly frequented by 17 000 visitors and about just as many travellers, is situated amidst the south-eastern Bavarian Alps near Salzburg. Starting point of the line Bad-Reichenhall-Königsee, about 1640 feet above sea level, centre of the Bavarian salt-work district.

Curative Factors and Principal Indications: Bad-Reichenhall is situated in an entirely plain valley of about 4—5 km. diameter, protected against rough winds by dolomite mountains about 7000 feet high. The air is mild, pure, and entirely free from dust, the temperature is favourable. On account of the evaporation of more than 400 000 liters of brine daily, the salt-content of the atmosphere is extremely high. Owing to all these advantages, furthermore to the aromatic perspiration of the extensive pine-forests of the vicinity, and above all to the most favourable hygienic conditions answering all requirements, as the standard high spring-aqueduct, the thorough canalization, and the establishments for disinfection, Bad-Reichenhall is a climatic health-resort of first rate, particularly for chronic catarrhs of the air-passages, the various forms of slight phthisical affections, bronchiectasia etc. Excellent results are obtained by treating emphysema and various kinds of asthma, shortness of breath, capillary bronchitis, particularly in children, catarrhal disposition. By the use of pneumatic cabinets good results are obtained in cases of residue of pleuritic exudates.

The brine-and mother-lye baths are also applied for scrophulosis (joints and eyes), chlorosis, rickets, for delayed convalescence after grave diseases, particularly influenza, for chronic affections of the sexual organs of women, as well as for the acceleration of the resorption of exudates in the various organs. Dwarf-pine-extract baths and mudbaths, fango- and radium-mud-packings are generally approved remedies for rheumatism and gout.

In connection with the above mentioned curative factors and the climatic conditions, the net of well kept roads of altogether 250 km. length with all degrees of incline have rendered the place a health-resort for *Terrainkur* according to Prof. Oertel's method under the personal approval and instruction of this capacity, the place being provided with all the requirements concerned (board of distances, graduation of ways, rational regulations of diet), and suitable for exercise-cures especially in the spring and autumn for patients with affections of the circulation (asthenia of the cardiac muscle, insufficient compensation of cardiac lesions, adipous heart and obesity, disturbances of the pulmonary circulation etc.)

The following curatives are supplied:

1. The Reichenhall Edelsole, which is known to be the strongest brine on the continent with a salt-content of 24 per cent., and on account of its content of bromide superior to the renowned Kreuznach mother-lye; furthermore, all kinds of baths, as carbonic acid baths, dwarf-pine-extract baths, mud-, radiogen-oxygen-, and wave-bath; most up-to-date cold-water therapy, electric light-and alternating-current-baths, steam-and sunbaths; fango-and radiogen-mud-packings.

2. The greatest establishments of the world for pneumatic chambers and for all kinds and the best systems of inhalation; recently built graduation house and brine-fountain.

3. Reichenhall drinking-brine and bitter-water, as well as mineral waters of all kinds and origine. Milk, goats'-whey, kephyr, koumiss and Yoghurt, juice of alpine herbs and radiogen.

4. Professor Oertel's *Terrainkur* and a medico-mechanic institute.

Physicians: Drs. A. Bulling, K. Harl, S. Goldschmidt, Gg. Cornet, J. Loeb, G. Orteman, K. Schöpner, L. Krez, B. Alexander, C. v. Heinleth, J. Pospisil, D. Winter, O. Schroth, W. Siegel, K. Achilles (ophthalmologist), L. Dresdner, M. Schreiner, A. Schwarz, H. Schreiber (gynecologist), H. Schmid, G. Roth, G. Reisinger, G. Zeppenfeld, F. B. Stubenvoll, F. Koch, A. Muszkat, O. Pachmayr, F. Seufferheld, H. Ahlemann, Uebel, Lewy, Hans Cornet.

Season: May to October.

Kurtaxe: In Zone I 15 Mk. for one person or the head of a family, 5 Mk. for any relative, 2 Mk for children and servants. Physicians and their relatives free. Reduction of price in Zone II and III and from September 1st.

Great program for entertainments: concerts, parties, theatre and other artistic performances, excursions and trips to the mountains by foot, car or railway; royal Kurhaus with reading rooms and playing grounds. New Graduation-House and, recently built, the spacious heated promenade. Water for fishing-sport extending for more than 50 km. with an abundance of trouts.

Boarding in hotels of 1st, 2nd and 3rd class and in numerous elegant villas down to the most modest rented rooms.

Illustrated elaborate prospectus in English furnished free of charge and also any other information by the *Kurverein*.

Sanatorium Villa Romana, Dr. Dresdner, see Section II ("Sanatoria and Cure-Establishments").

Sanatorium Bad Reichenhall, Dr. v. Heinleth, see Section II ("Sanatoria and Cure-Establishments").

St. Beatenberg

above Lake Thun — 3773 ft. above sea level.

Climatic Health Resort and Loftiest and Best-Appointed Swiss Hydropathic Establishment.

Spa Physician and Director of the Establishment: Dr. B. Tschlenoff, Professor at the University of Berne.

Beatenberg is one of the best known of the health resorts of Switzerland.

Its climate is mild, yet invigorating and bracing. This is due, first to the fact that it is sheltered from the north and east, by a high mountain range and its south aspect, and secondly to its altitude nearly 4000 feet above sea-level and proximity to the lake of Thun which lies some 1800 feet below.

Beatenberg stands on a beautiful plateau and has the advantage of a level stretch of road nearly three miles in length.

Owing to the slight variations in temperature and the relative humidity of the atmosphere, vegetation is rich and varied. The surrounding pastures and woods are a mass of beautiful flowers, and shady walks abound in all directions.

Formerly Beatenberg was the resort of many consumptive patients, but during the last twenty years Sanatoria for their special treatment at Davos, Leysin, Weissenburg, and other places have attracted these cases, and the Hotel proprietors no longer accept phthisical patients.

Beatenberg is now chiefly visited by holiday-makers and those requiring rest and recuperation. It is specially suitable to nervous and neurasthenic cases.

In 1903 a hydropathic establishment was erected here in connection with the Hotel Victoria, a first-class Hotel situated in the centre of the village. Owing to its excellent equipment almost all classes of cases may be advantageously treated here.

The Hydro (fitted up by the firm of Fischer & Kiefer, of Karlsruhe and Zürich) is one of the foremost institutions of the kind in Switzerland. In particular the douches, which often leave so much to be desired, here work admirably. The water, both cold and warm, is supplied at a uniform pressure of 3 atmospheres, and this can be reduced at pleasure.

The institute contains two large and lofty saloons for gentlemen and ladies, where all the treatment by modern hydro-therapeutics can be carried out. Washings, packings, rubbings, massage, half-baths, douches of all kinds, sitz-baths, foot-baths, local cold and warm baths, and massage under water, are all employed.

The institute also possesses electric light baths for general and local treatment, as well as an apparatus for carbonic acid baths.

There is a complete electrical installation, and the latest and most perfect apparatus for the application of all methods of treatment: as Faradisism, Galvanism vibratory massage etc.

Meals are taken in the Hotel Victoria (connected with the institute by a covered, passage) where a special dietary can be obtained as ordered by the spa physician.

The institute is open to visitors staying at any hotel in Beatenberg, so that every patient can select an Hotel or boardinghouse suited to his means and taste.*)

The fitting up of an air-bath is also under consideration for the coming year.

Its delightful climate, its well equipped Hydro render it especially suitable to the following cases:

1. Neurosis and incipient organic nervous disorders (neurasthenia, hysteria, morbus Basedowii, tabes, etc.).
2. Diseases of the digestive organs (stomach and intestinal complaints), disturbances of nutrition and tissuechange (anaemia, gout, obesity, etc.).
3. Incipient catarrh of the air-passages, asthma, remains of pulmonary diseases.
4. All cases in which a tonic, strengthening, and dietetic treatment is indicated.

Berchtesgaden, Germany, Upper Bavaria, near Bad-Reichenhall. Climatic air station, besides saline and brine baths, 2500 feet above sea level.

Bex-les-Bains.

Canton de Vaud (Switzerland).

Bains and Grand Hôtel des Salines (1515 feet above sea level).

(Note exactly the name of the hotel).

The bathing-establishment and the Grand Hôtel des Salines are situated 1 km north-east from the village of Bex (in the Rhône-Valley about 20 km to the east of Montreux), amidst a large park and in the immediate neighbourhood of the forest. Grand scenery with high mountains in the vicinity. Numerous promenades and riding-roads. Mountain-railway up to Gryon-Villars-Chésières.

Very mild climate with an air pure and free from dust, and with stimulating properties, owing to the vicinity of the mountains.

Hotel furnished according to the latest comfort. Two lifts. Central heating. Apartments with bath-room and W. C.—Large Hall, beautiful dining-room.

Curative Factors: Brine containing 309 grs. of chlorides per liter. Mother-lye with 316 grs of chlorides and 0.20 grs. of magnesium iodide per liter. Baths of any concentration, inhalations. — Cold sulphurated water, with 20—40 cc. H₂S. Drinking-cure, inhalations. — Very pure drinking-water, 47° F, for hydrotherapeutics. Douche-massage de Vichy etc. Carbonic acid baths. Fango di Battaglia. Incandescent light-baths. — Electricity, massage. Milk- and grape-cure.

Bathing-establishment in the building of the hotel (special lift).

Indications: Lymphatism, scrofula, rickets. — Diseases of women, chronic inflammations, exudates, fibroms, sterility. Anomalies of development and of climacteric period. — General disorders of nutrition. Chronic rheumatism, arthritic rheumatism. Cardiac affections, arteriosclerosis. Diseases of the nervous system.

Patients with pulmonary tuberculosis are not admitted.

Season from April 1st to end of October.

Resident physician: Dr. Eugène de La Harpe (speaks English).

Kurtaxe: 2.50 Frs. per week.

Divine services: English church and Roman-Catholic church in the village.

Means of Communication: Bex is a station of the line Lausanne-Simplon-Milan. Autobus meats all trains.

Electric tram between the station and the hotel.

Illustrated prospectus (English) sent free of charge on application to

G. Heinrich, Direktor.

*) Beatenberg possesses about 20 hotels and boarding-houses, with terms ranging from Frs. 6 to Frs. 16 per day. The managing physician or proprietor will be pleased to give any desired information regarding them.

Ostseebad Binz.

(Baltic-sea Resort, Island of Rügen.)

International Family- and Children-Bath.

25 000 visitors (4500 foreigners),

Season: June 1st to end of September (high-season: July/August.)

Season for Climatic-Cure: May to October.

Binz can be reached: 1. via Berlin—Stralsund—Putbus (railway), 2. via Berlin—Stettin—Rügen (railway and boat), 3. via Berlin—Greifswald—Rügen (railway and boat). Prince Henry landing-stage (2100 feet long.) Railway station of the line Putbus—Göhren.

Ostseebad Binz is the most frequented and undeniably finest of all bathing-places of Rügen, situated directly at the Baltic-sea, bordered and protected by the most wonderful forests.

Beautiful Surroundings: Putbus (park, castle, preserve park), princely hunting-seat, barrows; Sassnitz (ferry-harbour), the famous chalkcliffs (Königsstuhl, Wissower Klinken), Cape Arcona (marine-station, naval-artillery station), Greifswald Oie, sandy beaches, island of Hiddensee.

Ostseebad Binz offers opportunity for all kinds of sport and amusements. Answering any demand of comfort. — 20 hotels, 200 boarding-villas. — New Kurhaus.

Physicians and dentists, apothecary, drug-stores, trained nurses. Sanatorium for orthopedic treatment, Zander-appliances.

New Family-Baths. Baths for ladies and gentlemen. Warm baths. Arrival of German men-of-war every year, naval manoeuvres.

Kurtaxe: 1 person 4—8 M., 2 persons 6—12 M., 3 persons 8—16 M., 4 and more persons 16—20 M., according to length of stay. Moderate prices of baths.

Reduction of cure-rates for physicians. Illustrated guide, also in English and French, and information free of charge by the

Direction of Ostseebad Binz Insel Rügen.

Birmenstorfer Bitterwasser.

Canton of Aargau, Switzerland.

Francfort on the Main 1881 honorary diploma, Nizza 1884 golden medal, Paris 1885 silver medal, Gent 1889 golden medal, Paris 1889 honorary diploma, Spa 1891 golden medal, Haag 1892 golden medal, Chicago 1892 golden medal, Grenoble 1902, Biarritz 1903.

Since 50 years the most renowned and well known Swiss bitter-water, highly recommended by medical authorities. No other bitter-water than this one may be taken continuously without doing any harm to the digestive organs. The Birmenstorfer bitterwater has been designated by the certificates of many physicians as the most cleanly gathered bitter-water.

Its use always warrants a good and sure success principally in the following diseases: habitual constipation with hypochondria, jaundice, insidious hepatic inflammation, enlargement of the liver, various haemorrhoidal affections, adipous heart, diseases of the female genital organs etc.

On sale in all large mineral-water stores and apothecaries, as well as directly from the proprietor Max Zehnder.

Note: Samples are willingly sent to physicians free of charge on application.

Blankenberghe, Belgium, on the North-Sea. Much frequented sea bath, at a distance of 15 km from Bruges, and of 21 km from Ostende.

Blankenburg a. Harz, one of the most beautiful town in the "Unterharz", with about 12000 inhabitants. Very frequented climatic health re-ort. Electric Light. Drainage. Mountain Water Supply.

St. Blasien

2700 feet above the level of the sea

situated near the Feldberg, in the romantic Albta, the most wonderful of the valley extending from the Feldberg to the Rhine. St. Blasien is undeniably one of those places of the southern Black-Forest favoured most of all by nature. It is a small district-town of 2000 inhabitants, the seat of various governmental boards. Owing to its situation and



its climate, St. Blasien is not only a delightful summer-residence, but also a much esteemed climatic station. The mountain crests bordering the valley ascend for more than 1400 feet above the bottom of the valley. The grand old alpine pine-forest, in part intermingled with beech-groves, comes close to the houses of the town on all sides, and is crossed by well-kept promenades extending for miles in all degrees of incline. Bad pedestrians find benches and sheltering huts allowing a long stay in the forest. There is a great variety of promenades and excursions in the forests enlivened by purling brooks and gurgling cascades, and the most various views are obtained of the Black-Forest and the crests of the Alps. Thus even in a longer stay, change and stimulation are warranted, and yet there is complete quietness in the immediate neighbourhood of the place.

As to the geological topography, St. Blasien is situated amidst the large granite-massive, south-east to the Feldberg, only in part interspersed with gneiss and porphyritic formations. The glacial origine of the upper Albta is proved by a glacier extending from the Feldberg, and by the boulders covering in part the bottom of the valley and the lower declivities, and existing in part as moraines at various places.

The hygienic conditions of the town are good: all the houses are supplied with excellent drinking water by the pipe-system, and are in connection with the canalization. There is also electric light, an establishment for disinfection, a steam-laundry, and a hospital with some rooms reserved for visitors.

Climate: Owing to the very well protected situation, to the large forests surrounding the place, to the porous condition of the soil drying very rapidly after rain, St. Blasien has a mild and extraordinarily constant climate in spite of its alpine site. Nevertheless the climate does not lack of a stimulative and invigorating character. On account of these advantages the repute of St. Blasien as a summer-residence is well established since the past 40 years. In the months of spring the temperature of the air rises to a high degree in consequence of the strong insolation, the rapid disappearance of the melting snow by flowing off, evaporating or by being soaked up. This makes St. Blasien a suitable residence for the spring. But it is also recommended as a transitional station for those coming from higher situated places such as St. Moritz, Arosa, Davos &c. or those going from the mild climate of the Riviera, Meran, Montreux, Baden-Baden &c. to higher situated places.

As the clouding begins in the autumn and winter in a relatively low altitude. St. Blasien in an altitude of 2702 feet is already above the clouds, and there is consequently an extremely high number of sunny days in autumn as well as in winter. Thus a permanent stay in the open air is rendered possible. Owing to abundant sunshine, to the protected situation, the moderate relative moisture, and the absence of great variations of temperature, St. Blasien occupies a prominent place among the number of autumn and winter-stations. Snow is in general lying from the beginning of December to the middle of March, and after a stronger snowfall the roads are made free very soon. It cannot be emphasized too much that St. Blasien in the months of September, October, and November as well as in the real winter-months is especially suitable for patients with the most various affections, for those needing change and recreation as well as for amateurs of sporting.

Curative Factors: Climatic and Oertel-cure (most of the roads have signs stating the distance and the incline according to Prof. Oertel.) Baths and douches of all kinds, appliances for electro-therapeutic treatment, dietetic cures; massage, Swedish gymnastics; open halls for out-door treatment. Milk cure, whey, kephir, fresh mineral waters.

Indications: Nervous diseases, chronic diseases of women, disorders of circulation, affections of the respiratory organs, constitutional anomalies such as chlorosis, obesity &c., chronic catarrhs and affections of the digestive organs, rheumatic affections of any kind.

Resident physicians: Hofrat Prof. Dr. Determann, Medicinalrat Dr. Sander, Grand-ducal District Medical Officer Dr. Kautzmann, Dr. Wiswe, Oberärzte Dr. Fischer, Dr. Happich, Dr. Bröking, Dr. Allendorf.

Entertainments: In the proper season twice a day concerts of the music-band in the park, at times in the hotels and establishments. Saturday reunion in the Kurhaus. Concerts and recitals of foreign artists. Illumination of a fountain, 175 feet high, and of the Kurpark several times during the season. Excellent roads for cyclists. During the winter ski- and sledging-sport, skating.

Kurtaxe: In the season 2 Mk. per week and person, during the winter 1 Mk.

Divine services: Roman-Catholic and Protestant regularly, at times Old-Catholic service.

Instruction in languages and other school-branches.

Apothecary, post-office, telegraph and telephone.

Means of communication: Via Freiburg to Titisee with the "Höllental" Line; from Titisee to St. Blasien (29 km) daily several motor-cars joining the chief trains, from May 1st to October 1st, and besides mail-coach twice a day. Furthermore, from June to September twice a day, and otherwise only in the morning mail-coach from Albruck, station of the line Basle (Badischer Bahnhof)—Constance, through the Alb-Valley (26 km). From Waldeshut during the Summer motor-cars twice a day and permanent mail-coach. Also in the winter regular daily autobus to Titisee, as far as snowfall allows it.

Cars of the hotels on order from and to the stations. Price for carriage and pair 26 and 24 Mks.

Freight and dispatch-goods to be addressed: St. Blasien, Station Titisee.

Detailed information and prospectus on application to the *Kurverein*.

Sanatorium St. Blasien, see Section II ("Sanatoria and Cure-Establishments").

Sanatorium Luisenheim, and Hotel and Kurhaus St. Blasien, see Section II ("Sanatoria and Cure-Establishments").

Bordighera, Riviera (Italy).

Bordighera is in the opinion of many travellers the most delightful and, certainly, the most healthy place on the Riviera

The older part of the town is picturesquely situated on the top of a headland, projecting into the Mediterranean. The "Visitor's Bordighera" lies to the west of this promontory, amidst luxuriant thick vegetation: to the north and north east, rise the protecting hills, which extend to the slopes of the Maritime Alps. While standing on the headland the eye is first of all involuntarily attracted by the imposing sight to the west; for here we see in the foreground Ventimiglia, further on, Mentone and Montecarlo, above the latter La Turbie, and on the south western horizon, the Esterelle Mountain, beyond

Cannes. If we now turn to the east, our glance will fall upon the less imposing, but peaceful looking little bay of Ospedaletti, with Coldirodi above it on the picturesque mountain ridge. From November to April, the snow clad peaks of the Maritime Alps, though at a considerable distance, shed their gleaming light over the lower hills in front.

The amazing tints of the Mediterranean, the splendid colours of the sky, particularly in the mornings and evenings, convince us that what we are apt to consider an exaggeration of the painters, is true to nature.

Looking down from the old town to the new Bordighera, we notice — apart from the closely packed row of houses along the sea coast — what looks like a pale green and multicoloured natural park extending for several square miles, with a variety of ground formation, now rising, and now sinking, and again rising more and more until it reaches the pine region: the whole of this looks as if it had been accidentally strewn with pleasant country houses, of brilliant white, or pale pink, or pleasant green and also of severe English grey. Here and there rises the fine façade of a hotel with its terrace in front, where one can enjoy the lovely view. Clean roads and paths through private gardens appear as light coloured stripes. There is a sharp distinction between the large district where the visitors live, and come and go, and the closely packed houses of the old Italian village, which is the result of conditions existing at the time it was built.

A promenade on the sea front, made in the winter of 1900, together with the picturesque rocks at the Chapel of St. Ampeglio, are the rendez-vous of all visitors.

In speaking of the climate of Bordighera, the Senator Prof. Mantegazza says amongst other things: "Not all places of the Riviera are equally favoured by nature. Many of them lie back in hollows formed by hills: Bordighera alone lies close to the foot of great elevations, upon a projecting point of land, so that it is evident that the air striking it, after having passed across the sea, carries particles of salt, depositing them on the soil, for the benefit of animal and vegetable life. Bordighera has, though it may seem strange at first sight, far less rainfall than the rest of the Riviera; even less than places in close proximity and continuous gentle rain almost never occurs.

Nice has an average, during the winter, of 36 days of rain compared to an average of from 90 to 100 days of rain in Northern Europe. Bordighera, on the other hand, has far less than 36."

The refreshing sea breeze, which, owing to Bordighera's peculiar position, blows over the sea-promenade and lower parts of the town, makes it an extremely pleasant place from early autumn to late spring. This sea winds do not reach the higher, sheltered portion of Bordighera above the Strada Romana, where in recent times Villas and first class Hotels have been built. This important fact should be taken note of by physicians.

Curative Properties: Equable and bracing climate: much sunshine (8½ hours on the shortest days). Warm and cold sea baths. Modern hydrotherapeutic establishment, with all up to date baths etc.

Indications: Chronic affections of the heart and vessels — Metabolic diseases (gout, diabetes, chlorosis, rheumatism) — Organic and functional nervous diseases — Convalescence after severe affections, especially in cases of delayed reabsorption of pneumonic and pleuritic exudation. Chronic catarrhs of the upper air passages. Nervous exhaustion after overwork.

English Physicians: Dr. Bogle, Dr. Hamilton, Dr. Hubbard. Italo-anglo Physician: Dr. Agnetti.

Bordighera offers more well-kept promenades and paths, free from dust, leading into the picturesque and woody mountains of the near neighbourhood, than any other similar place on the Riviera. The sea front promenade extending for several kilometres, is neither accessible for motor cars nor carriages. There is a great variety of excursions into the vicinity, with extremely pretty and picturesque scenery. The botanical gardens of Mr. Ludwig Winter, which are opened to the public, are justly very famous.

Hotels and Pensions: Hôtel Angleterre, Hôtel Belvedere, Grand Hôtel et Iles Britanniques, Hôtel Bristol, Hôtel Central Cosmopolitain, Hôtel et Kurhaus Cap Ampeglio, Hôtel Hesperia, Hôtel de Londres, Hôtel de la Reine, Royal hotel, Union hotel, Bordighera & Terminus hotel, Hôtel Viktoria, Pension Villa Constantia, Pension Quisisana.

Monte Carlo and Mentone may be easily visited in half day trips. The trains to Sanremo only take 20 minutes, while the electric trams take you in the same time to the frontier station of Ventimiglia.

A sumptuous Casino erected hard upon the seashore, offering good daily concerts, reading rooms, hot sea-baths, will be opened in December 1912.

Brunnen at the Lake of Lucerne.

1540 feet above sea level.

Situation: Brunnen is situated at that wonderful curve of the Lake of Lucerne where the Urner Basin, extending from the South to the North, passes over into the Basin of Gersau westward, near the north-western foot of the Wasiwand, a spur of the Frohnalpstock, and in front of the extremely beautiful meadows extending from the North to the South, declining here from both Mythen, and bordered towards the west by the densely wooded Urmiberg belonging to the Rigi-group.

Climatic conditions: Owing to its position open on all sides, Brunnen offers all the advantages of fortunate combination of a forest-, sea- and subalpine climate. Even the abundant vegetation of the vicinity gives witness of the advantages of this place. The heat in the summer is moderated by the evaporation of the sea, and also by regular light winds from the mountain, the valley, and the sea, permanently renewing the air, and acting as a stimulant and refreshment. There is in Brunnen an excellent aqueduct of the very best mountain spring water of a crystalline brilliancy and a refreshing taste. Bathing establishments give opportunity for invigorating sea-baths. — In addition to the pure air, there are as further curative factors: an excellent Swiss-milk which is recently, for good reasons, often prescribed in many diseases; promenades and excursions in an unlimited variety and, last not least, the splendid panorama of the sea and the grand mountains.

Indications: A stay at Brunnen is particularly beneficial in nervous and psychical affections, after mental strain, in hysterical and hypochondriacal conditions, in nervous prostration (neurasthenia), furthermore for convalescence after grave affections, for example pleurisy, pneumonia, malaria, in cardiac affections, especially if caused by obesity, and in insufficiency of the cardiac muscle of anaemic patients with a general relaxation of the muscles. To such patients abundant opportunity is offered for Oertel's *Terrainkur* on promenades from the plain quay to the gradually ascending Axenstrasse (Axenstreet), and to the more ascending forest-paths. A transitional station from the higher situated health-resorts to the lowlands for chronic, non-febrile catarrhal affections of the chest organs. For metabolic disorders and digestive affections etc.

Hotels: Pensions and private-houses. Detailed prospectus sent free of charge on application to the "Travellers' Bureau".

Resident Physicians: Dr. P. Auf der Maur, Dr. J. Eberle.

Entertainments: Kur-boating on the sea. Public concerts.

Divine Services: Roman-Catholic and Protestant church.

Means of Communication: Almost all the international express trains stop at Brunnen. Brunnen is unique as a station for excursions on boat, railway, and by foot.

Bürgenstock.

Climatic Health-Resort near Lucerne on the Lake of Lucerne.

Situation and Climate: Immediately above the "Kreuztrichter" of the classical Lake of Lucerne, between Rigi and Pilatus, rises the entirely isolated Bürgenstock. Its broad foot is washed on three sides by the clear waves of the lake. 3045 feet above sea level, the splendid Kur-houses of Bürgenstock furnished with the most modern comfort (room for 600 visitors) are situated on a wonderful meadow land surrounded by dense beech- and fir-pine forests. The variety of magnificent views to the most famous High-Alps of Switzerland, and also the attractive view vertically downward, unique in the entire region of the Alps, render this location unexcelled. On account of the rare and ideal association of all climatic advantages, Bürgenstock has often been called the "Ideal of a Health-Resort" and is generally designated as the "Pearl of the Lake of Lucerne". Owing to the extremely interesting electric cable-railway with 25 steam-boat junctions to all stations — steamboat station Kehrsiten — Bürgenstock has become the centre of the most renowned places and heights on the Lake of Lucerne and the most convenient starting point for trips and excursions. A list of the very numerous and manifold tours by foot and car, and a map on a large scale are at the disposal of the guests.

The grand forest-park extending over the entire crest offers an abundance of most attractive sylvan scenery and meadows, winding paths running through and promenades made at high cost. The recently finished rocky path excelling by far the renowned Axenstrasse (Axenstreet) in the grandeur of its foundation, and the marvellous views down

to the lake is unique and of world-wide fame, likewise the electric lift, 580 feet high, up to the highest summit of the Bürgenstock (Hammetschwand).

Cure-Establishments: The health-resort of Bürgenstock consists of several establishments as: The Palace Hotel opened 1903, the Grand-Hôtel with dépendance (Chalet), the Park-Hôtel. As annexed buildings are to be mentioned: the large restaurant with beer-hall in the vicinity of the railway station, Pension Helvetia with restaurant (simple and reasonable), various villas, and the large playing hall for children. All the three hotels have rooms for 600 guests. The new Palace Hotel is furnished according to the most modern comfort. There are separate family apartments with parlours, various bed-rooms, bath-rooms and rooms for servants.

All the three hotels have splendid verandas with views of the sea and the mountains — all the rooms with the most beautiful view. Prospectus free of charge.

Resident physician in the hotel. Hydrotherapeutic bathing-establishment. Electric light. Three lawn-tennis fields. Price of pension with room up to end of June 9 Frs., from July 1st. from 11 Frs. daily, in the Palace-Hôtel from 13 Frs.

Travelling-Literature: Europæan Tourists maps No. 51 and 52 „Der Bürgenstock“, published by Orell Füssli & Co. — on sale in any book-store. Tschudi, „Tourist in Switzerland“. Berlepsch, „Southern Germany and Switzerland to the Alps“. Dr. Gsell-Fels, „Bathing-Resorts and Climatic Stations of Switzerland“ and others.

„Der Kurort Bürgenstock“ sent free of charge by *Bucher-Durrer, Prop.*

. Buxton (England).

Buxton! The name, to anyone familiar with the town, is suggestive of stately buildings, pleasant gardens, well-kept walks and drives, clean streets, high hills, baths, mineral waters, good music, and, given a reasonable amount of fine weather, a feeling of satisfaction with things in general, and with the health-imparting qualities of the place in particular! For Buxton is, and has ever been, a health resort *par excellence*. People come in to get rid of various complaints and contrive to amuse themselves during the process. They invariably go out satisfied that Buxton Baths and waters do all they claim to do, and the result is that by means of the influence exercised by that ubiquitous dame Recommendation the town receives every year its full share of visitors.

That the town possesses all the virtues of a fashionable spa, and has many great attractions for the pleasure-seeker, will be evident to the most unobservant stranger who decides to sojourn here for any reasonable length of time.

Climatic Conditions: Buxton with an altitude of 1000 feet above sea level enjoys the distinction of being the highest town in England, and its air is remarkably dry and bracing. During the winter months the air is colder than in many health resorts, but everybody knows that a dry heat in the summer and a dry cold in the winter are infinitely preferable to greater moisture in the air at either season of the year. The record of sunshine during a year is usually very high. The average annual rainfall is not heavy and thanks to the nature of the limestone subsoil, the roads at Buxton dry very rapidly after the heaviest showers.

Other important matters relating to public health—water supply, drainage, sanitary conditions, lighting &c., are looked after in an admirable manner by the local authorities.

The waters: The thermal springs, which are the property of the town, issue in the valley near the bathing establishments. The waters are of the uniform temperature of 82° F., beautifully bright, soft, and clear, and when seen in the mass, of a light-blue colour.

The waters belong to the Radio-Active Thermal Group and issue from nine springs, from one of which alone about 2 000 000 litres flow daily. A regular supply of radium emanation is thus constantly kept up — an important point in comparing these waters with artificial radio-active baths which rapidly lose their activity and so deteriorate.

Large bubbles of gas continually rise and discharge on the surface, which gas consists of Nitrogen 59,78 0/0 and Carbon (Dioxide) 40,22 0/0, and it also contains Argon, Helium, Neon, and other rare elements.

The radio-activity of the gas is about ten times that of the water.

The waters have recently been examined for Radium by Dr. Makower of Manchester University, and it was found that the principal springs gave the following results:

Gas collected from the surface	10,9 units.
Water „ „ „ „	1.2

Sir Wm. Ramsay speaking of these waters has said: "It is unfortunately impossible to compare these amounts with the statements of the radio-activity of foreign waters as the latter are stated in uncertain units".

The baths: The Thermal Baths are the attraction of Buxton, which has been one of the chief bathing resorts in England for many centuries. The bathing establishment consists of two portions, situated at the west and east ends of the Crescent, and both supplied with water from the thermal springs.

The natural baths: In this bath-house the waters are administered at the natural temperature of 82° F., at which they rise from the spring. The baths consist of separate suites of swimming and private douche-immersion baths for ladies and gentlemen. These baths are paved with slabs of perforated marble, through which a stream of thermal water is constantly flowing from the springs. The beautiful blue colour of the water is strikingly exhibited in the large swimming baths, and bubbles of the radio-active nitrogen gas, with which the waters are highly charged, may be seen rising to the surface. Spray-rooms, for treatment of the throat, nose, eyes, and ears, have been fitted with appliances specially designed for the Buxton mineral waters.

The hot baths: In these baths, the mineral waters are raised to any temperature that may be prescribed. A handsome stone front of classical design has been erected, and the internal alterations to the buildings have provided much additional accommodation for baths, together with the spacious waiting-rooms and a ticket office. There are separate suites for ladies and gentlemen. This bathing establishment comprises every form of hydro-therapeutical appliance, and includes the celebrated Buxton Douche-Immersion Bath — the finest of its kind in Europe; here every kind of douche is administered, the force and temperature of which can be regulated with the greatest accuracy. Vapour baths of many kinds and with various combinations are largely employed, needle and sitz baths are given, and the Plombières douches for colitis etc., have been installed, and excellent results are obtained.

The Buxton Douche-Massage, which has been in use for many years, is an important feature in this establishment, and the increased demand has necessitated additional baths, recently opened. Aix and Vichy douches have also been installed, and facial sprays and massage are much used and in increasing demand. Dry, electric and all forms of massage, either combined with the baths or separately, are given. Appointments can also be made for treatment at private residences by experienced masseurs and masseuses.

Moor baths and Chalybeate baths: The many inquiries for Moor Baths (mud baths) and Chalybeate Baths have led the Council to take advantage of the natural surroundings of Buxton in this direction. The extensive peat moorlands adjoining the town and inexhaustible supply of Chalybeate Spring water, enabled them to offer all the advantages of the continental "Moorbäder", and these baths have now been added to the establishment. The moor-mud contains a large proportion of iron and organic acids.

Chalybeate Baths are included in the installation.

Supplementary treatments: In addition to the special Buxton baths and treatments, the Council have installed all the most recent supplementary forms of treatment. The Electrical Department comprises: Electro-water baths and Schnée four-cell baths, with all forms and combinations of electric current; the d'Arsonval High Frequency and the Static current; the latest apparatus for Electro-mechanotherapy; the Dowsing Radiant Heat and Light treatment; the "Greville" hot air treatment and Electric Light Baths with various coloured or arc rays and electro-vibratory massage. The electric current can also be combined with the various mineral waters.

Nauheim Baths, Carbonic Acid Radioactive oxygen Baths, and Schott Movements for heart affections are largely given, and Fango Mud Treatment is also administered.

Experienced attendants and assistants are in all parts of the establishment, and everything that modern science can devise has been supplied to ensure the comfort and convenience of the "cure guests".

Diseases for which the waters are used: The diseases deriving benefit from the waters and climate of Buxton include gout, rheumatism, rheumatoid arthritis, sciatica and various nervous diseases, disorders of digestion, and skin diseases, the after treatment of malaria and other tropical diseases. Muco-membranous colitis and similar conditions, diseases of the throat and air-passages.

The treatment of heart cases. The early stages of arterial sclerosis. (Buxton is the only health resort in Great Britain where this treatment is administered.)

Anæmic conditions and convalescence from prolonged illness are favourably influenced by the climate and the use of the Chalybeate Spring.

Relaxations and Amusements: The Spa provides exceptional opportunities for entertainment and recreation, no matter what the weather may be like.

It possesses perhaps the most extensive and finest pleasure gardens in England, where an excellent orchestra may be heard thrice daily, and tennis, croquet, bowls, boating etc.

There are sufficient excursions, drives, and walks from Buxton to provide the visitor with a fresh "trip" every day for weeks, and the famous Crescent in the mornings and afternoons, with the numbers of coaches and Charabancs starting laden with pleasure seekers is indeed a sight worth seeing.

To the golfing devotee, Buxton is a Mecca as this ancient game may be enjoyed on one of the finest inland 18 hole courses in the country. In addition there is an excellent 9 hole course.

The visitor who has a leaning toward concerts, theatres etc., is also amply catered for with one of the prettiest Opera Houses in the country, where the latest London successes may be seen, an excellent Variety Theatre and frequent concerts, and illuminated fêtes in the gardens. Buxton has also of late years gained a considerable reputation for its winter season (when incidentally the "cure" may be taken with quite as good an effect as in summer), and has been christened the English Grindelwald on account of the frequency in which such alpine sports as tobogganing, ski-ing, sleighing etc., may be indulged, the rare dry cold making these pastimes a pleasure indeed.

Buxton as a residential and educational centre stands "par excellence", the magnificent bracing air, excellent drainage, lighting arrangements, freedom from fogs, low death rate, and the many splendid colleges and schools making the "Mountain Spa" a most desirable place in which to live, in fact the best advice that can be offered anyone, whether invalid, pleasure seeker, or for residential purposes is, "Go to Buxton".

Cairo in Egypt.

Topographical conditions: Preëminent winter station of Central-Egypt, capital with about 700 000 inhabitants, of whom 75 000 are foreigners, 2 km from the right bank of the Nile, 70 feet above sea level. Residence of His Highness the Khedive of Egypt. Garrison of Egyptian and English regiments. Seat of ministry and high boards.

Climatic report: The climate of Cairo is dry and warm. The days of winter are equal to the finest days of a European spring, and almost uninterruptedly of the same character. One may rely with certainty upon an almost stable weather. Rain only very rare and for a short time. The sky is almost always clear, the air extremely pure, on account of the immediate neighbourhood of the desert extending close to the borders of the town. The so much feared Chamsin, a southwest-wind carrying hot air from the desert, does never occur in the winter, and if it does not fail entirely, it occurs during the time of middle of April to end of May, lasting usually for three days. At any rate, this wind is not at all injurious to the human organism, especially not to the respiratory organs. During the winter, the mornings and evenings are cool (mean temperature 53,6° F = 12° C). But even during the coldest period, in January, the temperature does never sink below 9° C (48,2° F). The temperature at noon is 20° C (68° F) in the average. The time of early winter, i. e. from end of October to end of December, is the best season of Egypt, the extreme heat being over and the days resembling then the finest European summer-days (without rain or thunder-storm), with a pleasant cooling in the evening and the refreshing morning. In the middle of April the hot temperature sets in, rising in May to the level of a European summer. The moisture of the air is very slight. Northwest- and north-winds predominating which always carry a fresh and invigorating air.

Curative factors and indications: Cairo has of late grown up to a winter-station par excellence, and is frequented more and more every year. Cairo is at present visited in the winter by about 20 000 foreigners of the best society from all countries; it is growing in repute, and will in the next decade probably rise to an unforeseen prosperity. The climate is working wonders in cases of chronic rheumatism, gout, renal affections, diseases of the chest and the heart, nervous diseases, anaemia and chlorosis, the good effect being due to the stable temperature, the dry and pure air of the desert, and to the abundance of sunshine. On account of the elementary accidents which occurred during the last years at the Riviera and in Italy, the number of patients

flocking to Egypt has grown still more, and they all emphasize as a particularly distinctive feature the relative number of hours usefully spent in the open air, as compared with those other places. There are no contra-indications for Cairo.

All specialties are present in a most excellent variety. The very best appliances for any kind of hydrotherapy (cold-water treatment, Roman-Irish-Russian baths, swimming-tank, electric-bath etc.), massage, Swedish gymnastics, electro-therapy in the new and splendid bathing-establishment called "Hammam", near the world-renowned Hotel Continental.

Physicians: Hess (Swiss), Wild (surgeon), Engel Bey, von Becker, von Hebenantz (otologist), Heymann, Hegi, Wermer (during the summer at Carlsbad), Comanos Pacha (Greek, graduated in Germany). In addition, a great number of English, French and Arabian physicians.

Apothecaries. Numerous apothecaries of all nationalities, among others that of Karl Simmermacher, successor of Dr. Küppers, in Hotel Continental, and that of Zechini in Savoy-Hotel.

Hotels: Savoy-Hotel, first hotel in the town, distinguished by the visit of His Imperial and Royal Highness the German crown-prince. Splendid new edifice with modern and hygienic outfit, large verandas, southern location, centre of fashionable world. — Grand Hôtel Continental, first-class hotel, 350 rooms, 450 beds; isolated central location opposite the world-renowned Ezbekieh-garden, large verandas from which the foreigner may watch the picturesque and extremely attractive bustle of oriental life. Renowned cooking and wine-celerage. — Hotel d'Angleterre, quiet and comfortable family-hotel, wonderfully located in the Ismaila quarter, near the Ezbekieh-garden and the opera-house.

At the foot of the pyramids is the often mentioned Mena-House Hotel, to be reached by car or tram in 45 minutes, or within 20 minutes by automobile. The hotel is built in the very peculiar Arabian style, and comfortably furnished. It is especially suitable for a longer stay. Horses, asses, camels and sand-cars are at disposal for trips to the desert and hunting-picknicks. Cooking and service is satisfactory in all hotels, and the prices are reasonable.

Consulates: British Consul-General: Viscount Kitchener of Khartoum, K. P., G. C. B., O. M., G. C. S. I., G. C. M. G.

British Consul: Arthur David Alban, Sharia Suleiman Pacha, Cairo.

Divine service: Regular service in all languages and confessions.

Costs of cure according to mode of life and comfort desired. The rumour that Cairo is an extravagantly expensive station is unjustified. Health can be cared for, and entertainment secured in any form and at the same rates as in any large European health resort. Cars cheaper than in Europe, likewise articles for daily use, as hats, clothes, shoes, and under-wear. Excellent opportunity for shopping in oriental bazars in which the most precious goods are stored up (rugs and embroidery etc.)

Price of pension in first-class hotels 20 Frs. per day, second class 12—15 Frs. and less.

Season: From middle of October to middle of April.

Whoever considers Cairo too noisy may go to Helouan, three miles southern to Cairo (about 12 English miles), with tepid, sulphurated springs

Detailed prospectus by the

Directory or by *Hotel National, Zurich.*

Davos, Switzerland.

Alpine Health-Resort; open all the year.

Situated in the midst of the Rhaetian Alps, Canton of the Grisons, in a large valley, 5200 feet above sea level, well sheltered to the north-west and east, open to the south.

Climate has the main characteristics of the Alpine region. There is much fine weather, little wind, very little fog, comparatively small amount of cloud and precipitation, dry air, powerful sun-shine (especially in winter), great intensity of light. Mean temperature 2,6° C. (summer 8,6°, winter 3,25°). Actual duration of sunshine = 4 hours, 55 min. daily, or 54 % of the possible. Annual summary of observations and monthly weather charts on application to the Curverein, Davos-Platz.

Indications: 1. Prophylaxis against tuberculosis in cases of hereditary tendency and where there is in any way a predisposition to the disease. 2. Lung complaints of a chronic catarrhal and infiltrative nature. 3. Chronic bronchial catarrh without any high

degree of emphysema. 4. Pleurisy and its after-effects. 5. Asthma. 6. Scrofula in all its forms. 7. Neurasthenia. 8. Graves' Disease. 9. Malaria. 10. Convalescence.

The Cure consists mainly in individually prescribed alternation of rest and exercise in the open air, for which the fullest accommodation is provided, not only in the sanatoria, but also in all hotels, boarding-houses, villas etc., where invalids are received, there being the widest possible range of accommodation to meet all purses. Seats and shelters in all parts of the resort, especially in the woods. All the requirements of modern treatment on sanatorium or home lines: Oertel's system of exercise on selected grounds and gradients. Hydropathy. Massage, Swedish gymnastics. Milk and Kefir cures, etc. English and English-speaking doctors. School-Sanatoria.

English Church with permanently resident Chaplain. Roman Catholic and other churches.

Kurtaxe: 25 cts. per day. Reduction for families on prolonged visit.

Route: Shortest direct route from the United Kingdom is via Folkestone and Boulogne, Laon, Basle, Zurich, and Landquart, in about 24 hours from London.

British Consul: Dr. B. Hudson, Schweizerhaus, Davos-Platz.

Further information from the *Davos Public Interests Association, Davos-Platz.*

Sanatorium Davos-Platz, Dr. A. Schnoeller, see Section II ("Sanatoria and Cure-Establishments").

Forest-Sanatorium, Prof. Dr. Jessen, see Section II ("Sanatoria and Cure-Establishments").

Schatzalp-Sanatorium, Davos-Platz, see Section II ("Sanatoria and Cure-Establishments").

Dr. Turban's Sanatorium, Davos-Platz, see Section II ("Sanatoria and Cure-Establishments").

Droitwich. (County Worcester, England.)

Season: Throughout the year. Baths, Waiting Rooms, Cooling Rooms &c., efficiently warmed.

Railway station: Droitwich. Joint service Great Western & Midland Railways. 2½ hours direct service from London (Paddington). Splendid service to Scotland, Ireland &c., via Birmingham (20 miles).

Climate &c.: Fairly bracing with absence of fogs and mists; well protected from north and north-east; fertile and most picturesque country.

Waters: Natural Brine Springs, ten to twelve times stronger than sea water; total salts to gallon 22212.880.

Baths: Reclining Douche, Aix Douche, Needle, Nauheim &c., three Brine Swimming Baths.

Indications: Rheumatism, gout, sciatica, neuritis, rheumatoid arthritis &c.

Amusements: Golf, tennis, hunting (2 or 3 packs), Band in Brine Baths Park and Salters Hall, Theatricals &c., H. M. Guards' Bands & illuminated fetes in summer. Coaching; excellent roads for motoring, cycling &c. Excursions to adjoining Shakespeare country and numerous historic and picturesque places.

Full particulars from J. H. Hollyer, 80 Corbett Estate Offices, Droitwich.

Bad Dür rheim in the Black-Forest.

2460 feet above sea level — the highest brine-bath of Europe, and head-station of the line Villingen—Marbach—Bad Dür rheim, branching off from the Black-Forest-railway. Owing to its saturated brine, to its situation protected toward the south and east by magnificent pine forests, and to its atmosphere free from dust, this station combines the advantages of a brine bath and a mountain health resort.

Season from April to end of October. The "Landessolbad" (National Brine-Bath) and Childrens'-brine-bath of the Ladies' Association of Bade are open all the year round. 3 Physicians, apothecary, post-office.

Boarding according to demands in the Kurhaus and other hotels, in boarding-houses, and privately.

Entertainments are particularly provided for.

Curative factors: Brine, brine-steam, carbonic acid, brine-electric-light; air and sun baths. Brine inhalations, massage, hydrotherapy; diet, Oertel and drinking cures.

Indications: Scrofula, rheumatism, gout, organic and functional nervous diseases, chlorosis, anaemia, rickets, exsudates, diseases of women, affections of the respiratory organs (except tuberculosis), cardiac and skin-diseases, delayed convalescence.

Detailed information by the _____ „Kur- und Verkehrsverein“.

Bad Elster (Saxony).

Royal Saxon Mud- and Mineral-Bath.

Junction of the line Leipzig—Eger, also D-trains and L-trains (express and trains de luxe). Post-, telegraph- and telephone-office. 1050 feet above sea level. The health-resort is surrounded by a forest extending for miles with moderate slopes protecting against the influence of rough winds, and passing over directly into an extensive park kept in a most ideal manner. Moderate mountain climate. Number of visitors constantly increasing, in 1911 Elster was frequented by 16738 persons. There are practising 15 physicians, 2 lady-physicians. Spring-water aqueduct, canalization, electric light.

Season: May 1st to September 30th; but also open for cure all the year round. Before the 15th of May and after the 1st of September reduced prices. In September only half of the Kurtaxe, in Winter no Kurtaxe at all are charged. Bad Elster has 12 alkaline-saline ferruginous acidulous waters of all degrees, from the mildest to the strongest. Four of these are used for drinking cures, as the Königsquelle with a proportionately high content of lithium-chloride, and the Marienquelle rich in sodium-chloride and carbonic acid. The Salzquelle is one of the few sources of Germany containing large amounts of sodium-sulphate, this source being the invaluable treasure of Bad Elster. As to composition and effect it is almost equal to the Kreuzbrunnen of Marienbad.

The following baths are used: mud-baths (since half a century renowned as being excellent), ferruginous or mineral baths, thermal-, brine-, sprudle- and pine-needle baths, electric baths. There are two emanatoria, filled by the Emanation of the strongest Radiumquelle in the world, a medico-mechanic institute with Röntgen-laboratory, electric-light baths, steam- and hot-air baths.

There are furthermore a hydropathic institute, an inhalatorium, as well as a large sun- and air-bath with swimming-tanks.

Indications: Excellent results are obtained in general debility, chlorosis and anaemia, in cardiac diseases, nervous diseases, especially neurasthenia, hysteria, neuralgia (sciatica) and paralysis. The extraordinary use of mud-baths for combating all kinds of exsudates, especially in diseases of women (peri- and parametritis, menstrual disorders, sterility etc.) is just as well known as their effect in gout and rheumatism, in affections of the bones and joints. The sodium-sulphate spring is of a most favourable influence in chronic gastro-intestinal catarrh, in atony of the intestines, constipation, haemorrhoids, and especially in reducing cures (obesity).

Entertainments: Two concerts of the Royal Kur-musicband daily; symphony and evening-concerts. In the Albert-theatre daily performances. On the stage of the wonderfully situated natural theatre, allowing room for 4000 persons, every week one performance. (The performances of the Hermann and Dorothea plays are given three times in every season, very likely middle of June, July and August). Dancing-soirée in the Royal Kursaal. Park and forest-parties, fire-works on the large gondola-pond, rowing, abundantly supplied play-grounds for children, donkeys for riding, tennis-fields. In the winter large sledging-road and sleigh-driving. In the Kurhaus 2 reading-rooms, ladies'-parlour, billiard- and card-rooms. Permanent exhibition of paintings.

Sanatorium Bad-Elster, Sanitätsrat Dr. Köhler, see Section II ("Sanatoria and Cure-Establishments").

Dr. R. Schmincke's Sanatorium, see Section II ("Sanatoria and Cure-Establishments").

Empfung, Bavaria, near Traunstein, 1300 feet above sea level. Indifferent waters; climatic air station.

Engelberg, Switzerland, on the Lake of Lucerne, 3560 feet above sea level. Climatic mountain station of world-wide fame.

Evian-les-Bains, France, Upper Savoie, on the lake of Geneva opposite Lausanne. Calcareo-bicarbonated waters and climatic air station. A very agreeable sojourn for tourists as well as patients. Excursions in great variety into the forests and mountains.

Bad Ems (Germany)

in the province of Hessen-Nassau, 340-1260 feet above the sea-level, has been renowned for many centuries as an international health resort and watering place; it was mentioned as far back as the eleventh century. It is situated in a most charming spot on both banks of the river Lahn, some 8 miles from its outlet into the Rhine.

Ems is a station of the railway line from Coblenz to Giessen, at which all express trains stop, and has through railway connection in all directions.

It has a population of about 7000 and is visited during the months May till October by about 25 000 people.

The season lasts from the 1st of May till the 1st of October, but both before and after these dates ample opportunity is provided for treatment at Ems.

The climate of Ems is very mild. Being encircled by mountains the town is well protected against strong winds. The Lahn, which runs through it, the extensive forests surrounding the town, and the shady side valleys impart a most pleasant freshness and coolness to the air, even on the hottest days of summer.

The mean temperature during the season is 56° F.



Maladies: Specially suitable for treatment at Ems are: Catarrhal affections of the mucous membrane, especially those of a chronic character, such as catarrh of the respiratory organs, the nose, the naso-pharynx and the Eustachian tubes; tinnitus, catarrh of the pharynx, the trachea, the air passages and bronchial tubes, as well as the sequelae of such diseases, emphysema and asthma. The after effects of influenzal catarrhs, of inflammation of the lungs and pleurisy, catarrhal affections of the digestive organs, chronic gastric catarrhs, hyperacidity of the stomach, catarrh of the large and small intestines, jaundice (as a consequence of catarrhal diseases of the gallducts), gall stones, (the passage of the stones being greatly assisted by the power of the waters to stimulate the expulsion and flow of mucus); catarrhal inflammations of the vagina, the cervix, the uterus and the Fallopian tubes, as well as para- and perimetritis, sterility (if caused by the before-mentioned diseases), idiopathic catarrh of the bladder and the membrane of the kidneys.

In addition to the diseases of the organs of respiration and blood circulation it is now possible to treat successfully at Ems such diseases of the heart as have, hitherto, been deemed capable of being treated only at certain watering places which are specially suited for them. This is achieved by the recently tapped "Neuquelle" spring, which

yields a strongly carbonated alkaline-muriatic thermal water of various degrees. Successful treatment can also be effected by the internal and external use of the waters in the following diseases: gout, many forms of nephritis and chronic rheumatism of the joints and muscles.

The length of time required for a cure at Ems varies from 4 to 8 weeks

Contra-Indications: The use of the Ems cure is prohibited in the following diseases: acute maladies or those accompanied by fever, especially those of a tuberculous nature, as well as in any tendency to haemorrhage of the lungs and in conditions of excessive weakness.

The drinking cure (internal use of the waters): The medicinal springs at Ems are, with one exception, carbonated sodium thermal waters, containing sodium chloride, and have a temperature of 83–152° F.

For drinking purposes the following are prescribed:

- | | |
|-------------------|------------------------------------|
| 1. Kraenchen I, | 5. Kaiserbrunnen, |
| 2. Kraenchen II, | 6. Victoriaquelle, |
| 3. Kraenchen III, | 7. König-Wilhelm-Felsenquelle and |
| 4. Kesselbrunnen, | 8. Stahlquelle (cold iron spring). |

These springs, all of which belong to the Prussian State, were newly tapped during the last few years in accordance with the latest approved systems and are protected in such a manner as to exclude any possibility of their coming into contact with the external air or being contaminated by dust or any other impurities.

In their chemical constituents the warm springs are very similar to each other. At a varying temperature of individual springs ranging from 83–152° F. their average proportion of bicarbonate of soda is 2 grammes, of sodium chloride 1 gramme, of free carbonic acid 500–600 ccm per liter. Only the cold iron spring, a weak acidulated chalybeate water, shows a different chemical composition.

We will quote here only the result of the investigation, carried out in 1903 by Geh. Regierungsrat Prof. Dr. Heinrich Fresenius, of the best-known drinking spring Kraenchen I, as published in the German Book of Spas (Bäderbuch).

The mineral water in its composition is about equal to a solution, containing in 1 kilogramme:

	Grammes
Potassium chloride (KCl).....	0,04050
Sodium chloride (NaCl).....	0,9926
" bromide (NaBr).....	0,000487
" iodide (NaI).....	0,000020
Sulphate of soda (Na ₂ SO ₄).....	0,06248
Hydro carbonate of soda (NaHCO ₃).....	2,194
" " " lithia (LiHCO ₃).....	0,004302
Ammonia-chloride (NH ₄ Cl).....	0,001438
Hydro-phosphate of calcium (CaHPO ₄).....	0,001296
" " " " carbonate of calcium [Ca(HCO ₃) ₂].....	0,2615
" " " " strontium [Sr(HCO ₃) ₂].....	0,002243
" " " " baryta [Ba(HCO ₃) ₂].....	0,001138
" " " " magnesia [Mg(HCO ₃) ₂].....	0,2371
" " " " iron [Fe(HCO ₃) ₂].....	0,004045
" " " " manganese [Mn(HCO ₃) ₂].....	0,000185
Silicic acid (meta) (H ₂ SiO ₃).....	0,06141
	Total 3,865
Carbonic acid, entirely free (CO ₂).....	1,100
	Total of all constituents 4,965

Gargling rooms: On the groundfloor of the Royal Kurhaus, in immediate proximity to the drinking springs, are three large gargling rooms, two for men and one for women, each divided into about 30 separate compartments. Here also are appliances for nasal douches. Running springs, with warm and cooled mineral water, in every room.

Thermal baths: The bathing establishments are supplied with thermal water from the "Neuquelle" — on the left bank of the Lahn — (Government property).

In the "New Bath House", which was entirely rebuilt and redecorated during the winter of 1910 11, pure natural carbonic alkaline-muriatic thermalbaths, so-called "Ems Baths", can be had, in addition to the ordinary thermalbaths. The alkaline baths can be regulated to various degrees of strength and constitute a novelty to be found in Ems only.

The "New Bath House", which is partly fitted with bathing saloons, contains hot air, vapour and electric light baths, electric baths with two and four compartments and a hydrotherapeutical section. This latter, as well as most of the other bathing compartments, has fittings for the supply of cold and hot douches and of all kinds of shower-baths. Douches for internal use can be supplied only on a doctor's prescription, which must state the strength, temperature and duration of the application.

Massage and any other medical prescription appertaining to the use of the baths, especially those for the preparation of saline and other medicinal baths, receive the most conscientious attention.

Massage and cold water treatments are carried out by trained attendants, not only in the rooms set apart for the purpose, but also at the patient's home.

Inhalations: In the Royal Inhalation Establishments nothing else is used but the mineral waters from the government springs, which at the patient's request are frequently strengthened by the addition of some natural Ems spring salts.

The "Neues Badehaus" contains a large general inhalation room for free-spraying by means of central sprayers "Imperator", but separate inhalation compartments can also be obtained there.

Apart from the Government Establishments there are a number of privately owned inhalatoria with apparatus and fittings of various kinds, including those for inhaling finely sprayed medicaments. Ample arrangements for pneumatic inhalations, as well as pneumatic chambers of the most modern type, are provided.

Cure-Tax: The cure-tax, for which cards (Kurkarten) are issued is, for the whole season, Mk. 18.— for a single person or the head of a family; and Mk. 9.— for every additional member of a family.

These cards are obtainable at the offices of the "Kurkommission" (in the Kursaal), who, on application, will be pleased to forward, post free, fully illustrated prospectuses of Bad Ems.

Doctors and members of their families are exempt from the cure-tax; further, nearly all the State bathing arrangements are at their disposal free.

River, air, light and sun baths: A bathing establishment in the river affords opportunity for bathing and swimming in the Lahn; air, light and sun baths can also be had in another section of this establishment.

Milk, whey and kefir can always be obtained fresh and in good condition. Goats' milk and whey and sterilized cow's milk is to be had in the drinking hall at the usual drinking hours in the morning.

The air health resort Hohenmalberg 1267 feet above the sea-level and situated on the left bank of the Lahn, can be reached by shady and gently ascending wooded paths, or by means of the rope-railway (6 minutes' journey).

Amusements: Kursaal with covered promenade, situated in the midst of the Park Grounds on the right bank of the Lahn — beautiful concert, reading and playing rooms — rendez-vous for visitors. Dancing, flower carnivals, symphony and vocal concerts, children's entertainments. Theatre; concerts three times daily, in the Kurgarten, by an orchestra of 50 musicians. Artistic illuminations and fireworks, regattas, water carnivals &c. Up to date tennis grounds; fishing and boating. There are also opportunities for hunting, walking and excursions into the woods, both in the immediate neighbourhood of the town and some distance away from it.

Places of Worship: Two Protestant, two Catholic, one English and one Russian church, and a Synagogue.

Sale and despatch of Ems water and the Ems spring products. Whilst everything has been done at Bad Ems itself to enable visiting patients to take the fullest advantage of the medicinal properties of the springs and to derive the utmost benefit from their stay at Ems, the authorities have by no means overlooked the needs of the vast number of sufferers who are unable to take the cure on the spot. In order that these also may benefit by the curative virtues of the Ems springs, arrangements have been made for the packing and despatch of Ems Mineral Waters and the various products made and derived therefrom (Pastilles and Springs salts), to any part of the world and at any time of the year.

For this reason there exists a widespread and ever increasing demand for the Ems waters, for home use, in all parts of the globe.

In 1911 about 3 millions 400 000 of vessels have been despatched.

The Natural Ems Spring Salts are obtained by the Ems Mineral Waters being evaporated by means of a vacuum evaporation plant fitted with all the latest technical appliances.

By the process employed all the natural qualities of the mineral waters are retained in the same proportion in the soluble salts.

The natural Ems Spring Salts are principally prescribed and used for gargling and for douches in chronic catarrhs of the nasal cavities, mouth and throat, for inhalations, sprays and eye-lotions, also as a refreshing dentifrice and as a powerful addition to the Ems mineral water.

As a guarantee for the genuineness of the natural Ems Spring Salts insist on the following: 1. Square bottle with rounded corners, 2. Trade Mark on cap and label, 3. Unbroken seal and undamaged cap and label.

Ems Pastilles: These well known Pastilles are made from the pure natural salts, in the Pastilles factory, which is attached to the Evaporating station and which is under government control.

Each Pastille is stamped with the registered trade-mark "Königl. Ems", which insures their genuineness.

The Ems Pastilles are packed in aluminium tubes, made air-tight by a process patented in all civilised countries.

Medical experience, extending over many years has proved the Ems Pastilles beneficial in:

1. Catarrhs of the respiratory organs, especially in alleviating cough irritations and in catarrhs of the pharynx and trachea,
2. Catarrhs of the stomach and intestines, especially in relieving heartburn and other signs of excessive acid formation.

Laboratory: A laboratory equipped with all the most modern appliances has been established for the continual supervision of the springs, their productiveness, quality and germ contents, as well as for the control of the preparation of the salts and the manufacture of the Pastilles.

Doctors: Sanitätsrat Aronsohn, Barthels, Baur, Falk, Feigen, Koch, Meuser, Müller, Nehab, Oldengott, Pescatore, Sanitätsrat Reuter, Samter, Stemmler, Geh. Sanitätsrat Vogler, Albert Vogler, Werner.

For all other details write to the

Royal Prussian Baths and Springs Directorate, Bad Ems (Germany).

Faido, Canton Tessin, Switzerland

Climatic Health Resort for the Summer (Spring and Autumn),

2625 feet above sea level.

Railway-terminus of the Gothardt-line, station of all passenger-trains and fast-trains as well as of most of the express-trains. Faido with 1000 inhabitants is an air station with many climatic advantages, and furnished with any kind of modern comfort. Pure mountain air saturated with the balsamic perfume of the neighbouring pine forests and cooled by a grand cataract. Very suitable for a longer stay in summer. Very much in favour as a pleasant station in the spring and autumn for those going to or returning from the Riviera. — The visitors have become enthusiastic about Faido, and many of them have bought propriety and settled there, in order to restore health.

Indications: Chlorosis, anaemia, nervous and neurasthenic conditions are influenced favourably. Very suitable too for convalescence and exhaustion. Children particularly that have gone down-hill in the atmosphere of large cities, recuperate in a remarkably short time.

Boarding: Excellent hotels and many fine summer residences. Very much reduced prices for pensions in the months of June and September. Physicians and apothecary. Guides for mountain-tours.

Prospectus and information on application to the „Verschönerungsverein“.

Franzensbad, Austria, Bohemia. 1600 feet above sea level, situated near Eger; the first mud bath of the World. Surrounded by richly wooded mountains. Air rich in ozone.

Friedrichroda in Thuringia.

Climatic Summer and Winter Health Resort, Winter Sporting Station.

Topography: Friedrichroda is situated in the north-western part of the Thuringian forest, 15 km south-western to Gotha, and 1500—1600 feet above sea level. The whole place, including the castle of Rheinhardsbrenn, has altogether 4500 inhabitants. It is surrounded and protected by densely wooded hills rising up to the height of 2550 feet. Wonderful forest-walks of various decline and a total length of more than 90 km extend through the whole region, allowing even to weak persons to enjoy all the beauties of this grand natural park reaching as far as the 3200 feet high Inselsberg.

The **climate** is mild and equable, owing to the altitude and latitude of the place. It is intermediate between the climate of the West-European coast and the climate of the East-European continent, and it is undoubtedly the best example of a German mountain and forest climate. The average daily temperatures are according to the observations of many years: in January — 2.7° C; February — 1.3°; April 2.8° C (37.2° F); May 12.6° C (55° F); June 15.1° C (59° F); July 16.9° C (62.5° F); August 16.8° C (62° F); September 13.8° C (57° F); October 7.7° C (46.2° F); November 2.2° C (35.7° F); December — 1.5° C. The relative moisture during the summer months is 70 per cent. in the average, in winter somewhat more. These favourable climatic conditions together with the wonderful purity of the air and the excellent water — radioactivity of the springs 1.3 Mache units — constitute the natural curative means of Friedrichroda.

The **public hygienic conditions** answer the highest demands of a first class health resort. There is a water-pipe system supplied by the purest mountain springs, a deep canalization with setting-reservoir on biological principles, obligatory removal of sweepings, regular cleansing and sprinkling of the streets, two public bathing establishments, swimming bath in the open air, sun and air bath of the municipal administration. There is also a recently built city hospital, and, in addition, five comfortably furnished sanatoria supplied with all modern therapeutic appliances. Gas and electric light.

Indications: The above mentioned curative means and, in addition, the excellent situation of the place, the influence of which upon the psychical conditions cannot be appreciated too much, have proved particularly favourable in the following conditions: Delayed convalescence after severe diseases, disorders of nutrition, such as anaemia, chlorosis, subnutrition, obesity, diabetes, weakness and irritability of the nervous system, affections of the heart and of the vessels, nervous and chronic catarrhal affections of the respiratory and digestive organs, tropical diseases and malaria. Owing to the varying formation of its ground, Friedrichroda is suitable for Oertel-cures and is especially preferred as a station after a cure at Wiesbaden, Nauheim, Ems, Kissingen, Carlsbad, Marienbad etc.

Physicians (see also sanatoria): Geh. Sanitätsrat Dr. Kothe, Dr. Max Böhm, Sanitätsrat Dr. Lots, Dr. Goering, Dr. K. Bieling, Dr. Wanke, Dr. Hartz, Dr. Ortlepp, Dr. Lübbers. — Bottsack & Hering, dentists. — Dispensary and drug-store; supply of all known mineral waters and specialties.

Boarding: The numerous hotels answer the most various demands regarding provisions and prices; there is also a great number of highly recommended boarding-houses and pensions. Apartments for annual rent are increasing, as the influx of private families is constantly growing. As a result of this, a private high school for boys and girls has been established in addition to the middle-class school.

Entertainments: The summer season lasts from beginning of May to end of September. During this time the Kurhaus is open with its concert, reading, and playing-rooms; concerts are given daily by the music-band, symphony- and chamber-music soirées, theatre, réunions, and other entertainments arranged by the administration of the bath; besides tennis-matches, horse-races near Gotha—Bocksberg &c. During the winterseason there are less entertainments of the just mentioned kind, but there is vivid winter-sporting in various forms, such as ice-skating, ski-ing on fine slopes, tobogganning-run of 9100 feet length, bobsleigh-run of 5050 feet length, sleighing-drives through the whole superb forests with their beautiful snow laden fir-trees.

Kurtaxe: 5—12 Mks, to be paid only in summer.

Divine services: Protestant and Lutheran all the year round; Roman-Catholic only in the summer.

Means of Communication: Friedrichroda is easily reached by leaving the main-line Berlin—Frankfort on Main at station Fröttstädt. For the western and northern part of the town, the station of Reinhardsbrunn is the most convenient. Berlin and Frankfort are to be reached within 5 hours, Leipsic in 4, Dresde in 6, Cologne and Hamburg in 8, Amsterdam and Munich in 10 hours. For the vicinity mail-coach, omnibus and autobus communications as well as cabs controlled by the administration.

Illustrated prospectus sent free of charge by *Die Städtische Kurverwaltung*
Vorsitzender: Dr. Kothe.

Sanatorium Friedrichroda, Geh. Sanitätsrat Dr. Kothe, see Section II (“Sanatoria and Cure-Establishments”).

Sanatorium Tannenhof, Friedrichroda, Dr. Bieling, see Section II (“Sanatoria and Cure-Establishments”).

Gardone-Riviera on the Lake of Garda, Italy

situated at the northern edge of the bay of Saló, in a delightful locality protected against winds by the spurs of the Alps (7000 feet). Unlimited view to the south upon the sea-like lake with the Isola di Garda of Prince Borghese. Up to the end of November the character of the scenery is that of the latter part of summer. Also in winter the evergreen olive-trees and laurels predominate in the landscape.

Climate: The mean temperature in Gardone-Riviera and the adjacent Fasano is, according to the observations of physicians, higher than at any place northern to the Ligurian Riviera. The horizon being open toward the south, only a few minutes of the sunny day are lost. The moisture of the air is of a mean degree and but slightly varying. The greatest advantage, however, of Gardone and Fasano is their being protected against winds: calm air was in more than 80 per cent. of observations made three times a day, i. e. in $\frac{4}{5}$ of the entire season (September to June).

Indications: Convalescence after acute diseases, chronic affections of the throat and chest, irritability of the nervous system, anaemia, scrofula, affections of the circulatory apparatus, of the kidneys etc. Residence for overworked people needing rest.

Physicians: From Germany: Hofrat Dr. Krez, Sanitätsrat Dr. Rohden, Dr. U. Koeniger, Dr. Koch, Dr. Brix. From Austria: Dr. Boral. From Russia: Staatsrat Dr. v. Clemens, Miss Frenkel M. D. From Italy: Dr. Molinari. Dentist: A. Hruska — Nursing is provided for. Apothecary at the place.

Lodging: First-class hotels and pensions furnished according to modern comfort; besides, simpler hotels and pensions as well as private houses in sufficient number. Prices of pension from about 7 Lire per day. Number of visitors in 1910—1911 more than 15 000.

Entertainments: Wonderful promenades and excursions in great number and variety. Large new strand-promenade, rowing, motor boating and sailing. Electric tram to the vicinity. Private club in the Kurkasino. Two great concerts daily in the new large Kursaalkasino,

Means of Commucation: 1. Via Simplon or St. Gothardt to Milan-Desenzano, from here by steamers to Gardone (but also by car in 2 hours). 2. Over the Brenner (Tyrol) to Riva on Gardasee (change at Mori). 3. Over the Brenner to Verona-Desenzano, from here as sub 1.

Prospectus and information sent free of charge on application to the *Kurverein*.

Mineralbath Godesberg on the Rhine.

Situation: In the most charming part of the entire Valley of the Rhine, close to the wonderful river, and opposite the ever-beautiful Seven Mountains Chain, rises aloft the basalt-hill of Godesberg like a tower, bordering the valley from the west; and around this hill adorned with grand old castle-ruins, the health resort of Godesberg has developed in the south, the east, and the north. Godesberg is situated at 24.45° eastern longitude and 50.41° northern latitude, about 288 feet above sea level, in the Prussian administrative district of Cologne, on the left bank of the Rhine, 7 km. southern to the university-town of Bonn, 33 km. from the district-capital of Cologne.

Climate: As can be gathered from the development of the plain of the Lower Rhine, the conditions of the ground are extremely favourable in the whole region.

likewise the climatic conditions. The air is mostly slightly stirred, and has a moisture favourable to the entire organism of man. There are at Godesberg neither stagnating waters nor swamps, nor factories and other establishments deteriorating the atmosphere. Large shadowy forests extend close to the place, and there are for good walkers the most attractive forest-walks leading as far as the town of Bonn. The meteorological observations of many years have proved that Godesberg has the mildest winter-climate among all health resorts of Germany, and that it, therefore, more than any other station, is suitable as a winter-station for exhausted patients.

Curative factors and indications: The old radioactive, alkaline-muriatic ferruginous-spring at the Draitschbusch, known already at the times of the Romans, was restored and curbed five years ago, by the spring-engineer Scherrer; one of the seven springs was directed to the Kurpark 1 km distant, to form here a second drinking spring. According to the analysis of Prof. Fresenius at Wiesbaden, the Draitschquelle is rich in free carbonic acid, and contains of dissolved mineral bodies preferably bicarbonate of sodium, sodium chloride, bicarbonate of magnesium and bicarbonate of calcium, furthermore sodium sulphate and considerable amount of bicarbonate of ferrous oxide. There is also present a considerable amount of bicarbonate of lithium. The temperature of the water is $12^{\circ}\text{C.} = 53,6^{\circ}\text{F.}$

Indications for applying a cure with our spring are given for all the diseases requiring particularly action of iron combined with carbonic acid, i. e. for chlorosis, for catarrhal affections of the respiratory and digestive organs, furthermore for all diseases of the female sexual organs associated with anaemia and of the nervous system, especially for hysterical and neurasthenic conditions. For these affection not only the drinking cure but, above all, the application of the nerve-strengthening and invigorating natural carbonic acid baths comes into question (Bathing-house near the spring). The application of the baths has also proved successful for rheumatic affections as well as for affections of the heart, and of the circulatory organs.

Table-water. The table-water obtained from the Draitschquelle is of great repute as "Godesberg table-water", and has been for many years the favourite table-water of the Royal English Court. Export to all places. The mineral cure-water is likewise exported for cures at home. For all information apply to the Administration of Godesberg on the Rhine.

Godesberg has five sanatoria and hospitals, two general hospitals. Twenty physicians are practising at the place.

Administration: "Kurdirektion" and "Verkehrsverein" give information on all items about Godesberg. Prospectus free of charge.

Season: All the establishments are open all the year round, likewise the baths at the mineral-springs.

Summer-season: May to September.

Means of communication: Godesberg is one of the principal stations of the Royal Railway on the left bank of the Rhine, station of the Cologne—Düsseldorf steam-ship company, furthermore of the local steamer-lines Bonn—Königswinter, and of the electric railway Bonn—Godesberg—Mehlem.

Dr. Franz Müller's Sanatorium Schloss Rheinblick, see Section II ("Sanatoria and Cure-Establishments").

Dr. R. Schorlemmer's Sanatorium, see Section II ("Sanatoria and Cure-Establishments").

Hall, Upper-Austria, 1300 feet above sea level, with highly favourable climatic conditions. The waters contain iodine and bromide.

Heligoland (Helgoland), much frequented North-Sea bathing place. Its wholly insular position warrants fresh pure sea air; the salt content of the sea is very high.

Heringsdorf, Germany, in the Prussian province of Pomerania; much frequented sea bath, surrounded by large beech forests. Season: June to September.

Helouan (Hélouan les Bains) in Egypt.

Situation: For a winter health resort Helouan is entitled to be considered exceptionally favourably in view of its excellent position. Situated within easy reach of Cairo, which is only sixteen miles distant and with which town it is connected by half hourly service of trains, it yet has the advantages of being surrounded by desert, thereby ensuring a wonderfully pure air. It also is the fortunate possessor of a magnificent bathing establishment supplied by sulphur saline water of exceptional strength, which is produced from a number of springs which ancient Egyptian records state to have been in existence as early as 1660 B. C. The town which lies at the foot of the Mokkatam hills is three miles distant from the Nile and 150 feet above it.

Season: The winter season commences in October, and visitors will not find it unpleasantly hot even as late as May.

Climate: During the winter months the average amount of daily sunshine is eight hours, the average maximum temperature amounting to 70° F., in the evening the average minimum being 60° F., at night the average minimum during the same period is 50° F. It is important to note that there is no sudden fall in temperature, the change from maximum to minimum being a graduate one.

Helouan is singularly free from dust despite its desert position, which is attributable to the fact that the granules of the sand are larger and of higher specific gravity than particles of dried cultivated soil, and consequently less easily disturbed by any wind.

Sulphur Saline water. The natural sulphur saline water employed at the Bathing Establishment has a temperature of 91° F. in the springs, and in the baths can be further heated by steam if desired, the amount of steam required being exceedingly small; thus the water is practically used in its natural strength. It is specially rich in chlorides, sulphates and sulphuretted hydrogen. The ideal climate which this health resort will be seen to possess during the winter months makes it a unique spot for a bathing cure at such a period of the year.

The Bathing Establishment. The Bathing Establishment itself is worthy of its wonderfully strong water which by comparison of its analysis with other sulphur waters, shows it to be stronger than any used for bathing purposes in Europe.

The building has been fitted with every comfort that visitors can require, and is magnificently equipped with numerous kinds of baths. Special attention may be drawn to the "Helouan Bath" by which the body is submerged in a continual supply of strong sulphur saline water and accompanied by massage under the water. In addition, there are electric light baths of the latest pattern, baths supplied by faradic and galvanic electricity, Vichy baths, steam baths, sun baths and all kinds of douches. A highly trained staff of European masseurs and masseuses are in attendance.

In connection with the establishment there are two magnificent open air swimming baths: one for gentlemen 60 yards long and 25 broad, and one for Ladies which is slightly smaller.

Indications for Invalids: From a climatic point of view, Helouan with its equable climate, the average yearly rainfall being only one inch, its pure dry air free from dust and germs, offers exceptional advantages to those suffering from early chest troubles, chronic bronchial conditions, renal diseases, albuminuria, enlarged glands, asthma and anaemia. In addition, persons suffering from nervous breakdown, overwork, and convalescence after severe illness will find the healthy conditions which prevail in such a place as Helouan, most suitable in which to regain their health.

The Baths with the helpful influence of the climate are famous for the treatment of rheumatoid and osteo-arthritis, gout, sciatica, syphilitic affections, lumbago and skin diseases, such as psoriasis and eczema.

Doctors: Dr. O. Hobson, Government Medical Director of the Baths. Address: Villa Sakkarah, Helouan. (Summer: 31 Grosvenor Street, London.)

Dr. J. Berninger. Address: Rue Ragheb Pascha. (Summer: Bad Nauheim, Germany 6 Alicenplatz.) Dr. A. Haas. (Summer: Steyr, Austria.)

Dr. Glanz, Dr. Preminger (Summer: Marienbad in Bohemia), Dr. Rabinovitch, Dr. Haas, Dr. Ackerley, Dr. Safuat.

Zander Institute: A well equipped Zander Institute, the only one in Egypt and under medical Direction, has lately been opened at Helouan.

Hotels: **Grand Hotel Helouan.** Patronised by Royalty. Splendid position; adjoining the Casino and gardens; within five minutes from the Baths and Golf Course. Cooking of highest order, special diet for those suffering from kidney disease, without extra charge.

A special feature is its large luxurious Hall decorated in Moorish style, comfortable reading, writing, and card rooms, and billiard room.

Private suites of rooms with bathrooms attached.

Pension from 12 3 to 20 6.

Manager: *A. Petry.*

Hotel Pension des Bains. Comfortable family hotel close to the Baths, magnificent private garden. Special diet for those suffering from kidney disease, without extra charge. Pension from 8/3 to 12 3.

Prospectus with fullest information as to the Baths, Hotels etc. sent free on application to the Manager of the Paths or Grand Hotel Helouan.

Amusements. 18 hole golf course considered the finest in Egypt with its own comfortable Club house. English professional in attendance with all golfing requisites.

Tennis club possessing several magnificent courts, frequent tournaments during the season. Unrivalled opportunities for riding. Quail, duck and snipe shooting can be obtained at very moderate rates.

Excursions. Admirably situated for visits to the Pyramids of Sakkarah, Memphis the ancient capital of Egypt, caves of Massarah, and the various places of interest in Cairo, such as the Citadel, Mosques, Museums etc.

Bad Homburg in the Taunus.

26 minutes from Francfort on the Main.

Eight Mineral-Springs. Six cold carbonic acid sodium-chloride waters among which the recently bored Solsprudel, Landgrafenbrunnen, and Auguste Victoria-Brunnen are especially distinguished by their high content of carbonic acid and salt; two ferruginous springs.

Drinking and Bathing Cures of a thorough effect in diseases of the digestive tract (gastro-intestinal catarrh, residues of perityphlitis, haemorrhoids, hepatic and bilious affections), in cardiac diseases (regulation of cardiac action and strengthening of the heart-muscles), as well as in nervous affections, neurasthenia, sciatica etc., furthermore in disorders of metabolism (obesity [loss of weight without any loss of albumen], diabetes, gout, chronic rheumatism, scrofula) and women's diseases (chronic metritis, residues of parametritis), chronic kidney diseases.

The **ferruginous springs** easily digestible on account of their sodium chloride content, of a good effect in chlorosis, anaemia and asthenic conditions due to exhaustive diseases (influenza etc.)

In the **Kaiser Wilhelms-Bad**, furnished according to the most modern comfort natural carbonic acid baths and simple sodium chloride baths (the former according to the method of Schwarz), pine-needle, mud, electric light baths. Shower-baths, swimming-tanks, inhalatorium New: gargling-cabinets, common inhalatorium, and pneumatic inhalatorium.

Homburg clay-mud-packings. For winter-cure purposes the recently built **Kurhausbad** has been united with the colonnade of the Kurhaus. The same kinds of baths as in the Kaiser Wilhelmsbad: besides steam and hot-air baths (Roman-Irish), milk-cure establishment, orthopedic institute connected with appliances for electro-therapy. Cold-water sanatorium. Homburg diet.

Homburg is situated on a well-aired mountain-crest, 670 feet above sea level. There are large parks close to the forest. The place is also recommended as a climatic station especially to nervous patients and convalescents. Excursions (electric tram) to the near Taunus Mountains and to the Saalburg (Roman castle).

The **Kurhaus** is open all the year round. Summer and winter-sport (tennis, golf, croquet, bob-sleigh and ski-sport.) Concerts daily, likewise theatre-performances, balls, réunions, lectures etc. Continuation of drinking cure in winter in the heated colonnade which has a length of 160 yards.

Homburg has excellent hygienic establishments, mountain-water supply, rinsing-canalization, electric light, high-schools, young ladies' school.

Export of mineral water during the whole year

Prospectus and illustrated descriptions free on application to the

Kurverwaltung (Administration).

Sanatorium DDr. Pariser-Dammert, see Section II ("Sanatoria and Cure-Establishments").

Sanatorium Dr. Baumstark, see Section II ("Sanatoria and Cure-Establishments").

Ilidža in Bosnia.

Bosnia and Herzegowina.

New and extremely interesting countries for tourists.

Landeskuranstalt Ilidža.

National cure establishment near Sarajevo (Bosnia). Sulphurous thermal spring of 57° C. (134.6° F.) especially indicated in rheumatic affections, gout, neuralgia, rickets, and in all syphilitic and bone affections. Particularly good results in women's diseases of any kind, as there are also excellent and elegantly equipped mudbaths (vegetable mud from Zepece). Carbonic acid baths, sanatorium for hydrotherapeutics according to the system of Prof. Dr. Winternitz. Cold river-baths, sun baths, recommended by first medical experts as: Prof. Dr. Chrnobak, Hofrat Prof. Dr. Neumann and Prof. Dr. Ernst Ludwig.

Season from May 15th to end of September.

Electric light. Elegant Hotels. Interurban telephone.

Moderate rates. Best comfort. Beautiful excursions. Trips to the mountains.

Train and mailcoach to all principal routes. Prospectus and information free of charge by the Directory of the Landes-Kuranstalt, (at the same time Information-Bureau for Travellers.)

Karlsbad, Bohemia, 1200 feet above sea level, on both banks of the small river Tepl. Health-resort of international reputation.

Dietetic Institute "Villa Ritter", Karlsbad, see Sektion II ("Sanatoria and Cure-Establishments").

Sanatorium Kaiserl. Rat Dr. Tyrnauer, Karlsbad, see Section II ("Sanatoria and Cure-Establishments").

Königliches Bad Kissingen.

Situation and Climate: Kissingen, authentically known as a saline since the year 824, as health-resort since 1544, is a town of 5671 inhabitants. It is situated 7035 feet above the level of the North-Sea, in the Northern part of the kingdom of Bavaria, in the governmental district of Unterfranken and Aschaffenburg, at the south-eastern slopes of the Rhön-mountain, in the picturesque valley of the Saale-river. The valley is protected against rough winds and against rapid changes of temperature by gently ascending hills and mountains. As the mean summer temperature is 17.20° C = 62.5° F, and the medium atmospheric moisture amounts to 74.4, the air of Kissingen can compete with any summer-station. The cooling off at night is most refreshing and of the greatest value.

Duration of Cure: The season proper is considered to be the time between April 15th and October 15th, baths are, however, given from the beginning of April to the end of October. The drinking-cure may be applied all the year round.

Number of Visitors: Season of 1911: 33 980 visitors and 14 000 travellers.

Curative Factors: In the Kurgarten the three potable springs close by one another—viz., the world renowned Rakoczy, the Pandur and the Maxbrunnen. The two brine-springs: Salinensprudel and Schönbornsprudel, very rich in carbonic-acid (1440.58 cbcm. per liter); they are applied for carbonic-acid brine baths with or without addition of "Gutsole", of mother-lye and Kissingen bathing-salt, for carbonic-acid baths with wave and douche, for brine-baths poor in carbonic-acid with various degrees of saltcontent: brine baths free of carbonic acid with various degrees of salt-content; the "Neue Sprudel". Kissingen bitter-water: Bocklet Stahlquelle (chalybeate water); whey; mineral-mud baths; fango-treatment; graduated brine and mother-lye; graduation-salt air: pneumatic, hydrotherapeutic, medico-mechanic treatment; massage; inhalatoria; Röntgen-institutes; grapes of the Tyrol; all kinds of milk, kephir, yoghurt; river-bath and swimming-tank; light-baths, air- and sun-baths; Oertel-cures.

Indications: Chronic catarrhs of the pharynx, the stomach; deficient or excessive gastric-acid secretion, chronic catarrhs of the jejunum and colon, habitual constipation; disorders due to gastro-intestinal ulcers and appendicitis, congestion in the portal circulation, hæmorrhoids, congested liver, diseases of the gall-passages, and gall-stones; organic and functional affections of the heart and vessels; diseases of women; chronic catarrhs of the respiratory organs, asthma, emphysema; residues of pneumonia and pleurisy;

disorders of metabolism and constitutional anomalies, anaemia, rickets, gout, diabetes, obesity, diseases of the nervous system: disorders of the locomotor organs; chronic affections of the urinary organs; diseases of the sensory organs; skin diseases.

Bathing Establishments: There are at disposal three bathing establishments, among these the Prinz-Regent Luitpold Bad, a grand monumental edifice, greatly enlarged and most completely furnished according to modern requirements, and the Salinenbad, with altogether 387 bathing cabinets, of which 322 are for brine and Pandur-baths including wave-baths, and 43 for mineral mud-baths, furthermore fango-treatment in separate apartments for ladies and gentlemen.

Physicians (arranged in alphabetical order): Apolant, Dr. Edgar; Bamberger, Dr. J.; Bergengrün, Dr. P., Specialist for ear, nose, throat, and chest diseases; Bergrath, Dr. R., Specialist for skin- and venereal diseases; Chlapowski, Dr. F. v., Sanitätsrath; Dapper, Dr. C. Professor, Geheimer Medicinalrat and Königlicher Hofrat; Dengg, Dr. H.; Dietz, Dr. W., Königlicher Hofrat, Inhalatorium, pneumatic cabinet; Dietz, Dr. A.; Dietz, Dr. B.; Diruf, Dr. E. K., Hofrat; Diruf, Dr. Osk. v., Geheimer Hofrat; Ehrenreich, Dr. E.; Förster, Dr. A.; Geithner, Dr. O.; Gleissner, Dr. J.; Gress, Dr. F.; Helfreich, Dr. University-Professor, Ophthalmologist; Hesse, D. A.; Hirschowitz, Dr. P.; Janssen, Dr. V.; Jsing, Dr. J., Königlicher Hofrat; Kellermann, Dr. K., Königlicher Hofrat; Koziczkowski, Dr. E. v., Königlicher Hofrat; Kramer, Dr. H.; Laudien, Dr. H., Sanitätsrat; Leusser, Dr. J. K., Königlicher Hofrat; Lingenberg, Dr. Lochner, Baron K.; Loewenthal, Dr. J.; Maar, Dr. F. K., District-Physician; Maciejewski, Dr. J.; Marquardsen, Dr. E., Königlicher Hofrat; Meyer, Dr. F.; Modrakowski, Dr. G.; Möhle, Dr. H.; Münz, Dr. P.; Norwitzky, Dr. H.; Pick, Dr. A.; Rheinboldt, Dr. M.; Rosenau, Dr. A.; Rosenthal, Dr. J., Sanitätsrat, Scherpf, Dr. L., Königlicher Hofrat; Schneegans, Dr. G.; Schütze, Dr. Chr.; Schuster, Dr. P.; Sohlern, Dr. Baron E.; Sonder, Dr. O., Medico-mechanic Zander-Institute; Sorger, Dr. Fr., Hofrat, Ophthalmologist; Sotier, Dr. P.; Steinbach, Dr. H., Tritschler, Dr. H., Specialist for ear, nose and throat-diseases; Unger, Dr.; Veith; Dr. A., Roentgen-Laboratory; Wahle, Dr. S.; Weber, Dr. S., University-Professor; Welsch, Dr. H., Königlicher Hofrat; Wolf, Dr. Th., Königlicher Hofrat, Railway-Physician.

Bathing-Directory and Administration: The chief directory is the "Königliche Bad-Kommissariat". Orders for mineral-water are to be directed to: "Verwaltung der königlichen Mineralbäder zu Kissingen".

Information and prospectus solely on application to the "Kurverein".

Prof. Dr. C. Dapper's Sanatorium "Neues Kurhaus", see Section II ("Sanatoria and Cure-Establishments").

Hofrat Dr. Dietz' Sanatorium, see Section II ("Sanatoria and Cure-Establishments").

Hofrat Dr. von Koziczkowski's Sanatorium, see Section II ("Sanatoria and Cure-Establishments").

Hofrat Dr. Leusser's Sanatorium, see Section II ("Sanatoria and Cure-Establishments").

Hofrat Dr. Marquardsen's "Neues diätetisches Kurhaus und Kuranstalt", see Section II ("Sanatoria and Cure Establishments").

Klampenborg, Denmark, near Copenhagen; a much frequented sea bathing place. Cold seabaths, good sandy beach.

Kolberg, Prussian province of Pomerania, on the Baltic. Sea-baths and saline waters.

Krankenheil, Bavaria, see **Tölz**, page 167.

Krapina-Töplitz, Hungary. Beautiful situation; climate mild and healthy.

Klosters, Switzerland, Canton of Grisons, 4000 feet above sea level. Cold sulphurous waters.

Radium Brine-Bath Kreuznach.

Highly Radioactive Brine-Baths for Internal and External Use containing Jodine, Bromide and Lithium, free from Sulphate of lime.

Topography: Prussian town in the Rhine-province with 24 000 inhabitants, station of the Rhine-Nahe line, 15 km. from the Rhine. Kreuznach is situated in the wonderful and legendary valley of the Nahe, on the banks of this river, bordered by densely wooded mountains and vine-clad hills. It is one of the oldest and most-renowned brinebaths. Its highly active brine-waters containing iodine, bromide, and lithium, have secured recovery to hundred thousands of patients.

Principal Season from May 1 to October 1; grape-cure. Also winter-station from October 1 to April 30.

Curative Factors: The well-known brine-springs of Kreuznach: Elisabethquelle, St. Martinsquelle, Victoriquelle, Inselquelle, Oranienquelle, and numerous springs of the municipal salt-works Karlshalle and Theodorshalle situated in the salt-work valley. The first mentioned springs are used for drinking-cures, the other waters for bathing-cures and for the production of sodium-chloride and the world-renowned Kreuznach mother-lye.

All the brine-springs of Kreuznach are highly radioactive, containing not only gaseous radium-emanations (up to 60 Mache-units per liter), but also radium-salts in such a quantity as to allow the preparation of the latter on a big scale, in a special radium laboratory attached to the city-saltworks. The only establishment of this kind in Germany.

These radium-salts of Kreuznach are used in part for the production of Kreuznach radium-water for drinking-and bathing-cures, and in part for the manufacturing of radium-preparations for local application. The Kreuznach radium-emanation-baths with a very high original emanation contain, in addition, more than 10 000 Mache-units of natural emanation from the Kreuznach radium-salts: the dosis for radium-drinking-cures is 200—1000 Mache-units per day.



The new natural radium inhalatorium, an elegantly equipped hall in the Kurgarten serves for radium-inhalations. In a mining-drift, several centuries old, passing through the porphyritic rock and opening into the Kurgarten, a very high emanation-activity was discovered in 1911 showing in parts up to 50 Mache-units per liter of air. This radioactivity emanating from the fissures of the porphyritic rock is conducted direct to a recently built hall, serving here for radium inhalations. We have thus an entirely new and unique establishment for natural radium-inhalation.

Radium-baths and radio-electric air-baths are prepared in the splendid bathing-house for radiotherapy, built in 1911. Radiations with radium are also performed here.

There are, furthermore, carbonic-acid baths, electric four-cell baths, hydroelectric baths, electric-light baths, shower-baths of various kinds, mud-baths, Russian brine-steam baths, Roman-Irish baths, most modern appliances for single and common inhalation, Zander-institute, Roentgen-cabinet etc. In the Kurpark 2 graduation-works: the graduation-air is an excellent remedy for affections of the respiratory organs, acting in general on

account of its ozone as a refreshing and invigorating agent upon sick as well as healthy persons. There are also obtainable for curative purposes whey, fresh and sterilized milk, goats'-milk, kephir, yoghurt, grapes in the autumn. We may also mention the river-baths, the air-and sun-baths in the Salinental (salt-work valley), furthermore, the roads made according to Oertel's system in the hills near the cure-establishments.

The climate of Bad Kreuznach is very wholesome, warm and mild; almonds, peaches, and grapes of an excellent quality thrive here.

Indications: in part especially for radium-therapy:

1. Constitutional diseases and metabolic disorders: scrofula, rickets, gout, rheumatism, affections of the myocardium, obesity, syphilis, anaemia, and arteriosclerosis.

2. Chronic inflammations of the bones, joints, and soft parts: scrofulous, tuberculous, rheumatic, gouty processes, neuralgia, sciatica, inflammations of the uterus, the ovaries etc., chronic suppurations, suppurations of the ear and nose, exsudates, chronic inflammations of the eyes, chronic catarrhs of the respiratory organs, the bladder, urethra, uterus, and vagina.

3. Skin-diseases.

4. Asthenic conditions of senility after diseases and operations etc.

5. Bacterial diseases.

6. New-growths (fibroma, myoma etc.).

For the reception of visitors Bad Kreuznach has a great number of modern well-furnished hotels and private pensions, most of them surrounded by gardens. Rates for room and bed from 5 Mks. per week, boarding from 3 Mks. daily. Information about boarding through the Administration. Visitors are urgently warned of servants, coach-drivers, and commissionaries at the railway station recommending places for boarding.

Kurtaxe for the whole season: Mks. 20 for one person, for each additional person of the same family, Mks. 10 and 6. Physicians and their families are free.



The centre of the health-resort is the Kurpark with its large Kurhaus, its bathing-establishments, springs, inhalatoria etc. The Kurhaus, at the same time hotel, has large verandas with bar, reading room, parlours, card-rooms etc. In the park a roofed colonnade connected with the drinking-hall, graduation-works, lawn-tennis grounds, skating-rink etc.: concerts 3 times daily by an excellent music-band, furthermore symphony-concerts and performances of artists, balls, illuminations, fire-works, water-cors, boating in gondola, theatre, races, hunting, and fishing. Magnificent promenades, wooded hills, excursions to the romantic valley of the Nahe extremely interesting from a scientific and historical point

of view, trips to the near Rhine. Several branch-lines, electric trams and suburban trains. Interesting Gothic-English church where services are held every Sunday. — In the neighbouring Salinental 10 graduation-works, more than 5750 feet long, in part with colonnades and seats.

For further information as well as for the sale of motherlye, bathsalt, mineral waier, etc. apply to the _____ *Kurverwaltung Bad Kreuznach.*

Sanatorium for Children Dr. Bartenstein; see Section II ("Sanatoria and Cure-Establishments").

Landeck, Prussian province of Silesia. situated near Glatz, 1500 feet above sea level. Alkaline-saline and sulphurous springs.

Royal Prussian Bath Langenschwalbach.

Chalybeate and Mud-Bath, Bath for Cardiac Diseases,
Bath for Diseases of women.

Situation and climate: Langenschwalbach is situated at the northern slope of the Taunus, 1113 feet above sea level, one hour's distance from Wiesbaden. The upper part of the city, the cure-district proper, extends through the Weinbrunnen-Valley and the Stahlbrunnen-Valley close to the mountain-forest. The climate is a subalpine one moderately dry, in midsummer cool, with a refreshing air free from dust and smoke.



Golf links. Langenschwalbach.

Curative factors: 1. The drinking-cure. Langenschwalbach has cold ferruginous-acidulous waters (9—10° C = 48—50° F.). They contain according to the "Deutsches Bäderbuch" per Kilogramm:

	the "Weinbrunnen"	the "Stahlbrunnen"
bicarbonate of ferrous oxide	0.0643 g.	0.0933 g.
free carbonic acid	1425 cc.	1571 cc.

2. Pure natural extremely gaseous carbonic acid baths (chalybeate baths).

3. Mud-baths.

Physicians and their families get mineral-baths free of charge, mud baths at half the price.

4. Climatic cure: Open-air and resting-cures in the Kurpark are a special feature of Langenschwalbach.

Most important indications: 1. Diseases of the blood, chlorosis and anaemia, all nervous and other affections associated with anaemia and chlorosis or related conditions.

2. Affections of the heart and the circulatory organs.

3. Diseases of women, gout and rheumatism.

4. The invigorating forest- and mountain-climatic renders Langenschwalbach a climatic station for convalescents &c.

Physicians (alphabetical order): Dr. W. Bartel. — Dr. Frickhöffer, Sanitätsrat. — Dr. Hüdepohl. — Dr. Müller. — Dr. Oberstadt, Geheimer Medicinalrat (district-physician). — Dr. Pfeifer. — Dr. Strakosch. — Dr. Weiss. — Dr. Wilhelmy.

Dentists: Groell. — American dentist Dr. H. Bethel.

Season: 1st of May to end of September.

Kurtaxe (fees for waters included): For the first week 6 Mks., for the season 20 Mks., second ticket 15 Mks. Physicians and their relatives free of charge, likewise children below 10 years of age.

Entertainments: Three times daily concert of the well-known Blüthner orchestra of Berlin; furthermore symphony-concerts and performances of leading artists, réunions &c. In the "Weinbrunnental" are at disposal lawn-tennis and croquet-grounds, and also newly prepared golf-links. Abundant opportunity for hunting, fishing, and excursions. In the neighbouring Adolfssee opportunity for target-practice and pigeon-shooting.

There are 2 Protestant, 1 Roman-Catholic and 1 Anglican church and 1 synagogue.

Means of communication: Langenschwalbach has a post- and telegraph-office, telephone to all important places. From England it is best reached via Cologne—Wiesbaden. Omnibus and carriages at the station.

Information about all items of health-resort, especially boarding, by prospectus sent free of charge on application to the *Verkehrs-Verein Langenschwalbach.*

Sulphurous-Springs and Climatic Health-Resort of Lenk, Bernese Oberland.

Obersimmental, Canton of Berne, Switzerland, not to be mistaken for Leuk in Wallis, situated 3625 feet (1105 metres) above sea level, in one of the most beautiful Alp-valleys of Switzerland. Extremely favourable situation of the cure-establishment, facing the south, entirely protected against winds, in a grand scenery, with wonderful pine-forests. Delightful view of the mountains, glaciers and cataacts. Shadowy promenades in the vicinity of the Kuranstalt. Excellent summer-station for convalescents. Exceedingly pleasant short and long excursions by foot, car and on horse-back. Mountain-trips to the Wildhorn, Wildstrubel etc.

Curative Factors: Two sulphurated springs and one ferruginous spring.

The stronger sulphurated spring "Bahnquelle" contains, according to several agreeing analyses, 44.5 cc sulphuretted hydrogen per 1000 gr. liquid. As to its content of sulphuretted hydrogen it is only surpassed by the spring in Nenndorf. It is used especially for baths, local douches, inhalations, and for gargling. New conduction of the spring to the establishment under complete elimination of air, so that now any loss of sulphuretted hydrogen is avoided. The weaker "Hohlbequelle" is, however, exclusively used internally.

Indications: Chronic catarrhs of the lungs, larynx, and nose, of the ears and intestines; chronic skin-diseases, especially eczema, furunculosis and psoriasis; affections of the liver, the kidneys, and the bladder; chronic muscular and articular rheumatism, and anaemia.

The Cure-Establishment allows boarding at present for 250 visitors in 180 rooms. 35 bath-rooms. Shower-baths. Inhalatorium of latest system. Milk-and whey-cures. Full board including room and light from 8.50 frs. per day. Electric light in all rooms. Music-band. Concert-Hall.

Resident physician: Dr. G. Jonquière of Berne.

Railway-station Lenk Simmental.

Prospectus and detailed description of the bathing-resort free of charge by

P. Vernier, propriëtor.

Leysin (Switzerland).

Climatic Mountain Health Resort, 5075 feet above sea level.

(Open all the year round).

Situation: The mountain health resort Leysin is situated in the centre of the Vaudois Alps, on the southern slope of the Tour d'Ai-chain. These mountains protect the region against the north-wind, whereas the scenery is widely open toward the south, and freely exposed to the sun-beams.



The open air establishments (sanatoria and clinics), the pensions and chalets are built in terraces above the village of Leysin at an altitude of from 4550 to 5250 feet above sea level.

Climate: The advantages of the climate of Leysin are to be attributed, on the one hand, to the influence of the altitude above sea level, guaranteeing a sunny and dry climate, and on the other hand to the neighbourhood of the Lake of Geneva, the wide water-surface of which moderates the temperature considerably. The air is very pure and dry. The mean annual temperature is $5,3^{\circ}\text{C}$ (41°F), in winter $1,8^{\circ}\text{C}$ (35°F), in spring $3,8^{\circ}\text{C}$ (39°F), in summer $12,3^{\circ}\text{C}$ ($53,8^{\circ}\text{F}$), in autumn $6,8^{\circ}\text{C}$ (48°F). — The relative humidity is in the average 64 per cent., sinking sometimes down to 30, and even to 20 per cent. The site of Leysin and the great distance of the mountains opposite the health resort favour an intense insolation, which may last in November for 8 hours and 20 minutes, in December for 7 hours 30 minutes, in January for 7 hours 50 minutes, in February for 9 hours, in March for 10 hours. The actual insolation exceeds 50 per cent. of any possible solar radiation. There are 85 per cent. calm days at Leysin.

It is possible and beneficial for patients to stay in the open air all the year round. Owing to the dryness of the air and the calm atmosphere, they can easily stand the low temperatures of the winter. Also the temperatures sink less than at other stations of the same level. The stay during the summer is very pleasant on account of the cool temperature of this season. Thus a cure can be carried out beneficially all the year round.

Curative Factors: At Leysin the advantages of hygienic and dietetic measures are combined with those of an Alpine climate. Sanatoria, clinics, and pensions are arranged for open-air treatment in public and private galleries. Most of them have provision for sun cure, bath rooms and douche apparatus.

The sanatoria and clinics are under medical supervision.

The basis of the treatment is the application of hygienic and dietetic measures. Living in the open air, rest-cure alternating with individually prescribed exercise, copious and invigorating food, general or partial insolation, and the treatment by specialists give sufficient guarantee to the patients for improvement and cure of their complaints.

Suitable cases: Constitutional general weakness. Tendency for tuberculosis. Pulmonary infiltrations of any degree, especially incipient tuberculosis, torpid and afebrile forms. Asthenic conditions, due to rapid growth of the body, convalescence after severe diseases, chronic bronchitis, asthma, exsudative pleurisy with a slow or delayed reabsorption. Surgical tuberculosis of the viscera, of the bones, joints, and glands. Neurasthenia, Graves' disease, malaria.

Unsuitable cases: Very much advanced pulmonary tuberculosis with permanent fever and cardiac weakness; severe neurasthenic conditions, uncompensated cardiac lesions and advanced arteriosclerosis, pulmonary emphysema with dilatation of the heart.

Hygienic Conditions: Abundant supply of very good drinking-water, laundry working by steam, appliances for disinfection. Sinks set up with particular care. Disinfection of rooms. Electric light. Isolated house for contagious diseases.

Amusements: Libraries, concerts, tennis- and croquet-grounds, skating-rink. Suitable slopes for tobogganing and bobsleighbg. Ski-ing. Splendid forests and meadows. Numerous walks. Rich alpine flora. Sporting-club. Photo-club.

Chalets or Villas and Private Residences owned by the Société climatérique de Leysin are to be rented close by the sanatoria.

Communications: Electric railway from Aigle (station of the Swiss Federal Railway 15 minutes from Montreux) to Leysin (1 hour's ride), horse and livery-stables. Post-office, telegraph and telephone.

Divine Services: Roman-Catholic church, Protestant chapel. Service in French, German and English. Catholic minister: canon Wolf. Protestant ministers: pastor Favez, pastor Dartique. Reverend Teesdale (English Chaplain).

Newspapers. Numerous papers on sale. "Journal de Leysin" appears once a week.

Sanatoria of Leysin, see Section II ("Sanatoria and Cure-Establishments").

Levico-Vetriolo in Southern Tyrol.

Historical: The arsenical ferruginous springs of Levico-Vetriolo have been known as medicinal waters since the 17th century. The first primitive bathing establishments were at Vetriolo. In 1860 the springs were conducted downhill to Levico, where a large cure- and bathing establishment was founded, a model institute under the conditions of that time. This was the beginning of the development of Levico as a health resort. — In 1910, January 1st, the springs and all the property of the former "Società balneare" passed over to a German company by which the "Altes Kurhaus" situated in the large and shadowy park, was entirely renovated. They also built a "New Cure- and Bathing-Establishment" in the centre of park-grounds of more than 100000 square metres. These new establishments answer all the demands of modern hygiene, comfort and luxury, and have all the curative factors of a most up to date cure-institute. The two large hotels in connection with the two cure-establishments were likewise furnished in the most modern style of first class houses.

Thus Levico might be placed on an equal level with the best equipped health resorts as far as cure-establishments and hotels are concerned. — In Vetriolo too the German society has renovated the old cure-establishment and built a new bathing house.

Situation and Means of Communication: Levico is situated at the foot of the Monte Fronte, 350 feet above the ground of the Sugana-Valley, one of the most picturesque valleys of the southern Tyrol. The wooded Panarotta-crest ascending more than 7000 feet, forms a wall protecting against the north. — Levico is the railway-station of the Valsugana line leading from Trient to Venice, a line rich in the most varying mountain scenery — 1 $\frac{1}{4}$ hours from Trient by railway. — Trient is the station of the Brenner-express line and is to be reached without changing cars from Vienna in 17, from Berlin in 24, from Rome in 19 hours.

Vetriolo is situated at the southern declivity of the Panarotta, 5500 feet above sea level, directly above Levico. — It is to be reached from Levico on a good and new mountain-road in 2 $\frac{1}{2}$ hours by car or on horse-back, in 2 hours by foot on shorter roads for tourists.

Climate and Duration of the Season: The climate of Levico is mild and subalpine. Owing to the elevated situation and the surrounding high mountains, the summer-temperatures are not too high. In the morning, the evening, and at night there is always a sufficient but not too great cooling down, on account of which Levico is really visited as a summer-station by people coming from Italy. — Very little moisture of air, no dew or white-frost up to the late autumn, no spring- or autumn-fogs, very little rain — about 350 mm (April—October). This place is, therefore, especially suitable for cures in the spring and autumn (April—June, September, October).

Season from April 1st to October.

In Vetricolo the climate is mild and high-alpine; a milder variety of the climate of Davos. — Season from June 1st to end of September.

Springs: There are 2 springs at Levico-Vetricolo, viz. the Levico-Starkquelle (Strong-spring) and the Levico-Schwachquelle (weak spring); both originating from the summit of the Monte Fronte, and conducted to Levico as well as to Vetricolo by recently made water-pipe systems. These springs are classified among the groups of arseniferous ferrous-sulphate springs. In particular, the Levico-Starkquelle is the most ferruginous and most acid spring of this group especially and in general of all ferruginous waters.

Analysis of Springs.

According to Prof. Dr. E. Ludwig and Dr. von Zeyneck.

In 10000 gravimetric parts of Water are contained:	I.	II.	III.
	„Stark-“ or „Badequelle“ on sale as „Starkwasser“ (red labels)	„Schwach-“ or „Trinkquelle“	„Schwach- wasser“ on sale with blue labels. ^{1/3} „Starkquelle“ and ^{2/3} „Schwach- quelle“
Anhydrid of arsenious acid	0,060	traces	0,020
Acid sulphate of potassium	0,068	0,048	0,072
„ „ „ sodium	0,108	0,094	0,143
„ „ „ ammonia	0,081	—	0,027
Sulphate of calcium	3,581	2,753	3,080
„ „ „ magnesium	4,773	2,214	3,050
„ „ „ zincum	3,178	0,197	1,188
„ „ „ copper	0,723	—	0,241
„ „ „ lead	0,019	—	0,006
„ „ „ manganese	0,145	0,040	0,072
„ „ „ ferrous oxide	46,927	3,704	18,154
„ „ „ aluminium	2,697	0,044	0,941
Free sulphuric acid	16,660	—	5,278
Anhydrid of silicic acid	0,330	0,155	0,213
Organic carbon	0,127	0,123	0,124
Bicarbonate of iron	—	0,595	—
Free Carbonic acid	—	0,683	0,898
Lithium, strontium, cobalt, nickel, antimony, chlorine, phosphoric acid, titanic acid	traces	traces	traces
Total of dissolved constituents	78,577	9,759	32,426
Specific gravity	1,00714	—	—
Temperature of springs	14° C. (57,2° F.)	8,7° C. (48° F.)	—

Curative Factors: 1. Levico-Starkquelle used for bathing-cures, drinking-cures, and local applications. — 2. Levico-Schwachquelle, used for drinking-cures. 3. Levico-ochre earth (a natural sediment of the "Schwachquelle"), applied for mud-packings. — 4. Hydrotherapy, electrotherapy, massage (at Levico and at Vetricolo), Swedish gymnastics (System of Zander), electric-light bath, hydroelectric bath, Roentgen-institute (only at Levico, new Kurhaus). Swimming-baths in the lake of Levico (Levicosee).

The Levico drinking-cures are carried out at Levico as well as at home in form of cyclical cures, beginning with "Schwachwasser", proceeding to "Starkwasser". The daily dose increases slowly up to 3-6 table-spoonful taken before, during or after the individual meals, and always diluted. Duration of a drinking-cure 6-8 weeks, mostly occupying the entire sojourn at the health-resort.

The Levico-"Starkwasser" (red labels) and Levico-"Schwachwasser" (blue labels) are on sale in all apothecaries and stores for mineral-waters of all countries.

The Levico bathing-cure comprises warm tub-baths with additions of "Starkwasser" ($\frac{1}{3}$ - $\frac{1}{2}$ of the volume). Concentration, temperature and duration of the baths are adapted to the kind of disease and condition of the patient. The action of the baths is considered equal to that of mild mud-baths. The baths are only administered on prescription of the competent physicians of Levico and Vetricolo. The duration of a bathing-cure is usually from 4 to 6 weeks. Taking in account the nature of affections treated at Levico-Vetricolo and the longer duration of a drinking-cure, it is advisable, just as in other ferruginous or arseniferous baths, not to choose too short a time for the entire cure.

Indications: 1. All primary and secondary diseases of the blood and haematopoëtic organs (spleen, bone-marrow, lymphatic glands): anaemia, oligocythaemia, chlorosis, leucaemia, pseudoleucaemia, scurvy, Werlhofs' disease and haemophilia. — 2. Functional, reflex and organic nervous diseases, especially neurasthenia, hysteria, migraine, Graves' disease, sexual neurosis, chorea, neuralgia (facial neuralgia, sciatica, lumbago). — 3. Diseases of women such as anomalies of menstruation, fluor, vaginal and uterine catarrhs, chronic para- and perimetritis, defective development and pathologic innervation of the pelvic organs, sterility and habitual abortion. — 4. Scrofula, chronic malaria, and cachexia due to malaria, gout, diabetes, chronic muscular and articular rheumatism, arthritis of non-rheumatic origine, disorders of the digestive organs on a nervous or anaemic basis or depending upon gout or malaria. — 5. Chronic dermatoses such as psoriasis, lichen, fungous affections, chronic eczema, seborrhoea with acne, ichthyosis, prurigo, alopecia. — 6. Diseases of children such as rickets, lymphatic diathesis, chorea, broken down condition after severe diseases of children, defective development, habitual scoliosis. — 7. Delayed convalescence, general weakness.

In mentioning these indications, above all only the natural curative factors of *Levico-Vetriolo* were taken in account. The complete equipment of the new Kurhaus with modern therapeutic appliances allows of a considerably broader domain of indications for this health resort.

Consumptive patients with expectoration are kept away from *Levico*; so much better the station is suitable for invigorating cures, slight cases of appendicitis and in phthisical disposition.

Physicians: At *Levico*: Leading physicians Dr. Liermberger, Dr. Gazoletti, Dr. Struckl; resident physicians Dr. Crandi, Dr. Prati. — At *Vetriolo*: Dr. Reyer.

Lodging and Boarding of the most various classes. Grand Hotel (in the new Kurhaus), Grand Hotel *Levico des Bains* (in the modernized old Kurhaus); Edenhotel *Calari*; Hotel *Bellevue*; Hotel *Germania*, *Voltolini*, *Corona*, *Konkordia* and numerous smaller hotels, German and Italian pensions, rooms for weeks &c. — Prices according to the class of houses from 5, 7 or 10 Kronen upward. Electric light in the city, the hotels, and in many private houses. — *Vetriolo*: Pension *Trento*, Hotel *Milano*, Hotel *Monte Fronte*, and several country-houses.

Entertainments: Regular concerts of the music band, military and artistic concerts, 5 lawn-tennis grounds, play-grounds for croquet, boccia, athletic grounds, play-grounds for children, skittle-alley, Russian skittles &c. Popular fêtes, illumination, fire-works &c. Promenades, excursions by foot, by car or by railway into the surroundings of *Levico* with the grandeur and variety of its scenery; long and short mountain-tours. Boating on the Lake of *Levico*. — *Kurkasino* with hall for concert, ball and theatre, card- and reading-rooms, ladies' parlours and music-rooms, café being built.

Kurtaxe: The administration charges a small fee.

Prices of Baths: 1st class 4 kr., 2nd class 2,50 kr.; other curative means according to special tariff.

Privileges: Physicians, their wives, and children residing in the same domicile, are exempt from any charge for curative means. 6 places of the Austrian White Cross free of charge for curative means.

Informations and Prospectus, descriptions free of charge by the

*Administration of the Levico-Vetriolo Medicinal Springs Co. Limited
at Levico-Tyrol.*

Locarno on the Lago Maggiore, Southern Switzerland.

Climatic Station for Autumn, Winter and Spring.

714 feet above sea level.

Terminal station of the Gothard-railway. Direct communication by cars with Lucerne, Zurich, Basle. Steamers to the Borromaeus Islands and to the Simplon-railway. Railway to Milan and Genoa. Excellent roads for cycling and for automobiles. — Roman-Catholic, Protestant and English divine-service. The influx of foreigners is steadily increasing from year to year, and the most prominent native and foreign physicians are recommending this health resort. These facts are the best proof of the superiority of

the climate. Locarno has a newly built water-system, canalization, parks and quays, large tennis-lawns and golf links. In the new city-kursaal performances are given in the winter, spring and autumn. Medicinalrat Dr. A. Martin, Royal Bavarian University Professor, says in his excellent essay on Locarno, among other things: "The air in Locarno is pure, entirely free from dust and fog, mildly stimulating and moderately moist. The sky is mostly clear, during the winter-season invariably blue and extremely transparent. The number of sunny days with a remarkably strong insolation is very great, while the number of rainy days is relatively slight. This allows a daily walk in the open air, especially because after rain the ground is rapidly drying. Locarno is that place on the Lago Maggiore which is most of all protected against winds, as it is surrounded from all sides by high mountains, especially towards the north. The abundant southern vegetation is the best evidence of the well protected site." Electric railway to the Maggia-Valley and to the Madonna del Sasso. A new railway will be built between Locarno and Domodossola (Simplon).

Meteorological Statistic concerning Locarno,
(compiled by the Federal Meteorological Office at Zurich).

Orte	For the whole year						Summer Months April to September						Winter Months (Oktober to March)					
	1907			1908			1907			1908			1907-1908			1908-1909		
	Number of days		Number of days	Number of days		Number of days	Number of days		Number of days	Number of days		Number of days	Number of days		Number of days			
	Fine	Overt	Rain	Fine	Overt	Rain	Fine	Overt	Rain	Fine	Overt	Rain	Fine	Overt	Rain	Fine	Overt	Rain
Zurich	52	139	155	44	157	149	35	55	76	32	58	81	12	89	82	16	86	62
Basle	36	156	159	54	141	145	22	61	82	24	58	80	19	96	81	29	77	58
Neuchâtel	39	165	142	34	174	134	23	61	73	27	51	72	8	121	76	11	107	66
Geneva	52	162	132	57	150	106	36	58	62	45	40	56	10	111	71	18	93	58
Montreux	99	112	128	103	119	116	55	53	68	57	46	68	33	76	63	54	68	46
Locarno	148	74	114	148	58	91	64	30	67	56	28	60	78	41	34	80	35	41
Lugano	129	108	118	132	94	93	60	45	65	52	50	61	66	61	54	73	54	40
Berne	45	143	147	38	155	130	29	59	74	26	54	72	7	99	74	14	92	53
Lucerne	50	142	157	51	165	157	28	54	55	38	63	93	18	91	75	10	96	64
St. Gall	54	143	161	62	162	155	39	58	62	31	65	91	23	92	77	24	92	62
Davos	70	123	161	113	120	114	32	61	66	36	73	83	49	60	68	69	40	57
Righi	74	139	159	89	133	154	31	73	83	20	78	97	40	70	71	67	43	57

Local Observations concerning Locarno.

Average temperature during the last 20 years in degrees centigrade

	Jan.	Febr.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	whole year
Temperature	2.0	4.2	7.4	11.8	15.6	19.5	21.9	20.7	17.6	11.6	6.7	3.2	11.8
Average Rainfall in millimetres	72	68	131	161	217	182	187	234	217	243	145	83	1940
Average number of rain days	6.1	5.6	8.7	11.7	14.3	13.1	11.9	10.8	9.9	11.6	9.5	6.8	120.0
" " of fine days	13.9	11.4	11.5	8.8	8.0	8.5	10.8	11.7	11.2	9.6	10.1	14.2	129.7
" " of overcast days	7.8	5.6	7.4	8.3	7.5	4.8	3.3	3.7	5.7	8.3	9.8	6.1	78.6

Professor Dr. Martin says furthermore: "Thus at Locarno the extraordinarily mild average temperature (12,74° C = 54° F) and the excellent hygienic boarding and pension as well as an abundance of grand sceneries, are factors adding to the many other rare advantages rendering this place undoubtedly a first-class climatic winterstation." Locarno is indicated 1. in cases of chronic catarrhs and inflammations of the respiratory organs, especially of the pharynx and larynx; 2. in cases of asthma and bronchiectasia; 3. in chronic induration of the lung-tissue; 4. in pleuritic exudates; 5. in chronic nephritis; 6. in various affections of the central nervous-system, such as mental strain, insomnia etc. It is finally recommended for convalescents after acute diseases, and especially for children after measles or whooping-cough, in anomalies of bodily development, and for all people needing a change. There are at Locarno 8 physicians, among these Dr. C. Strauss-Zurich, Dr. E. Bally-Berne.

Payment of a Kurtaxe is not obligatory.

Hotels and Pensions: The above mentioned advantages of a long wintercure at Locarno are made more valuable by the excellent opportunity for lodging and boarding which visitors of all nationalities find in the wonderful hotels. There are to be mentioned:

	Beds		Beds
Grand Hotel Locarno.....	200	Hotel-Pension Terminus, Siebenmann..	15
Hotel Reber au Lac.....	135	Kur- u. Erholungshaus Wartburg, Monti	15
Hotel du Park.....	130	Deutsche Pension Daheim.....	15
Hotel-Pension Métropole au Lac.....	75	Hotel-Restaurant al Sasso, Orselina ...	15
Hotel Victoria.....	60	Hotel Kurhaus, Orselina.....	12
Hotel Pension du Lac.....	45	Hotel-Pension Helvetia.....	12
„ „ Belvedere.....	40	Pension Villa Libertà.....	12
„ „ Beau-Rivage et d'Angle-		„ „ Rossa.....	12
„ „ terre.....	35	Diätetische Pension Villa Frieda.....	12
„ „ Siebenmann, Orselina ..	35	Pension Seerose.....	10
Pension Splendide.....	30	Hotel-Pension St. Gothard.....	10
Hotel-Pension Bahnhof et Tourist ...	25	Pension Graf, Minusio.....	10
Pension Villa Erica.....	25	Pension Germania.....	10
„ „ Muralto.....	21	English Pension Villa Palmiera.....	10
„ „ Quisisana.....	20	Pension Villa des Lilas et Maison de cure	10
„ „ Villa Camelia.....	20	Pension Stella, Orselina.....	—
Pension Villa Eden Schweizerheim...	15	Familienheim Villa Elisabeth.....	—

For further particulars and prospectus direct application should be made to the houses named.

Information and prospectus by the Travelling Bureau.

Bally, Kurverwalter.

Lovere on the Lake of Iseo (Upper-Italy).

Lovere is situated at the upper end and western side of the Lake of Iseo, which is 18 miles long, 3 miles broad, and 875 feet deep, and abounds in fish. Lovere is surrounded by wooded slopes, and shapely mountains, with splendid view of the Adamello range. It is a place especially suitable for lovers of Nature, for those suffering from disordered nerves, and for such as need recreation. Its climate is excellent, particularly in autumn, winter and spring; but even in summer it is never too hot, on account of the refreshing breezes coming from Val Camonica. Owing to the wonderful climate, the vegetation is of a southern character.

Lovere is the starting point for alpine tours to the Adamello region. The plateau of Bossico, affording a marvellous panorama, can be reached by a mountain cart-road. The level road excavated in the rock, and leading along the right bank of the Lake, is of the highest interest.

Accommodation is available at the Hotel Lovere (Mr. L. Preto, proprietor), by the Lake. It is a first class house, elegantly furnished, and managed in the most up-to-date manner. There is a number of rooms with central-heating, loggias, and balconies; facing the lake is a large veranda and loggia. Baths and lavatories, fitted with the most modern appliances, and every kind of comfort will be found, and the terms are very moderate.

Doctor, Chemist, and Telegraph office, all close at hand.

Travellers choosing the new route Milan—Rovato—Iseo—Pisogne—Edolo reach Lovere most conveniently from Iseo by railway or steam-boat. Lovere can also be reached from Bergamo via Sarnico on the steam-boat or by the tram Bergamo-Valle Cavallina-Lovere. Trips on the Lake, on the excellent steamers of the Lake-Navigation-Company are most attractive, and enjoyable.

Lucerne, Switzerland, charmingly situated on the bank of the Lake of Lucerne, almost alongside the Rigi and opposite Pilatus.

Sanatorium Sonn-Matt, Lucerne, see Section II ("Sanatoria and Cure-Establishments").

Luxor, Upper Egypt, south of Cairo, on the right bank of the Nile, opposite the ruins of Thebes. Very frequented in the season, from December to March.

Marienbad in Bohemia.

Season 1st of May to 1st of October.

Number of visitors (last season) 35000, and 100000 travellers.

Topography: Marienbad is situated in the north-western part of Bohemia (county-court district of Eger), 2200 feet above sea level, in a valley only open toward the south, and entirely surrounded by densely forested hills. In the magnificent park which has been renovated in the last years at great expenses, and is crossed by well-kept promenades, are the most splendid country-houses and residences. Their grouping allows to enjoy an open view of the rich natural scenery of Marienbad. The dense pine forest extends as far as to the houses, and it supplies the health resort with an abundance of ozone scarcely to be found in such a degree at any other place. Promenades extending for miles pervade the forested hills of the surrounding, rich in idyllic retreats and grand panoramas. Marienbad is station of the lines "Vienna-Eger" and "Marienbad-Eger".

The **climate** is in general mild. Mean temperature of the season 15° C (59° F) at 6. a. m., 20° C (68.0° F) at noon, 18° C (64.4° F) at 6. p. m. Mean atmospheric pressure 708.5. Marienbad is protected, on account of its situation, against rough winds from all sides. Number of rainy days relatively low. Even if Marienbad had no medicinal springs, it would be an excellent climatic station, as has been stated by experts.

Curative Factors: A. Springs. They are used for drinking and bathing cures, which are supplementing one another at Marienbad. The springs are divided into four chief groups - viz., 1. the alkaline-saline springs. a) the stronger springs Kreuzbrunn, Ferdinandsbrunn, b) the milder springs Alfredsquelle, Alexandrinenquelle, Waldquelle. The former are the most prominent representatives of the Glauber's salt waters. The Ferdinandsbrunn e. g. contains per 1000 gr. of water 4.715 sodium sulphate (Glauber's salt), 1.712 sodium chloride, 2.58 bicarbonate of sodium, 3.179 free carbonic acid; temperature 10.3° C (50.2° F). The latter springs are successfully applied for affections of the respiratory organs. 2. The ferruginous springs. The Ambrosius- and Karolinenbrunnen. The latter is only used for bathing purposes; the former one is the richest in carbonate of iron among all the known medicinal ferruginous waters. It contains per liter 0.16 g. bicarbonate of iron and 2.29 free carbonic acid. Temperature 9.6° C (50° F). 3. The mineral-alkaline springs, of which the Rudolfsquelle is the representative: it is equal to the Wildungen springs, containing per 1000 gr. of water 1.116 gr. calcium bicarbonate, 0.670 gr. magnesium bicarbonate, and being free from calcium sulphate; temperature 10.5° C (50.3° F); its application in uric-acid diathesis and gout is growing year by year. 4. The Marienquelle: this is the most powerful spring; it is, to be sure, poor in solids but extremely rich in free carbonic acid, and so an ideal means for natural carbonic-acid baths.

B. Bathing-establishments. For bathing cures are at disposal three bathing houses with a most modern comfort, luxuriously furnished, yet most practically equipped; these are the Neubad, the Centralbad, and the Moorbad.

In these establishments are administered: 1. natural carbonic acid baths (in five different degrees); 2. chalybeate baths; 3. mud baths; 4. pine needle baths; 5. gas baths (carbonic acid baths); 6. steam and hot air baths; 7. electric light baths; 8. cold water application; 9. massage (applied on special medical prescription in Centralbad and Neubad); 10. inhalations (for this purpose an inhalatorium in the Centralbad), and in Neubad a recently established Bulling-Inhalatorium. 11. Radium-Inhalatorium fitted up in the most modern manner.

We must here especially point to the above mentioned Marienbad mud baths and carbonic acid baths.

The mud is only obtained from the genuine fen-country in the vicinity of the health resort. The old Marienbad mud surpasses in its iron and sulphate contents the bog-earth of any other health resort. In 1909, however, new fen-districts were discovered in the neighbourhood of Marienbad and bought by the town. The iron and sulphur content of these surpasses for the three- and four-fold all that has been known up to this time. Mud baths are applied in all kinds of exsudates in the joints, muscles, peritoneum (after appendicitis in combination with saline waters), in the parametrium, in sterility, nervous diseases (Neuralgia). The preparation of the mud baths may be supervised by the patients themselves. Annual amount of mud-baths administered more than 100000.

The Marienbad carbonic acid baths are exclusively natural carbonic acid baths prepared with the natural mineral springs, containing from 1.5—3.2 gr., and up

to 5 gr. to'al carbonic acid per liter. Carbonic acid baths are applied for affections of the heart and vessels, for arteriosclerosis and circulatory disorders.

Zander-Institute, (proprietor Dr. Eduard Kraus), with electric light baths and massage.

Medico-mechanic Institute. Proprietor Dr. Wilhelm Preminger.

Noteworthy establishments are furthermore a) the hygienic and balneological institute, the first institute of this kind, with most modern laboratory-equipment and physicians' reading room; leading physician Dr. med. Zörkendörfer. Regular chemical, physical-chemical, microscopical, and bacteriological observations of the medicinal springs and baths, of the drinking water, physiological and pathological researches, and investigation of foods are carried out in this institute. All the hygienic and curative establishments are also under the supervision of the institute, and thus are guaranteed the very best protection against the invasion and spreading of infectious diseases, and a thorough control of victuals. b) The hospital equipped according to the most modern demands of hygiene, under the supervision of approved physicians of internal medicine and surgery, and provided with trained nurses. c) The salt-graduation works in which the natural products of the springs are manufactured - viz., 1. the natural Marienbad Brunnensalz (powdered and crystalline salt), 2. the Marienbad Brunnenpastillen, 3. the Marienbad Brunnenseife (mineral-soap), 4. the Marienbad Brunnenlauge (mother-lye), 5. the Marienbad Mutterlaugensalz (mother-lye salt); d) Central dairy, furnishing excellent cows' milk and butter.

Indications: I. General affections, such as anomalies of metabolism, e. g. obesity, gout, diabetes; diseases of the blood, such as anaemia, chlorosis, furthermore scrofula. II. Organic affections: 1. Diseases of the digestive organs as a) chronic catarrh of the stomach and gastric ulcer. b) Chronic intestinal catarrh and chronic appendicitis. c) Congested liver. d) Catarrhal jaundice. e) Non-malignant (carcinomatous) tumors of the liver and spleen, for example tumors due to malaria. 2. Affections of the respiratory and circulatory organs: a) Chronic pulmonary catarrh (congestive catarrh) and emphysema. b) Adipous heart. c) Diseases of the myocardium (myocarditis). d) Arteriosclerosis, disposition for apoplexy. 3. Affections of the urinary organs: a) chronic catarrhs of the renal pelvis (pyelitis). b) Chronic vesical and urethral catarrh. c) renal calculus and gravel. 4. Affections of the female genital organs: a) chronic vaginal catarrh. b) chronic para- and perimetritis, exsudates. c) chronic uterine catarrh. d) amenorrhoea and dysmenorrhoea. e) sterility and disposition for abortions. f) affections of the climacteric period. 5. Affections of the peripheral nerves and of the locomotor system: a) sciatica. b) peripheral palsy. c) chronic rheumatism and exsudates in the muscles and joints.

General Remarks. 1. All matters pertaining to the health resort are tended to by the Mayor together with the City-Council. The bathing-establishments and springs are owned by the Praemonstratenser-Convent of Tepl, the directory of which is in the Centralbad.

2. **Physicians:** The following physicians (arranged according to the time of their settlement) are practising at Marienbad: Drs. E. Heinrich Kisch, Eduard Opitz, Hans Kopf, Alois Grimm, Stanislaus Prager, Felix Wolfner, Hugo Schlesinger, Max Porges, Ferdinand Baruch, Jo'n von Kalinczuk, S. Reinhold dentist, Sigmund Salacz, Wladislaw Harajewicz, Wilhelm Pachner, Ernst Ott, Oskar Rosenberg, Elemér von Fornet, Julius Witz, Eduard Kraus, Eduard Fodor, Max Horowitz, Hugo Schmiedl, Eugen Wolf, Wladislaw Mladejovsky, Heinrich Floderer, Camillo Zintl, Hans Turba, Ernst Pflanz, Josef Schermant, Leo Matens dentist, Philipp Steinger dentist, Emil Wachtel, Ernst Augstein, Heinrich Löwenthal, Rudolf Reiniger, J. Sandbank, Max Löwy, M. Mauksch, Ludwig Sternberger, Wilhelm Preminger, Benedikt Ritter von Kwiatkowski, Oedön Tuszkai, Carl Zörkendörfer, Hans Zickler, Hans Klepetař, Hans Herzig, Carl Matousek, Adolf Stark, Rudolf Kolb, Franz Kisch, Stanislaw Uhlř, Liebeskind, Oskar Goldstein, Ferdinand Eichhorn, Z. Szczepanski, O. Strauss, Wohl-Ecker dentist, E. Menyhért, J. Wnuczek, Fritz Harnish dentist, J. Schütz, G. Pincherle, F. H. Schildbach, J. Schless, J. Ehrlich, N. Goldberg, R. v. Obminski, Walach, Miss Maria Jasinicka.

Marienbad can be reached from Petersburg in 39³/₄ hours, from Christiania in 39¹/₂ hours, from Constantinopol in 39³/₄ hours, from Rome in 32¹/₂ hours, from London in 30 hours, from Stockholm in 27 hours, from Ostende in 24 hours, from Paris in 22¹/₄ hours, from Breslau in 16¹/₄ hours, from Budapest in 13¹/₂ hours, from Hamburg in 12³/₄ hours, from Berlin in 6¹/₂ hours, from Vienna in 6³/₄ hours, and from Munich in 6 hours.

The health resort of Marienbad has electric light all over the town; the canalization is excellent. A mountain water-system supplies all houses with the best water for drinking and other purposes.

There are in the town elegantly furnished hotels and boarding-houses, district police-court, parish-court, post- and telegraph-office, custom-house, interurban telephone, two abundantly supplied reading rooms, electric light and trams, magnificent colonnade, new Kurhaus, salt graduation work, three to four times daily concerts of the music band, frequently military and other concerts, balls and dancing-réunions, theatre-performances daily, Golf (9 holes), Tennis. A Roman-Catholic, Protestant, Anglican, and Russian church, and a synagogue.

Season from May 1st to September 30th. Number of visitors: 35000 and of travellers: 100000. Natural carbonic acid baths are administered from April 15th to October 15th. All foreign mineral waters in the drinking-hall.

Prospectus are sent free of charge on application to the

Bürgermeistramt (Major's Office).

Meran in the German South Tyrol.

The town of Meran and the neighbouring villages of Obermais, Untermais and Gratsch unite to form the famous health resort. — It lies 1100 to 1500 feet above sea-level in the fruitful valley of the Etsch, and is surrounded on three sides by high



mountains of 7000—10500 feet. — Being situated on the south slope of the Alps the valley is entirely protected towards the north, east, and west, but is open to the south; its mild and uniform climate is relatively warm even in winter; the sky is very clear, it seldom rains, and the air is almost perfectly calm during the winter months. — It ranks with Davos and Cairo among the so-called dry health resorts. — The winter is shorter than anywhere else in the Alps, and on account of the great clearness of the sky and the perfect calm it is so warm that even sensitive patients can sit in the sun, or take a walk during the warm hours from 11 to 3 o'clock. — According to observations made during ten years by one of the visitors, Mr. Thilo von Tchirschky, there are in the

month of:	days		
	for sitting out of doors	for walking	for home
November	13	11	6
December	16	10	5
January	16	10	8
February	13	8	7

The official season is from September to June. During the summer a large number of travellers to the Ortler and Oetztaler glaciers pass Meran. The number of visitors has increased from 766 in 1860 to 31 000 in 1911.

Curative factors: Meran offers a variety of curative factors as no other health resort place south of the Alps. The luxurious Kurhaus has departments for hydrotherapy of all kinds, common baths as well as carbonic acid, oxygen, brine, pine-needle, ferruginous and other medicinal baths, an easily heated hall for swimming, open all the year round, steam bath, douches, light-baths, electric partial-light treatment, hot air treatment, mud and fango packings, radium-emanation treatment, radioactive baths and the recently established radium-emanation inhalatorium, electric full and four-cell baths, treatment with galvanic, faradaic, sinusoidal (alternating-current) electricity, franklinization; Zander-institute, Swedish gymnastics, Swedish massage, exercise-therapy; department for inhalation, general and local inhalation according to various systems, pneumatic chamber; air and sun baths. Grape and fruit cure. Milk and the various milk-preparations, mineralwater and herb-juice-cures. Large roofed colonnades; drinking halls at the winter colonnade. First-class Oertel-cure resort. Extensive promenades, roads and mountain paths according to the original prescriptions of Oertel. Open-air wintergarden.

Sanitary arrangements: Several mountain-water-supply systems built at great expense, perfect drainage, new slaughter-house with modern equipment, municipal hospital with internal, surgical and ophthalmological clinic; also rooms for first-class patients. Separate pavilion for infectious diseases. Modern sanatoria. Establishment for disinfection. Strict observation of hygienic and prophylactic measures. Permanent supervision of the market.

Indications: Owing to its protected situation, its splendid climate and the great variety of modern therapeutical and other aids to health, Meran is the most suitable place for any one needing a long stay in the open air during the colder season, or for those wanting a mineral-water drinking-cure, cold-water baths and gymnastic cure. Furthermore for those wishing to escape the roughness of a northern climate, but choosing at the same time a stimulating and invigorating climate. It is also adapted for patients needing the use of inhalations, carbonic acid- and radioactive baths, electric cures, grape-, milk- and open-air resting-cures; in brief, particularly for convalescence, for cardiac affections, arteriosclerosis, pulmonary affections in the incipient stage, nervous diseases, renal diseases, all diseases of metabolism (gout, diabetes, obesity).

Contraindications: Great irritability of the nervous system, dry catarrhs of the larynx, especially with a simultaneous tendency to haemoptoe and permanent fever.

The administration of the health-resort is in the hands of the secretary of the administration: [Kurverwaltung] who answers any letters asking for information and sends prospectus free of charge.

Physicians: There are now 76 physicians here. The list of physicians is published from time to time in the newspaper of Meran ("Meraner Kurzeitung"), and can be obtained at the administration bureau.

Hotels and boarding-houses: There is a great number of first-class hotels in Meran, Ober- and Untermais; they are at the same time pensions. Also numerous good boarding-houses, refined and modest pensions, middle-class boarding-houses and restaurants. Thus all tastes can be satisfied. Prices for board and lodging range from 7—14 Kr. daily, not including light, heat, and drinks; during the high season in the spring (February to May) increased rates. There are also many completely furnished private flats provided with linen and plate, and fine country-houses for visitors in great variety; some of the historical castles with splendid artistic furniture are also to be let for the season. Single rooms 20—120 Kr. per month; flats of 3—10 rooms and kitchen about 120—800 Kr. per month; the total expenses of a stay at Meran amount to about 150—400 Kr. per month and person. (£ 7,— to £ 15.—)

Kurtax: The Kurtax is for the first 10 weeks of the stay: 70 heller per day for the first class, 50 heller (about 6 d.) per day for the second class, 35 heller per day for the third class. Children below 15 years of age pay half of the tax, the fee for servants is 15 heller per day. After 10 weeks no further tax is levied for the season. Physicians with their wives and children under age are exempt from the tax; they have to pay 1 kr. per week for music-tax, up to the limit of 10 Kr.

Entertainments: New large sport-grounds for driving, riding, cycling, tennis, foot-ball, golf, and croquet; in spring meeting of gentlemen-riders, trotting-match, spring-festivals, corso of carriages, in spring and autumn the renowned open-air plays, "Andreas Hofer" etc.; besides concerts twice a day, also in summer, military music-band, and concerts of well known artists, theatre, réunions, balls, promenade-festivals, chamber-music soirees; in the reading-room of the Kurhaus a great selection of daily and illustrated papers, circulating library, riding-club, gentlemen's club, chess-club, club for

athletics, alpine club, winter-sport clubs, fishing-club, opportunity for fishing trout in the Etsch- and Passer-rivers, for shooting etc. Artist's club, singing-club, Schlaraffia etc.

Divine services: Roman-Catholic, Protestant, Russian, Anglican and Hebrew.

Instruction: High classical school, school for modern sciences, commercial academy, public and middle-class schools for boys and girls, Fröbel's Kindergarden. Many good instructors give lessons in all modern languages, in music, painting, wood-carving, athletics and riding etc.

Means of communication: Meran is the chief station of the Bozen—Meran and Vinschgau-railways, and is in direct communication with all trains of the great Brenner-route stopping at Bozen. From England communication via Ostende—Strassburg—Basle in 32 hours. Communication from Meran to the Ortler-region; for tours by car to the grand surroundings of Meran rich in historical reminiscences, carriages and autos are to be had at officially fixed rates. Trams everywhere. Mountain-railway to the Vigiljoch. Middle-mountain tram being built to the village and castle of Tyrol.

Sanatorium "Villa Stefanie", Dr. Binder, see Section II ("Sanatoria and Cure-Establishments").

Sanatorium "Martinsbrunn" Sanitätsrat Dr. von Kaan, see Section II ("Sanatoria and Cure-Establishments").

Health-Resort Mena House (Egypt).

Most Renowned Climatic Desert Station of the World.

Most distinguished and in favour on account of its pure and dry desert-atmosphere and a maximum of sunshine. Remarkable results in cases of gout, rheumatism, and neurasthenia. Excellent station for convalescence and recreation. Owing to its unparalleled climate and to the direct neighbourhood of Cairo, it is preferred as a permanent winter-station to the health-resorts of Upper-Egypt, and is also chosen as a transitional station for those coming from or going to Luxor, Assuan or the Sudan. The Mena House Hotel is located within 30 minutes' distance from Cairo, at the border of the desert, and close to the Great Cheops-Pyramides and the Sphinx. Refined first-class family-hotel furnished according to the most up-to date comfort, and on account of its model hygienic management and its large marble swimming tank, classed in the first rank among the best hotels of Egypt. Apartments with bath-rooms. Large drawing-rooms. The spacious dining-room built in Moorish style is considered a remarkable architectural object of interest. First-class pension and service. Well-known and recommended cooking. Excellent wines. Separate spring-water supply, best drinking-water of Egypt. Large farm and house keeping. The cows kept for providing fresh and wholesome milk are under veterinarian supervision. For tours to the desert and hunting-picknicks horses, asses, camels, and cars at disposal. Physicians, apothecary, lift, post, telegraph, and telephone in the house. Large sport-grounds, tennis, golf and croquet. Most heartily recommended by medical authorities. Moderate rates. Special arrangements for a longer stay.

Under the same Direction as Savoy-Hotel, Hotel Continental, and Angleterre at Cairo. Prospectus directly or on application to Hotel National at Zurich.

A. Wild, General Director.

Mentone, France, Department of Alpes Maritimes, on the Riviera. Winter station of first importance, and sea-baths.

Misdroy, Prussian province of Pomerania well-frequented sea bathing-place on the Baltic.

Montana (Valais, Switzerland).

5600 feet above sea. Summer (golf) Season. — Winter (Sports) Season.

Position: 21 hours from London (via Folkestone). Funicular Railway (40 minutes) from Sierre, Rhone valley, on Simplon line.

Distance Sierre-Lausanne by rail 2 hours. Sierre is on the main line Paris—Lausanne—Milan, also near the great Lötschberg tunnel connecting the Bernese Oberland with the Rhone valley.

Distance: Montana—Milan by rail 5 hours, Montana—Lago maggiore 3½ hours by rail, Montana—Zermatt 4 hours by rail.

Largest Alpine Plateau of Switzerland at an altitude of above 5000 feet.

On the southern slope of the gigantic mountain chain which separates the Bernese Oberland from the Rhone valley and protects the plateau of Montana from any cold winds.

Almost level walks for nearly 4 miles from east to west of the plateau, partly through pine woods, partly through alpine pastures, along several little lakes.

Exceptionally rich Alpine Flora in June at its best.

Immense Panorama of the Southern Range of the Swiss Alps from Mont Blanc to Gotthard mountains.

Climate: The Alpine Plateau of Montana is the Ideal Mountain Health Resort. Its alpine character benefits of the mild climate prevailing in the central part of the main valley of the Swiss Rhone river, the protection offered by the high mountains and its southern position account for the mild climate of that part of Switzerland.

Summer at Montana: In summer the temperature is refreshing during day time, due to the cooling influence of the woods, the lakes and the proximity of the glaciers, and also on account of the altitude which ensures cool nights.

Winter at Montana: During winter the days are sunny and warm (frequently between 80—120 dgr. F. in the sun). The sun has free access, rises earlier and sets later than on the plains below, where its action is impaired by mist and fog, which are extremely rare at Montana. — The yearly average amount of watery vapour in the air, (which depends on the degree of exposure to the sun, of the greater or less local facility of the exchange of air, the altitude and the geographical position) amounts only to 61 per cent. at Montana. — The high average daily temperature during winter at Montana is the result of the altitude combined with southern climate of the surrounding region and the full exposure to the sun. Thus, although there is, owing to the cool nights, in every winter constantly enough snow and ice at Montana to ensure skating, ski-ing and tobogganing etc. up till March, yet at the same time there is so much daily sunshine to allow of sun baths being taken in the open air, with the body totally stripped of any clothing.

The snow melts as a rule in April, but owing to the natural dryness of the air, there is little moisture to be felt, the watery vapour being easily absorbed into the air.

Therapeutic Factors: Mild, high alpine climate, sunny and stimulating.

Extensive level walks, through pine woods and pastures, along several picturesque little lakes and in the face of one of the most magnificent alpine panoramas. Very little fog and rain.

Medical Establishments: The Chalet (Dr. Hensler, M. D., M. R. C. S., L. R. C. P.) for hygieno-dietetic treatment: Open air rest, graduated exercise, sun baths, hydropathics, electricity, massage, Kéfir, 'Grape cures' (no consumptives received).

Cases suitable for treatment at Montana: Constitutional debility, anaemia (too rapid growth, overwork, slow convalescence after exhausting diseases, or weakening of the organism by intermittent fever, prolonged stay in the tropics, Grave's disease, chronic diabetes, incipient leucaemia etc.)

Bronchial asthma, chronic bronchitis with little tendency to expectoration (non-tuberculous), delayed absorption of pleuritic effusions and impaired respiratory function after pneumonia, status lymphaticus, adenoids etc.

Monte Carlo (Monaco).

Owing to its site on the Mediterranean and to its being encircled by steeply ascending mountains, Monaco has a warm climate, with a pure air free from dust.

The centre of the "cure life" is the "Casino", the favourite place of all who wish to enjoy the warming sun, a magnificent view of the blue Mediterranean, and further on towards the West, of Monaco standing upon a high bulwark, with its historical palace of the Prince of Monaco, and to the East, of the promontory of Bordighera reaching far into the sea. The sanitary arrangements are the most modern of the world. The superb pleasure-grounds have recently been enlarged and embellished. Concerts (in summer out of doors, in winter in the splendid "Salle de Théâtre" of the Casino) operettas, comedies, ballets, and the world-renowned opera-performances with the help of the most

reputed artists of the world, satisfy the most luxurious demands of people asking for enjoyments of this kind.

There is a bathing establishment with all up-to-date curative means, and a "Zandersaal"; moreover, a drinking hall where all known mineral-waters are to be had. Among the great number of elegant as well as simpler Hotels, pensions and private lodgings there is especially recommended:

The Grand Hotel des Anglais & St. James, situated opposite the Casino. In summer 1908 it was united with the Hotel St. James, and wholly renovated; it contains a large assembly-hall; apartments and rooms with bath and toilet.

St. Moritz-Bad (Engadine).

Grand Hotel Neues Stahlbad.

New iron baths.

First class bathing-establishment in direct connection with the hotel itself. Newest high class family hotel. Splendid protected situation. Central heating. Orchestra, Tennis, Golf, large gardens, playing grounds for children.

Prospectus on application to the

Management.

Grand-Ducal Hessian Bath "Bad-Nauheim"

near Francfort-on-Maine.

(Oldest and most renowned bath for cardiac affections.)

A town in the Grand Duchy of Hesse, express railway station of the chief line Hamburg—Francfort-on-Maine—Basle, to be reached from Francfort-on-Maine within 45 minutes, 504 feet above sea level, at the eastern declivity of the Taunus. Mean temperature in May to October $15.5^{\circ}\text{C} = 59^{\circ}\text{F}$, mean atmospheric pressure 749 mm. Invigorating air, especially near the large graduation houses of the salt works. All the cure and bathing establishments are located in the large splendid park of 370 acres, with a pond measuring about 20 acres. Close to this park are large forestry districts extending as far as the neighbouring wooded Johannisberg. All these places offer beautiful and shadowy promenades and cool walks even on hot summer days. In the immediate vicinity fine timber-forest with stock of enormous oaks.

Canalization. New Vogelsberg spring-water supply.

Roads free from dust. The general hygienic conditions are very good. Baths in the governmental bathing establishment from middle of March to end of November, and in the municipal bathing establishment "Konitzkystift" all the year round. Season from April 16th to October 15th. Number of visitors 1911 = 34 793 (excluding travellers), 474 719 baths. On account of the steadily increasing influx of visitors of Bad Nauheim, the Grand-Ducal Hessian government, owner of the bath, decided to have all the establishments and institutes for cure entirely renovated. The diet of the federal state granted the raising of the necessary means by way of public loan, the interests of which sinking fund were to be paid from the income of the health resort. And so six new massive bathing houses were built, two new administrative buildings, an engine-house for electric-current works, central-heating work, ice-work, and a large steam-laundry. Furthermore the veranda of the Kurhaus was enlarged, and a concert-garden planted. A new concert-hall giving room for 1400 persons was also built, in order to enable visitors of the bath to attend the concerts even in unfavourable weather. In autumn 1909 the old roofed colonnade was pulled down, and a new one was built with an elegant café in the centre facing the tennis-links. The latter were likewise improved and enlarged. The complete renovation of the drinking cure establishments and the reestablishment of the salt works in the east of the town, was performed in the years 1910/11.

Curative factors: a) **Bathing-springs.** The three highly effective and strong springs serving for warm saline baths of 29.9°C (86°F) — 34.4°C (93.2°F) temperature, very rich in free and half-bound carbonic acid, spring No. VII (Grosser Sprudel, 558 feet deep), No. XII. (Friedrich Wilhelm Sprudel, 630 feet deep) and No. XIV. (Ernst Ludwigquelle, 731 feet deep). These three springs contain 2.5—3.4 per cent. solid constituents and 1511—2021,3 cc. carbonic acid per liter brine. Of solid constituents in

greater amounts: sodium-chloride, lithium-chloride, potassium-chloride, calcium-chloride and iron-salts. Nine bathing establishments with altogether 400 spacious and easily heated bathing cabins.

Forms of baths: Carbonic acid brine-baths with different temperature and a salt-content of 1—4 per cent.; furthermore of each one of the three springs carbonic-acid naturally warm thermal-baths, thermal-sprudel baths of natural temperature, rich in carbonic acid, and the unexcelled sprudel-baths with entirely pure and not decomposed brine and full carbonic acid content of the brine springing from the interior of the earth. Of each one of these balneologic forms also flowing baths are given, with a permanent renewal of water during the entire bathing-time. Thus there are 19 different forms of baths at disposal. The above mentioned baths are also administered on medical prescription with additions of the very powerful Bad Nauheim mother-lye. In addition, sitz-baths, fresh-water baths, douches and cold baths are given.

b) **Drinking-springs:** The Kurbrunnen and the Karlsbrunnen (saline waters) as well as Ludwigsquelle (alkaline acidulous water) serve for drinking-cures. The neighbouring Schwalheimer Sauerbrunnen as well as the Löwenquelle and the Germaniabrunnen are excellent natural mineral and table-waters rich in carbonic acid, and similar to Niederselters or Wildungen.

The bottling and sale of these 6 springs is in charge of the "Versandstelle der Grossherzoglich Hessischen Trinkquellen" in Bad Nauheim (Grand Ducal Hessian Springs).

c) **Inhalatorium and Graduation-works.** In the inhalatorium, established 1901/2 are 2 rooms for common inhalations (Wasmuth- and Heyer-Apparatus), and 6 rooms for single inhalations with 27 apparatus according to Goebel and 10 according to Heyer. Besides appliances for compressed and rarefied air. One of these rooms is used for oxygen-inhalation. The inhalatorium is considered a model institute. For sprays the Bad Nauheim brine free of gas is applied, for single inhalations the various mineral springs of Nauheim, likewise foreign waters, and medicinal solutions.

In the drinking cure establishment rooms for gargling.

d) **Other curative factors:** Whey and milk cure establishment owned by a native of Appenzell. Air rich in ozone (saturated with salt particles) near the graduation works of the saline, on grounds with wicker-chairs. Treatment with electricity, vibration-massage &c. by the physicians. Electric-light baths, four-cell and alternating current baths in the Zander-institute, furthermore mud and sand baths in the bathing establishment of the Konitzky-Stift.

Manual (Swedish) gymnastic and massage in connection with bathing-cures for various pathological conditions.

Medico-mechanic Zander-institute (medical gymnastics only according to medical prescription), separate gymnasium for ladies and gentlemen.

e) **Governmental Roentgen-Laboratory** with skiagraph for the heart.

f) **Emanation-cabin in the bathing-establishment No. 9.**

Indications: Disorders of circulation due to cardiac affections and to diseases of the vessels (arteriosclerosis), residues of acute articular rheumatism, chronic articular and muscular rheumatism, gout, obesity, spinal affections (especially tabes) and diseases of the peripheral nerves (neuralgia, palsy), neurasthenia, scrofula and rickets; diseases of women, anaemia and chlorosis, chronic catarrhs of the respiratory and digestive organs, habitual constipation, prostration and delayed convalescence after acute affections (influenza) or surgical operations &c.

Entertainments: The Kurhaus, in a wonderful location, has a large dancing-hall connected with the theatre, rooms for society, reading rooms, billiard room and bars. Large concert hall. In front of the Kurhaus and at the side large roofed veranda.

The music-band (50 musicians) play three times a day; also military concerts and performances by solists. Dancing-parties, firework displays &c.

The Kurhaus-theatre gives performances of drama and comedy three times a week, also operetta during the height of the season.

Gondola-rowing, fishing, shooting-stand, playing-grounds and athletic-grounds. In the park large tennis-links and croquet-golfs with special bar; not far from the pond beautifully located golf-link. Excursions to the next and more distant surroundings such as Taunus (Winterstein and Feldberg), to the Lahn, Vogelsberg, Rhine, Bergstrasse, Francfort-on-Maine, Darmstadt, Heidelberg &c.

Kurtaxe: For the whole season Mks. 20 per person; for families Mks. 20 for the first, Mks. 10 for the second person, for each additional person Mks. 5, children under 12 years and servants are free. (As belonging to the family are considered

married couples and their unmarried children still under age, furthermore unmarried sisters and brothers belonging to the same household in the native town). Physicians and the members of their families are free of duties. No taxes from October 10th to April 15th.

Information as well as prospectus and list of boarding-places by the Grand-Ducal directory. Address: Geschäftszimmer Kurhaus

Export of Bad-Nauheim Original brine bath salt, "Badesalz II", and of liquid and crystallised mother-lye by the "Grossherzogliche Salinenrentamt Bad Nauheim".

Divine Services: Protestant, Roman-Catholic, English, Russian, and Hebrew. For an after-cure the fiscal Bad Salzhausen (station of the line Friedberg—Nidda) is very much recommended. It is a beautifully located small and quiet place near Nidda, with fine forest promenades, brine bath, drinking-springs and excellent climate.

Sanatorium Sanitätsrat Dr. Hugo Schmidt, see Section II ("Sanatoria and Cure-Establishments").

Royal Prussian Radioactive Bath Nenndorf near Hanover.

Sulphur-bath. Brine-bath and Mud-bath.

1 hour's ride by railway from Hanover.

Four very strong mineral sulphurated springs used for drinking-cures, baths and inhalations. Brine (6 per cent.) for baths and inhalations. Sulphurated mud for the preparation of excellent mud-baths.

Ideal, elegantly equipped new bathing-establishments. Good hotels. Large park. Fine surroundings. Mountain-spring water supply, canalization. 6 resident physicians. — Theatre, music-band, entertainments of any kind.

Indications: Gout, rheumatism, arthritis deformans, tabes, neuralgia, especially sciatica; many skin-diseases (chiefly furunculosis, dry eczema, and psoriasis vulgaris); diseases of the respiratory organs, hemorrhoids, scrofula, rickets, diseases of women, various kinds of neurosis, syphilis, haematic dyscrasia and metal-poisoning.

Detailed prospectus free of charge on application to the

Königliche Badeverwaltung in Bad Nenndorf b. Hanover.

Private Sanatorium Bad Nenndorf, Sanitätsrat Dr. Ch. Michelet, see Section II ("Sanatoria and Cure-Establishments").

Nervi, Italy, Riviera di Levante; well-frequented winter-station; climate exciting and tonic, rather humid. Vegetation is luxurious. Nervi is a place highly suitable for patients who desire repose.

Dr. Ortenau's Family Pension "Hygiea", Nervi, see Section II ("Sanatoria and Cure-Establishments").

Neuenahr in Rhineland.

Topography and climate: Bad Neuenahr, 320 feet above the level of the North-Sea, is situated in the romantic valley of the Ahr, a side-valley of the charming Rhine, in the Prussian district of Coblenz, at the foot of the basaltic rock of "Neuenahr" wooded with magnificent leafy woods. It is to be reached in 1½ hour's railway-ride from Cologne or Coblenz. The climatic conditions are the most favourable, owing to the mildness and purity of the atmosphere, the uniformity of temperature, to the rapidly drying porous ground of the valley, and to the site of the place protected by wood-clad hills against sharp winds. The mean temperature during the five months of the season is 21.7° C (71.5° F.), the average atmospheric pressure 765,5 mm (referring to zero).

Curative factors: There are at Bad Neuenahr five medicinal springs, the principal ones being "der grosse Sprudel" and "the Willibrordus Sprudel" which Fresenius classifies among the alkaline acidulous springs. Among these they occupy a most peculiar position as alkaline thermal-waters, the only ones in the whole Germany. It is to this peculiarity and to most unique curative results obtained thereby, as have never been arrived at in any other health-resort of Germany, that Neuenahr owes its world's fame and the appreciation

and recommendation by all medical authorities. Temperature at the mouth of the spring 36° C. (96.8° F.). The chief constituents are bicarbonate of sodium, lithium-ammonia, lime, magnesia, ferrous oxide, manganese oxide and zinc-oxide, sodium- and potassium-sulphate, chloride, bromide, and iodide of sodium, sodium-phosphate and arseniate, biboracic sodium, silicic-acid and carbonic acid. In 1000 cc. of water are contained 777.91 cc of free carbonic acid. The "Grosse Sprudel" yields within 24 hours, in a free outflow, about 2000 cc of water. The yield of the "Willibrordus-Sprudel" is not inferior to this enormous amount of water. Both springs are used for drinking- and bathing-cures. The baths, douches, and the inhalatorium are equipped according to the most recent methods; sprudel- and wave-baths, sand-baths, Fango-baths, carbonic-acid baths, Roman-Irish and Russian baths, Radium-Emanatorium. Splendid bathing-establishment, rebuilt in 1899. Also whey- and grape-cure.

In order to allow a first course at home, a second course after the stay at the health resort or a winter-cure, but also in order to give an opportunity for going through a drinking-cure with Neuenahr waters to those not being able to stay at Neuenahr, the Neuenahr sprudel is exported at a price of 60 Pfennig per bottle. Orders are to be addressed to the "Kurdirection in Neuenahr". The waters are also on sale in all apothecaries and mineral-water stores.

Indications: The Neuenahr medicinal springs are distinguished by their mild and stimulating action; even in a continuous use they do not weaken the organism, but have an invigorating effect. They are indicated in diseases of the digestive, respiratory, and urinary organs, in gall-stones, enlargements of the liver, rheumatism, chronic inflammation of the kidneys, diabetes mellitus, gout, renal calculus, scrofula, affections of the mucous membranes, of the uterus, in influenza and its sequelae.

Kurdirektion: F. Rütten, director of the Bad Neuenahr Company. Illustrated booklet on application from the Kurdirection.

Physicians: Geheimer Sanitätsrat Dr. Paul Unschuld; Sanitätsrat Dr. Ad. Teschemacher; Sanitätsrat Dr. Wilh. Niessen; Sanitätsrat Dr. Albert Lenné; Privatdozent Dr. Carl Grube; Dr. Georg Kühn; Dr. Jos. Weidenbaum; Dr. Schwenke; Dr. Wendriner; Dr. Külz; Dr. Goldberg; Dr. Weissentfeld; Dr. Graul; Dr. Bluth; Dr. Kaufmann; Dr. Dapper; Dr. Mosheim; Dr. Ernst Rosenberg; Dr. Gallus, ophthalmologist; Dr. Ufer; Dr. Claessen; Dr. Friedrichsen; Dr. Haffner; Dr. Wolf.

Hotels: Kurhotel, isolated situation in the Kurpark, the only first-class hotel directly adjoining the thermal bathing establishment: electric lift. Steam-heating, electric light; the other hotels have no thermal baths. Moreover, about 50 boarding-houses, and many private residences with various rates.

Sanatorium Dr. Graul, Neuenahr, see Section II ("Sanatoria and Cure-Establishments").

Sanatories for Diabetic Patients, Dr. Külz, see Section II ("Sanatoria and Cure-Establishments").

Sanatorium Dr. Rosenberg, see Section II ("Sanatoria and Cure-Establishments").

Nice.

Central station of the Riviera, largest international health resort and winter station. Splendid town rich of gardens and country-houses, and framed by the sea and hills, free from dust. Mild climate. Any kind of comfort. Much change and grand cure-life. Best hygienic and sanitary accommodation.

Recommendable hotels:

Terminus Hotel: 1st class establishment, directly opposite the railway-station. Hot-water heating in all rooms. Electric light and lift. Vacuum-cleaner, likewise for the hotels mentioned below. Apartments and single rooms with bath and W. C.'s. Completely renovated in the summer of 1906. Luggage-delivery from and to the station free of charge.

H. Morlock new proprietor.

Hotel de Berne: IInd class establishment. Near the railway-station close to the entrance at the left. Managed according to Swiss manner. Very comfortable house renowned for good cooking at moderate rates. Lift. Hot-water heating.

Hotel de Suède: 1st class establishment. 36, Avenue Beaulieu. Located in the centre of the health resort. Most modern. Hot-water heating in all rooms. Electric light and lift. Hall and dining rooms facing the garden. Refined French cooking. Very pleasant for a long stay.

H. Morlock, Proprietor.

Oberhof in Thuringia, 2900 feet above sea level; mountain climatic health resort for summer and winter (winter-sports of all kinds).

Oeynhauscn, Prussian province of Westphalia; 5 vigorous thermal saline springs, rich in carbonic acid. Surrounded by wooded mountains. Climate healthy and bracing.

Sanatorium Oeynhauscn. Sanitätsrat Dr. Reckmann and Sanitätsrat Dr. Huchzermeyer, see Section II ("Sanatoria and Cure-Establishments").

Ospedaletti-Ligure.

Topographical and Climatic Conditions: The health resort (1000 inhabitants) is situated between San Remo (4 km) and Bordighera (5 km). With its picturesque bay, it is one of the most lovely places on the Riviera. It is distinguished from all other stations in that it is entirely protected against cold winds by a semilunar crest of high mountains (NW, N and SE winds), and consequently this place has the advantage of the most uniform winter-climate and the most protected situation. According to the exact scientific observations of many years, the mean temperatures of the 6 winter months are: November 14,15° C; December 11,15°; January 10,25° C; February 10,88° C; March 12,29° C; April 14,5° C. At the same time, the absolute maxima and minima of the individual days show variations of only 4—5° C, and interdiurnal variations even of only 0,7—1,12° C. The atmospheric pressure is uniform (mean 767 mm Hg.), with a moderately dry air (65 per cent. with very minute variations of day and night). Amount of rain slight. Clouding rare. Fog almost never. Insolation even on the shortest winterdays for 9 hours!

The foreigners' quarter itself is situated apart from the town amidst wonderful gardens and flower-beds, in a considerable altitude above sea level. It is pretty far off from the railway and surrounded by a large net of clean, very sunny promenades and roads protected against winds. There is also excellent canalization, and the very best supply of mountain drinking-water.

Curative-factors and Indications: Besides warm sea baths the above mentioned advantages render the station suitable for out-door cures during the winter in disorders of circulation and metabolism (diseases of the heart, the vessels and kidneys, rheumatism, gout, anaemia, diabetes etc.), affections of the respiratory organs (excluding severe and progressive phthisis), light cases of neurasthenia, nervous diseases, furthermore for patients needing a change and recreation in general.

Resident physicians: Dr. Altichieri (Italian), Dr. Enderlin (Swiss), Hofrat Dr. Oster (German), Dr. Semeria (Italian).

Boarding: Grand Hotel de la Reine. Hauser Brothers. First-class house in an excellent southern location amidst large gardens, protected against winds and free from dust, with beautiful view upon the ocean. Large roofed veranda. Private-baths, warm-water heating, electric light, lift. Prospectus.

Hotel Royal Guglielmina. In a particularly fine southern location, protected against winds. First-class management. Modern comfort (lift), warm-water heating, electric light, baths. Tuberculous patients are not admitted.

Hôtel-Pension Riviera. Family-house. Quiet and sunny location; very much protected garden. Inlaid floor, electric light and warm-water heating in the whole house. Baths. Moderate rates.

Hôtel Metropole. Family-pension with large garden. Numerous rooms facing the south protected against wind and dust. Central-heating, and electric light everywhere. Baths. Post and Telegraph in the house. Moderate rates for pension. Prospectus. Tuberculous patients are not admitted.

Private boarding: Villa Dr. Oster. Sanatorium for internal diseases excluding consumptives etc. For further details see section II "Sanatoria and Cure-Establishments".

Entertainments. Casino (reading-rooms, concerts etc.).

Great flower-market and flower-gardens. Excursions (mules, sailing boats).

Kurtaxe is obligatory.

Divine Services: Roman-Catholic and German-Protestant.

Communications: All trains of the line Genoa-Ventimiglia-Marseille stop here (also express trains and trains de luxe).

Sanatorium Villa Dr. Oster, see Section II ("Sanatoria and Cure-Establishments").

Ostende, Belgium, world-reputed sea bathing-place on the North-Sea, with very broad, fine sandy strand.

Bad and Kurhaus Passugg.

2900 feet above sea level, three quarters of an hour from Coire (Switzerland). First-class hotel with 220 beds, parlours, apartments with bath. Electric heating. Open from May to October. Wonderful situation, free from dust, 5 minutes from the romantic Rabiosa-ravine. Extensive level promenades in the neighbouring forest.

Topography: All the springs originate from the Rabiosa-ravine, of which the geologist Prof. Theobald says in his book: "Naturbilder aus den Rhätischen-Alpen": "If any massive of Switzerland has ever puzzled science it is the Plessur-mountain." This geological fact may indeed be the real reason why the health-resort of Passugg with its various mineral springs may be considered unique, as in a certain measure the curative factors of four entirely different health-resorts are united here.

The fact that Passugg during the last decade has been visited more and more by international travellers, is not the result of a noisy bustle (casinoes or theatres etc.), but of the excellent curative success, the excellent diet and the very pleasant sojourn for patients and people needing change.

Curative Factors: 1. Utricusquelle, a strong alkaline-muriatic acidulous water heating Vichy, Fachingen, Ems, Niederselters etc. as to its content of sodium and alkalinity. 2. Fortunatusquelle, an iodine-spring with high sodium and chloride-content. 3. Helenenquelle, a mild alkaline acidulous water.

Comparative Analysis.

In 10 000 gr. (figured on ions) are contained:

	Passugg	Ems	Vichy	Fachingen	Nieder-selters
	Utricus	Kranchen	Gr. Grille		
Sodium	20,420	10,067	18,471	13,469	13 000
Chlorine	4,955	5,958	3,240	4,019	14,251
Carbonic acid	27,733	19,935	23,921	19,537	8,020
Total of solid constituents	58,858	35,192	52,774	40,952	38,020
Free carbonic acid	117 16,0cc.	5284,0cc	463,0cc	6598,0cc	11594,0 cc
Alkalinity	93,3 -	66,61 -	82,09 -	65,98 -	27,46 -

	Passugg	Tölz	Passugg	Wildungen
	Fortunatus	Bernhard	Helene	Helene
Sodium	23,8610	2,214	6,8629	6,7460
Chlorine	5,5666	1,797	1,3054	6,3340
Jodine	0,0120	0,013	—	—
Carbonic acid	31,4048	1,901	15,7456	14,7840
Total of solid constituents	65,9946	6,4403	31,3899	34,7940
Free carbonic acid	22 365,2 cc	777,1cc	17 465,6 cc	18756,0-cc
Alkalinity	105,0	6,7 -	53,26	51,61 -

4. Belvedraquellen, acidulous springs for drinking-and bathing-cures.
 5. Theophilquelle, an excellent table-water. 6. The most modern and

completely equipped hydro-and hydro-electric bathing establishments of Switzerland. Photo- and aero-therapeutics. 7. Radiogen-therapeutics. 8. Massage and exercise-therapeutics. 9. Dietetic cure.

Indications: Gastro-intestinal diseases; gall-stones; affections of the liver, the kidney and the bladder; pyelitis and bacteriuria; general asthenia, chlorosis and anaemia; diabetes, obesity, gout; affections of the myocardium; sequelae of tropical diseases; abuse of alcohol and nicotine; glandular affections, goitre; scrofula, arteriosclerosis, prostatic hypertrophy, opacity of the vitreous body.

Of other affections for which the mineral water of Passugg, the invigorating and sedative subalpine climate together with the bathing-cure and the most suitable diet are particularly effective, we mention nervous diseases, such as general irritability of the nervous system, insomnia, congestions of the head, and spinal-cord; neurasthenia and strain.

In obesity, gout and diabetes as well as in phosphaturia special cures are applied without weakening the organism.

Special diet for diabetics and patients suffering from the stomach.

All spring-waters are exported.

Resident physician: Dr. J. Scarpatetti.

Director: A. Brenn.

Pegli, near Genoa

10 km. from this town, and in communication with it by railway and tram. The place has 10 000 inhabitants, and is considered one of the most renowned winter resorts of the Riviera, with the finest forests, and the most beautiful and numerous promenades. It offers the advantages of a medium moist and warm sea-climate, and combines in a climatic point of view the dry and stimulating Riviera di Ponente with the more moist and sedative Riviere di Levante, being the golden mean between the two and having equal part in the climatic advantages of both coasts.

In the summer and autumn, Pegli is one of the most popular sea-bath stations of the Mediterranean.

Indications: Neurasthenia, nervous insomnia, anaemia, constitutional gastric and metabolic diseases; diseases of the respiratory organs, convalescence, asthma, cardiac atony; for people wanting recreation. Consumptives are not admitted.

Curative factors: Climatic winter cures from September to June. Sea-baths open from April to December. Fresh-water- and sea-baths at any sea-on. Hydrotherapy, electrotherapy, electric-baths, massage, carbonic-acid fresh-water and sea-baths (effect of Nauheim). Dietetic cooking for diabetics and patients suffering from the stomach. Trained bathing-attendants. Resident physician.

Grand Hotel Méditerranée: 1st class establishment with splendid park of the largest palm trees of Europe. 110 rooms. Apartments with fresh-water and sea-water baths and toilet on every floor. Best sanitary equipment. Excellent and renowned cooking. Lift, steam-heating, electric light. Price of pen-ion Lire 9—14 per day. German-Protestant Divine Service in the hotel. Anglican Church at the outlet of the park.

Electric tram in both directions. Post-office, telegraph. Theatre. Station for all trains. Casino of its own and open-air galleries at the sea-shore.

Kurhaus Pegli, Dr. Ernst, see Section II ("Sanatoria and Cure-Establishments").

Pöstyen in Hungary, on the line Vienna-Budapest, 3 hours from Vienna by Through Trains. The Natural hot Radium mud Baths 140° F. are world-renowned for their sovereign healing power. Highly efficacious in: Gout, rheumatism, sciatica Neuritis, chronic leucorrhoea etc., even in old-standing and obstinate cases. Pöstyen Radium Mud and Mineral Water are exported to all parts of the world for home cures.

Pfaefers, Switzerland, Canton of St. Gall. See **Ragaz**, page 150.

Pierre à Voir above Martigny, Switzerland.

Simplon line of railway.

Climatic health resort.

4665 feet above sea level.



The most convenient way to reach "Le Grand Hotel" from the railway station at Martigny is a carriage drive of 3 hours. The Proprietor will gladly send on application the tariff for carriages and luggage. In regard to luggage, the simplest way is to send it in advance by post, which can be done from any post-office in Switzerland, at reasonable rates. "Le Grand Hotel" is entirely built of stone, the staircase is stone likewise, and there are two large entrance-doors at each side of the building. There is electric light throughout the house, and bath rooms with hot and cold water are on each floor, and the drinking water is excellent. A resident physician in the house during the season, a very good tennis court and golf course.

Pension Terms: for at least a stay of 8 days from 7 to 14 Frs. a day according to room. All the rooms have sunshine, on one side in the forenoon, on the other side in the afternoon.

Prices for travellers: Room from 3 to 8 frs. (including attendance and light),

Breakfast	Fr. 1.50
Lunch	" 3.50
Dinner	" 4.50

The mean duration of sunshine in the year amounts to 1800 h.

The mean clouding is about 4 hours.

A stay at Pierre à Voir is most highly recommended to all who are in need of rest and quietness. As the hôtel is at considerable distance from the nearest village, there is no glaring road, no noise, no dust, and there are no smells. For overworked nerves, for weakness after illness or for advanced age no more ideal spot could be found than Pierre à Voir, nothing could be more satisfactory than "Le Gd. Hôtel", surrounded by soft mountain sward, the vivifying aroma of pines and larches with glimpses of snow capped mountain peaks; and where there are level paths in most directions.

Plombières, a well known French spa, situated about 1400 feet above sea level, in a deep and narrow valley of the Vosges Mountains. Season from May to September.

Pontresina.

Topography: Pontresina, a small place of the Upper Engadine (Switzerland), with 800 inhabitants, has become during the last decades one of the most popular climatic summer stations of the High Alps, and of late a first-class wintersporting place too. It owes this popularity chiefly to its wonderful situation, 6030 feet above sea level. As the place is leaning against the steep rock of the Languardstock, it is protected against north-eastern winds. Toward the south it faces the largest glaciers and the highest mountains of Grisons, the Bernina-Group. The village is embraced by the neighbouring cembra-pine and larch-tree forests with shadowy paths. Convenient roads are leading to summits with distant views and to alpine and club-shelters rich in scenery. All this and, in addition, the glaciers and summits offer the most unique variety of wonderful tours on account of which the place has become one of the most excellent tourist-stations. Pontresina has also developed of late as a climatic winter-station and winter-sporting place, and the beginning has been most promising. Owing to the situation protected against winds and even in the winter very sunny, and to the abundant opportunity for sporting, Pontresina is already classified among the very well known and most renowned winter-sporting places and winter-stations.

Climate: The climate is that of an alpine valley, rendered mild by the sunny situation in one of the side-valleys which is protected against the local winds regularly blowing in the chief valley on fine days. — Meteorological data will mislead when the thermometer freezes in the shadow while one is perspiring in the sun. The summer is characterized by a pleasant coolness, and only from 11—3 o'clock the temperature rises exceptionally to 20—23° C. (68—73.4° F.) It is never warm in the evening and morning, and during the night nobody ever has been kept from sleeping by heat. On the other hand, it sometimes gets pretty cold, and even in mid-summer snowfall has occurred. Sensitive patients should never omit adapting their clothes to these conditions. — There is the very best drinking-water yielded by springs that are curbed high above all human domiciles and farms, and are conducted in cast-iron pipes of best quality to the village and into the houses.

Indications: Nervous affections of functional character, nervous palpitation of the heart, mental strain, insomnia, neuralgia, neurasthenia acquired by strain as well as sexual anomalies, convalescence, chlorosis, general weakness and anaemia of a moderate degree, malaria and its complications, phthisis in the first stage, residues of pleuritic exsudates, and pleuritic adhesions, asthma of the juvenile age, chronic catarrhs of the intestinal tract, diabetes, not too far advanced obesity (Oertel-cure).

Contra-indications: Organic anomalies of the cardiac muscle or the larger vessels, especially far advanced adiposity of the heart (fatty heart), grave arteriosclerosis, pronounced and especially uncompensated valvular lesions, advanced consumption, extensive emphysema, or such complicated by bronchitis in aged people, ulcers of the intestinal tract, parenchymatous nephritis, great asthenia and anaemia (there must be still a good deal of resistance).

Physician: Dr. med. Paul Gredig.

Hotels: Fourteen hotels, partly simple, partly elegant ones, and many private houses offer accommodation for about 2200 visitors. The hotels (arranged in alphabetical order): Bernina, Collina, Engadinerhof, Grand Hotel Kronenhof and -Bellavista, Languard, Müller, Palace-Hotel, Pontresina, Roseg, Saratz, Schweizerhof, Steinbock, Weisses Kreuz and Parkhotel. The sanitary conditions of the hotels and better private houses are throughout perfect. The excellent boarding, at relatively moderate rates, is likewise well-known (in the high-season 9-20 frs. per day, in June and September reduced prices.)

Divine Services: Every Sunday for Protestants, for members of the Anglican Church and of the Presbyterian Church, for Roman-Catholics in St. Moritz or Samaden, both places situated in the neighbourhood of Pontresina.

Kurtaxe: Every adult person is charged a daily tax of 20 cts. for the purposes of the cure-administration.

Prospectus of the health resort free of charge by the

Kur- and Verkehrsverein.

Bad Pyrmont.

Summer-residence of the Prince of Waldeck and Pyrmont, district capital in the North-west of Germany, situated 420 feet above sea level, in a wonderful valley. Bad Pyrmont is surrounded by the richly wooded spurs of the "Weserbergland" and the "Teutoburger Wald". It is consequently very well protected against rough winds. The hygienic conditions being excellent, epidemics are unknown here. Good drinking water supplied by new pipe-system. Canalization. Streets are lighted by electricity.

Curative factors: I. Ferruginous acidulous waters; II. sodium chloride springs; III. moor-beds. Inhalatorium, milk-cure, resting-cure, Terrainkur (up-hill exercise),

I. The three principally used acidulous chalybeate waters are: a) Hauptquelle; b) Helenenquelle; c) Brodelbrunnen. These springs contain according to Fresenius per 1000 gravimetric parts of water at a temperature of 12—12,7° C.

	Hauptquelle	Brodelbrunnen	Helenenquelle
Bicarbonate of ferrous oxide	0,077073	0,074381	0,036654
Bicarbonate of manganese oxide	0,006201	0,007436	0,003458
free and half combined carbonic acid	1476,0	1541,0	1486,0 cc
the specific gravity being 1,0029—1,0037.			

The chalybeate springs known already at the time of the Romans were notoriously used for curative purposes as early as the beginning of the fourteenth century.

I. Ferruginous mud from the inexhaustible mud beds in the immediate neighbourhood of the chalybeate springs; it is entirely equal in value to the mud of Franzensbad and Marienbad, according to the chemical investigations made by Professor Kreussler at Bonn

II. The acidulous muriatic springs contain according to Professor Wiggers per 1000 gravimetric parts of water at a temperature of 10—15° C.

	Salzbrunnen	Alte Salzquelle	Bohrlochsalsz
Sodium chloride	7,05747	9,53660	32,00550
Ferrous oxide	—	—	0,06018
Carbonic acid	954,0	647,0	373,0.
the specific gravity being 1,002—1,028.			

The bathing-establishment "Unteres Badehaus" (brine-bath) at the graduation work has 60 comfortably equipped bathing-apartments for strong and weak brine, for mixed baths, and also for additions (as pine-needle extract, mother-lye etc.).

In the bathing-establishment "Oberes Badehaus" are 143 most comfortably furnished bathing cabins, where chalybeate, brine, mixed- and mudbaths are given. Besides, it contains a cabin for sick people, and two particularly elegant bath-rooms (the so-called "Fürstenbäder"). In addition to this: 1. cabinets for electric tub- and light-baths, and an arclamp reflector for local treatment; furthermore, a universal appliance for single to three-phase alternating-current and galvano-faradic baths.

2. The inhalatorium (system Inhabad) in two rooms close to one another. Whey, fresh cow's and goat's milk, and foreign mineral-waters can be purchased at the Hauptquelle and in the new milk-cure establishment (under medical supervision).

Curative value and indications: Owing to the great variety of the curative factors of Pyrmont, the number of various diseases treated here successfully is very great. The most important may be mentioned here briefly:

Diseases of metabolism, renal and nervous diseases, diseases of the blood, the heart, the liver, the respiratory organs, the digestive and sexual organs.

Main season: From the beginning of May to the 15th of October. Number of visitors in 1911 more than 40 000, and among them 14 300 cure patients, more than 120 000 baths were taken. There is also a winter-season now in which all the springs and baths, except mud-baths, and all forms of inhalation can be used.

Physicians: Dr. Buchwald; Dr. Otto Daude; Dr. Enters; Dr. P. Grosch; San.-Rat Dr. A. Hölcher; San.-Rat Oberstabsarzt d. L. Dr. S. Marcus; Marine-Stabsarzt a. D., Specialist for throat, nose, and ear diseases, Dr. M. Müller; Kgl. Preuss. San.-Rat, Physician for Diseases of the blood and metabolic diseases (diseases of the digestive apparatus included), Dr. H. Müller; Nervenarzt Dr. Otto Pohl; Kgl. Preuss. San.-Rat Professor Dr. Schücking; Dr. A. Schücking jr.; San.-Rat Dr. C. Seeborn; Stabsarzt a. D. Dr. F. Weber; Fürstl. Waldeck. San.-Rat Dr. Weitz; San.-Rat, district physician, Neurologist, Dr. R. Wichmann.

Dentists: Dr. Wege; Tappe.

All matters pertaining to the cure are under the supervision of the Cure-Administration of the Principality of Waldeck represented by the Kurdirektor von Beckerath.

Kurtaxe. For the duration of the main season for one person Mks. 20; for each additional member of the family Mks. 10; for children of 6-10 years and servants Mks. 2, children below the sixth year of age free of charge.

Boarding and pensions are those of a large health-resort. Apartments are at disposal in great number, prices varying according to location, size, furnishing and to the duration of the stay.

Hotels. Fürstliches Kurhotel with 200 beds, lift, electric light, in direct communication with the princely "Oberes Badehaus".

Grosses Badehotel, Hotel Rasmussen, Lippischer Hof, Hotel zur Krone etc.

Cure establishments. The newly built princely Kurhotel answers the most modern requirements.

Concert three times daily by the princely music-band (40 musicians).

Kurpark with model playing-grounds for lawn-tennis, croquet etc. Opportunity for hunting and fishing, racing, fire-work, theatre. Excursions and promenades are numerous and well worth making.

Means of communication. Pyrmont, station of the Hannover—Altenbeken line, head-station of D-trains Paris—Cologne—Hildesheim—Berlin, can be reached easily from all directions (Hanover 1½ hours, Berlin 5, Hamburg 6, Francfort on the Maine 7, Amsterdam, Dresde 8, Paris 13, London 18 hours).

Detailed information by

Fürstlich Waldeck. Kurverwaltung.

Sanatorium Pyrmont, Sanitätsrat Prof. Dr. Schücking, see Section II ("Sanatoria and Cure-Establishments").

Sanatorium Pyrmont-Saline, Dr. Wichmann, see Section II ("Sanatoria and Cure-Establishments").

Ragaz-Pfaefers.

Canton of St. Gall (Switzerland).

The long known and famous springs of Pfaefers (constant temperature at the spring 30° R. = 37.5° C. = 99.5° F.), akrotic thermal-waters, provide all the baths and springs of Ragaz and Bad Pfaefers with a continuous current of thermal water.

Season: Bad Pfaefers from end of May to end of September, Ragaz from middle of May to middle of October.

Bad Pfaefers. Hotel Bad Pfaefers (2290 feet above sea level, at the entry of the world renowned Pfaefers-Ravine, protected against winds, 3 km distant from Ragaz. Good road from Ragaz to Bad Pfaefers. The air is rich in ozone, and free from dust. 24 baths built in Dutch tile, and 8 large common baths. Douches of thermal water, and cooled thermal water in the bathing-establishments. Temperature of the baths 28.5° R. = 35.5° C. = 96° F. Treatment with electricity and massage. Resident physician and masseur in the establishment. Concerts three times a week, at noon and in the evening. Good cars to Bad Pfaefers on the arrival of the trains at the railway-station of Ragaz.

Helvetian post-office, telegraph, and telephone.

Bad Pfaefers is especially recommended for people requiring rest.

Indications as in Ragaz (see below).

Physician: Dr. Kuchenbecker.

Prices of Baths: Fr. 1.— Dutch-tile bath; Fr. 0.60 common bath.

Divine Services: Protestant and Roman-Catholic in the chapel of the establishment.

Ragaz, 1823 feet above sea level. **Topography.** Ragaz is situated on the southern border of the St. Gall side of the Rhine, amidst multifariously shaped valleys, and surrounded by a grand mountain scenery. The rails leading from Zürich through the Linth- and Wallensee-Valley and through the lower valley of the Rhine from the Lake of Constance and from Arlberg, run close to one another in this region. Towards south Ragaz is the junction of the Praetigau-Valley leading to Davos, and of the valley- and mountain-roads leading from the Engadine, Splügen, and the Upper Alps to the valley of the Rhine. This very favourable situation has rendered Ragaz a centre of a considerable influx of foreigners, and it is now the direct starting point for those going to the Confederate health-resorts of St. Moritz, Tarasp, Samaden, Maloja, Arosa, Flims, Davos &c., as well as to the Italian lakes. The broadening of the Rhine-Valley is at Ragaz very considerable, thus the sun has free access and the traveller's eye enjoys an unrestrained view of the wonderful and most abruptly varying mountain formations and the

charming scenery of the valleys embracing the health-resort in a semi-circle. The Rhine flowing through the middle of the valley, and the impetuous river Tamina leading its bed near Ragaz and flowing into the Rhine, add to the vivacity of the scenery. Ragaz is situated on the bottom of a valley gently ascending from the Rhine. This valley has been formed in course of time by the deposit of boulders through the Tamina. The course of this river is now changed by massive embankments, and the river can, therefore, only deposit its boulders into the Rhine. The ground upon which Ragaz is standing, consists mainly of gravel, sand, and rubble-stones. Owing to this fact and to the favourable fall of the river toward the Rhine, the mountain water has a constant and rapid flow not allowing any stagnation of subsoil-water.

Climate: The abundant vegetation within and around Ragaz as well as the neighbouring leafy and pine-needle-woods are favourable for the development of a wholesome atmosphere rich in oxygen. During the hot season the air is cooled in the night by the wind coming from the rocks of the Tamina Ravine. The mean daily variation of temperature is 5° C. (41.0° F.) from May to October, the mean atmospheric pressure at 0° C. (32° F.) is 716.27; the average relative moisture of the air is 78.36. A temperature higher than 31° C. (87.8° F.) has not been observed as long as the Ragaz meteorological station is existing (i. e. since the year 1871). Heavy thunder-storms are very rare. Heavy fall of hail has not occurred within the memory of man. Fog is only in the valley during the wintermonths of November and December, and even then but seldom. The forests and the "Luizensteig" — (foot-path) and "Fläscherberg" keep away heavy northern winds. The climate of Ragaz is characterized in general as a mild, but invigorating mountain climate. The local meteorological station has registered observations for 10 years, showing for the season — May to October — the following exact mean figures:

1883—1892	Temperature		Temperature of air					Relative moisture mean	Clouding mean	
	absolute minimum	absolute maximum	7 h a. m.	1 h p. m.	9 h p. m.	mean	mean maximum			minimum mean
May	0	29	11.1	17.4	12.5	13.7	8.7	16.0	81.0	4.9
June	5	29	14.1	19.8	15.1	16.5	11.3	18.0	86.0	5.8
July	3	30	15.5	21.0	16.4	17.7	13.2	19.9	86.3	5.0
August	2	29	14.8	19.9	16.2	17.0	13.1	19.0	90.7	4.3
September	0	29	12.0	17.8	13.4	14.4	9.7	16.1	90.9	5.0
October	7	21	6.3	11.5	7.7	8.5	4.5	10.2	91.4	5.2

Curative Factors: The bathing establishments (with 90 different Dutch-tile baths), of which three (Mühle-, Helena- and Neubad) are situated near the Hotel Hof Ragaz and Hotel Quellenhof on the right bank of the Tamina, while the fourth bath-establishment (Dorfbad) is situated on the left bank of the Tamina, in the centre of the village of Ragaz. The swimming-tank is on the right bank of the Tamina, in the centre of the cure establishments. It is a large roofed reservoir filled with thermal water, and furnished with galleries and a sufficient number of dressing-rooms, a swimming-tank unique of its kind (24 m long, 9 m broad).

Temperature of single baths $27-28^{\circ}$ R. = $33.5^{\circ}-35^{\circ}$ C. = $93-94^{\circ}$ F. or on demand with cooled thermal water: temperature of the water in the swimming-tank $23-26^{\circ}$ R. = $29-32^{\circ}$ C. = $84-90.5^{\circ}$ F.

Analysis of Pfaefers Spring-water.

made in 1895 by Professor Treadwell.

10000 gr. of water contain in grams:

Iron	0.001017	Phosphoric acid	0.000300
Aluminium	0.000863	Sulphuric acid	0.292450
Calcium	0.552340	Jodine	0.000092
Strontium	0.007036	Bromine	0.001220
Barium	0.001760	Chlorine	0.346330
Magnesium	0.155180	Fluorine	0.000280
Potassium	0.035543	Nitric acid	0.005080
Sodium	0.292570	Boracic acid	0.004150
Lithium	0.001842	Arsenic acid	0.000060
Ammonium	0.000576	Ferrous oxide	—
Cs., Rb., Tl., Cu.	traces	Organic substances	0.000900
Silicic acid	0.209960		2.974849
Carbonic acid	1.062800		

Directly determined 2.970000. Specific gravity 1.00031. Temperature 36.85° C. = 96.5° F.

The great advantage of the baths of Ragaz-Pfaefers consists in the continuous current of fresh water rendered possible by the abundance of springs, and in the constant temperature of the thermal water in the bathing-tubs; the radioactivity of the thermal waters adds considerably to the significance of these baths.

By the bacteriological examination of the thermal waters, Prof. Tavel and Dr. Ed. v. Freudenreich of the Bacteriological Institute at Berne proved in 1896 that it is an excellent drinking and table water, poor in bacteria.

Warm and cold spouting, rain, and local douches in the baths. Carbonic acid thermal baths, brine baths.

Recently established medico-mechanic Zander-institute for Swedish gymnastics (71 different appliances). Electrothermal treatment (hot-air treatment).

Most modern appliances for electro-therapeutics. Treatment with galvanic, faradic, and static electricity. Both institutes are situated in the centre of the cure establishments, and are under the medical supervision of Dr. F. Bally.

New establishment for hydropathy and for the application of common water. Cold and changing douches (Scotch-douches), demi-baths &c.

Scientific massage (system of Metzger). The bath-cure is aided by goats' whey brought daily from the Alps, by excellent cows' and goats' milk, kephir, strawberries from May to September, and in autumn sweat grapes of the vicinity. All the known mineral-waters on sale.

Indications: The thermal waters of Pfäfers have been applied for centuries with great success especially for the following diseases:

a) Almost all kinds of nervous diseases, such as general irritability of the nerves, neurasthenia, hysteria, cerebral and spinal paralysis after the stage of inflammatory reaction, spinal irritation, tabes, spinal congestion, peripheral palsies, various forms of neuralgia.

b) Diseases of the locomotor organs, such as chronic muscular and articular rheumatism, arthritis nodosa, gout, stiffness of the joints, muscular contractions, scars.

c) Skin-diseases: disorders of cutaneous excretions (seborrhoea, acne, comedones &c.) pachydermia (ichthyosis), chronic urticaria, prurigo.

d) Diseases of the digestive organs, such as gastrodynia (nervous cardialgia), chronic gastric ulcer, nervous dyspepsia, chronic intestinal catarrh and diarrhoea, enteralgia &c.

e) Diseases of the genito-urinary organs, such as vesical catarrh with predominating irritative symptoms, irritative conditions of the urethra.

f) Menstrual disorders: amenorrhoea and dysmenorrhoea; some forms of chronic metritis and endometritis; many disorders of the climacteric period, chronic parametritis, perimetritis, and pelveo-peritonitis (in combination with massage.)

g) Constitutional and general affections, such as the erethic form of scrofula, chronic mercurialism, palsy due to lead-intoxication, general weakness during convalescence after severe diseases, senility; for a cure after a stay at other health-resorts in uric-acid diathesis and diabetes, especially after a cure at Carlsbad and Marienbad.

h) Diseases of the respiratory and circulatory organs, such as laryngeal and bronchial catarrh with dryness and severe irritability, but without fever. Not too severe cardiac lesions after articular rheumatism &c.; nervous palpitation of the heart.

Ragaz is specially suitable as a station after a cure at Carlsbad, Marienbad, Franzensbad, Vichy, Tarasp.

Physicians: Resident physicians Dr. Staehelin-Burkhardt, Dr. Jaeger, Dr. Haslebacher, Dr. Dormann.

Hotels, Boarding-Houses and Pensions: a) Bathing and cure establishments, situated on the right bank of the Tamina, overtopped by the ruin of Wartenstein, grey with age. Fine and large parks extending up-hill into pine-needle and beech-forests, toward the Rhine into meadows abundantly planted with fruit trees, and embracing the magnificent buildings of the cure establishments. These consist of the two large hotels "Quellenhof" and "Hof Ragaz", with a number of country houses (family-houses), of the annexed bathing establishments: Neubad, Mühlebad, Helenabad and Schwimmbad, the drinking-hall, of a proper building for the medico-mechanic Zander-institute and hydropathy, and finally of the building of the Kursaal with its magnificent colonnade. Several pavilions scattered in the parks, serve as beautiful magazines. Both the above mentioned hotels answer all the demands of a first class hotel. They are in direct communication with the above mentioned bathing establishments, the appliances of which also comply with the most various desires.

b) Hotels and Pensions in the village of Ragaz. On the left bank of the Tamina are the following hotels and boarding-houses: Hotel Tamina, Hotel Schweizerhof, Hotel Krone, Hotel Lattman, Hotel Metropol, Hotel National, Hotel St. Gallerhof, Villa Flora, Hotel Rosengarten, Hotel Ochsen, Hotel Löwen, Hotel Sternen, Hotel Central, Hotel Bristol, and also furnished apartments in the houses: Post, Home Villa, G. Bislin, O. Lehmann, Bellevue, Neuhof, Villa Alpenrose, Straffel, Kaltenbacher, Sänderlauf. Furthermore hotel and pension Wartenstein (2800 above sea level), in communication with the Kurort Ragaz by a funicular railway (10 minutes' ride); fine panorama.

Kurtaxe and Prices of Baths: The Kurtaxe amounts to 50 cts. per day.

Prices of baths: Neubad (duration of bath in tubs and in swimming-tank not exceeding three quarters of an hour including time for dressing) 2.50 frs. per bath; Helenabad 2—2.50 frs., Mühlbad 2 frs., Dorfbad 2 frs., Holzbad 1 fr., Swimming-bath in the forenoon 2 frs., in the afternoon 1 fr. per person. Bathing-clothes 20 cts. per bath. A complete bathing-dress $\frac{1}{2}$ fr. per bath, bathing drawers 20 cts. per bath. Bathing-tickets are sold in the central-bureau of Hof Ragaz.

Entertainments: Music, dancing, lawn tennis, playing at nine-pins, croquet, golf, fishing, excursions, concerts by artists.

Stations for Tourists: Interesting excursions to the mountains, Bad Pfäfers (2390 feet above sea level) and Quellenschlucht, Wartenstein, Dorf Pfäfers (2877 feet above sea level), Tabor (2950 feet above sea level), Calfeuser and Weisstannental, Calenda (9800 feet above sea level), Pitz Aiun (5180 feet above sea level), Dorf Valens (2800 feet above sea level), Dorf Vaettis (3328 feet above sea level), Monte Luna (8456 feet above sea level), Falknis (8980 feet above sea level), Gonzen (6490 feet above sea level), Staetzerhorn (9016 feet above sea level), Fesaplana (10380 feet above sea level), Graue Hörner (8960 feet above sea level), Alvier (8270 feet above sea level), Speer (6877 feet above sea level) and Säntis (8764 feet above sea level).

Excursions by Car and Railway: Bad Pfäfers (Quellenschlucht), Luziensteig, Dorf Pfäfers, Rayol, Vättis, Valens, Weisstannen, Seewis, Coire, Davos, Schynpass, Viamala, Engadine, Flims, Rotenbrunnen, Fröhbach, Wartau, Wallensee, Obstalden, Murg, Weesen, Zürichsee, Glarus, Klönthal, St. Gall, Feldkirch &c.

Divine Services: Roman-Catholic: Village-church and Quellenhof-chapel; Protestant: German and French in the Protestant parish church; English in the English church.

Means of Communication: Railway, post-office, telegraph, telephone; one-, two-, three- and four-horse carriages to the health resorts of Canton Grisons.

Literature: Details about the history, topography, the climate, medical effect &c. are to be found in Dr. J. E. Kaiser, *Die Therme von Ragaz-Pfäfers*. 5th edition St. Gallen 1869; Dr. A. Schädler, *Ragaz-Pfäfers, the curative effects of its thermal waters*, St. Gallen 1886 — Jwan Tschudi, *Ragaz-Pfäfers and the united Swiss railways*. — F. Kaiser, *Zur Erinnerung, Gedichte* (Poetry), Ragaz 1876. — F. Kaiser, *Ragaz-Pfäfers und ihr Excursionsgebiet*. Ragaz 1880. — *Ragaz-Pfäfers 1894*, published by Preuss, Zürich. — Dr. F. Bally, *Die medico-mechanische schwedische Heilgymnastik und das Zander-Institut in Ragaz*. Basel 1894. — *Naturkundliche Forderungen im Gebiete des St. Galler Oberlandes, Badbezirk Ragaz-Pfäfers*. Vortrag von F. Kaiser, Reallehrer-St. Gallen 1894.

Further information, prospectus, descriptions and bath-literature on application to the "*Bade- und Kurverwaltung Ragaz-Pfäfers*" and "*Kur- und Verkehrsverein Ragaz*".

Rapallo near Genoa.

Riviera di Levante.

Rapallo is situated at the eastern Riviera, about 28 km south to Genoa, in a picturesque site, at the end of the Gulf of Tigullio.

Climate: Rapallo belongs to the stations having a medium moist-warm coast climate. The temperature during the year is pretty equable, owing to the standing of the place on the coast of the Mediterranean.

The Ligurian Apennine offers good protection against the rough and cold north-winds sweeping over the shore but doing no harm, as they only hit the sea.

The bottom of the valley in which the town is situated, is sheltered on west by the cape of Portofino, on north and east by the mountain-crest of the Ligurian Apennine, it is widely open in the south and south-east towards the sea so that the warm Italian sun gains everywhere free access to it.

This mountain-chain is interrupted by two valleys in the north and east. Both these valleys are the natural ventilators of the place, bringing about a permanent change of air, and preventing the development of a moist-warm hot-house air. By virtue of this latter circumstance particularly Rapallo is distinguished considerably from many other health resorts of the Riviera; the climate does not weaken, it is rather stimulating and invigorating, and from this reason special indications are indispensable.

According to the registration of meteorological stations of the Pharmacia anglaise the following mean temperatures of winter-months have been found:

November 12,2° C (53,5° F)	December 8,8° C (49° F)	January 8,1° C (46,5° F)
February 8,9° C (48,1° F)	March 10,3° C (50° F)	April 14,4° C (57,5° F)

Thus the average temperature of winter-months is 10,45° C = 50,2° F. With this relatively high temperature even in the winter, a long stay in the open air is possible, and all the conditions are favourable for an open-air resting-cure.

The most frequent winds are south and south-east winds. North and north-east winds are rare and little noticed on account of the protected site of the place.

The relative moisture of the atmosphere is not as high at Rapallo as should be expected from the neighbourhood of the ocean. It amounts to 60 per cent. in the average, and is at places near the sea level greater than at higher situated spots. Regarding the rain-fall there are about 25 bright days in the average, 3 changeable and 2 rainy days. The thin and constant rain of Middle and Northern Europe is unknown here, but instead there occur some few heavy showers. The amount of rain is 3,85 feet.

Fog is never observed at Rapallo.

The duration of sun shine is very long at Rapallo, as the place is situated for the greatest part on the south-east coast.

Owing to its situation at the ocean, and to the absence of any industrial establishment, the air at Rapallo is clean, with but little dust, all the streets being paved. Argillaceous slate forms less dust than the clay-soil of the Riviera di Ponente. But besides any dust formed is kept down by dew and by the abundant vegetation.

An important advantage of Rapallo is the variety of promenades in the charming surroundings. There is scarcely a region that offers a variety of promenades similar to that on the coast of the Gulf of Tigullio. One may wander through the country for months, but again and again one will be surprised by a new road, a new vista of the blue Mediterranean, the steep and rough rocks, and the hills of Liguria covered with a swelling green.

The climatic factors of Rapallo may be summarized here briefly as follows:

1. Relatively warm temperature with sufficient change of air.
2. Moderate moisture, purity of air, and relatively little dust.
3. Absence of fog.
4. Strong insolation.
5. Opportunity for promenades.

Curative means: Sea-baths in the ocean, temperature never below 59° F. Warm sea-baths, carbonic acid sea-baths, alternating-current baths, hot air-baths, gymnastics, vibration-massage with inhalation. Salt content of sea-water about 4 per thousand, milk, whey and kephir, mineral-waters. Opportunity for air-and sun-baths, roads fitted for Oertel-cures. Furthermore, all methods of physical therapy can be applied, as well-trained masseurs (male and female) are present.

There are well-equipped apothecaries in the town.

Indications: Diseases of the circulatory organs (chronic myocarditis, adipous heart, cardiac neurosis, Grave's disease, valvular lesions, and arteriosclerosis), nervous diseases (tabes and neurasthenia), diseases of the respiratory organs (chronic catarrhs of the upper air-passages and bronchi, apical catarrhs, infiltrations, pleurisy, bronchial asthma, kidney diseases (interstitial nephritis), anaemia and convalescence. Consumptives are not admitted in hotels and pensions.

Resident physicians: German: Dr. Brunk, Dr. Schmincke (in the summer at Bad Elster). English: Dr. Winslow; Italian: Queirolo, Marengo, Piaggio, Sturla.

Apothecaries: Tonolli, Gbighizola, Voigt, Dr. Baeigalupo.

Lodging and boarding: The hotels and pensions are either located at the ocean or in fine gardens near the neighbouring declivities of hills. Thus there is everywhere offered open access to air and light. All the houses have central-heating, electric light and W.C's.

The prices of pension are within reasonable limits, 7 to 15 frcs. daily for full pension and board, according to location and size of room. Boarding is good, consisting in general of breakfast, lunch at 12 o'clock, and dinner at 7. p. m.

Entertainments: Music in the city-park, and concerts in the hall of the Kurhaus, playing-room, balls, lawn-tennis grounds, flower-corso. Excursions on boat to Zoagli, Chiavari, Santa Margherita, Portofino, San Fruttuoso. By car or by foot to Ruta, Montallegro.

Divine Services: Roman Catholic, German-Protestant, and Anglican (English Church).

News-paper: "Rapallo Revue" founded in 1901 (list of arrivals). In the Kursaal-Kasino many English, German, and French papers are on file.

Means of communication: Rapallo is a station of the line Genoa—Pisa—Rome, and is in direct communication with Genoa, Milan, Basle, Munich, Berlin, and Rome. All express and D-trains are stopping here. The railway-station is near the city, and cars and omnibusses of the hotel are always at disposal. Post-office, telegraph and telephone. Daily steamers from and to Genoa with luggage-delivery.

For travellers coming from the western part of Germany are best available the lines Basle—Milan—Genoa, for those coming from Eastern-Germany and Bavaria the line Munich—Milan. From Berlin to Rapallo it takes about 30 hours. From January 1st daily express-trains run between Berlin and Genoa.

Information by the travellers' office

Comitato Rapaltese dell' Associazione del Movimento dei Forestieri in Italia.

Reinerz, Prussian province of Silesia, about 1800 feet above sea level. Alkali-saline ferruginous waters. Climate very vigorating.

Rigi-Scheidegg near Lucerne.

Climatic Station, Dietetic and Cold-water Cures
(5445 feet above sea level).

This large establishment stands on the eastern plateau of the Rigi in an entirely free and sunny position amidst wonderful Alpine scenery, 175 feet above the highest station of the railway: Vitznau—Kaltbad—Scheidegg. (Lucerne—Rigi—Scheidegg 2 $\frac{1}{2}$ hours). The hotel can be reached from the station within a few minutes (Carriage at the station).



Owing to its being situated outside the range of the rush and noise of the Tourist traffic, Rigi—Scheidegg is the quietest of the larger Rigi Resorts, and is therefore especially suitable for all those requiring real Rest. Rigi—Scheidegg is especially distinguished by its stimulating air, entirely free from dust, and by its high degree of insolation.

Well-kept promenades lead to the neighbouring woodlands and sheltered resting-places. Longer excursions may be made by the various Rigi-railways.



The spacious Hotel and Kurhaus has 150 rooms (200 beds), a large number of which are supplied with steam-heating or porcelain-stoves. More than a third of the rooms have large balconies. Electric light all over the house. The ground floor contains many most comfortable halls, large dining-rooms, restaurant, mu-ic-room, reading-room (newspapers and library), ladies' drawing-room, smoking- and billiard-room, and also play-room for children; all these rooms are heated when necessary.

The sanitary appliances and drainage are arranged according to the most modern hygienic principles. The excellent springs yield the best drinking-water. Laundry in the house. Hair-dresser in the house. Post-office, Telegraph and Telephone.

Indications: 1. Anaemia and chlorosis, as well as the sequelae of these. 2. The various forms of neurasthenia (irritable weakness of the nervous system). Rest- and feeding-cure (Weir-Mitchell cure). 3. Diseases of the digestive organs. (Chronic gastro-intestinal catarrh, gastric ulcer, nervous dyspepsia and disorders of secretion etc.). Special dietetic cooking under the supervision of the physician. 4. Metabolic diseases. Special diet for diabetics. 5. For persons needing rest and recreation after febrile diseases, for people having a predisposition for Malaria, and for Europeans living in hot climates and visiting Switzerland for a summer change. Rigi-Scheidegg is one of the most suitable stations warranting restoration of health and vigour.

Physician: Dr. R. Vogel-Sarasin, during winter at Basle.

Special care is devoted to the dietetic cooking, and also to the individual diet ordered on medical advice. The application of cold-water is facilitated by hydrotherapeutic appliances under the supervision of the physician and the service of trained nurses (masseur and masseuse).

Further information as to rooms and prices, also prospectus and map are sent at any time by the

Director of the Hotel Rigi-Scheidegg near Lucerne.

Scheveningen, Holland, situated near the Hague. Very well-frequented sea-bathing station; very fine sands, strong turf. Climate is bracing.

Spa, Belgium, near the German frontier: 9 hours from Paris; Ferruginous and acidulous waters; air bracing and healthy.

Solbad Rheinfelden (Brine-Bath) Switzerland.

Railway-Line Calais-Basle-Rheinfelden.

Through-Tickets Paris-Rheinfelden.

Rheinfelden, 980 feet above sea level, a small town of 3700 inhabitants, is situated at the northern border of Switzerland, on the left bank of the majestic Rhine. The immediate surroundings of this place are formed by rich meadows and large forests, and gently rising hills encircle the lovely scenery.

Rheinfelden is getting more and more known as a transitional station for those coming from the mountains.

Curative Factors: Brine-baths, carbonic-acid brine-baths (Nauheim cure), hydrotherapy. Baths in the Rhine. Baths of pine-needle extract. Massage and Swedish gymnastics. Electric-light baths.

As the following comparative table shows, Rheinfelden assumes the foremost rank as regards its rich content of salt.

	Solid Constituents	Chloride of sodium
Rheinfelden	308,8 gr	302,4 gr
Biarritz	307,0 "	295,1 "
Besançon	298,0 "	283,6 "
Suhl	264,5 "	248,8 "
Dürrheim	262,5 "	255,4 "
Salines de Bearn	257,9 "	229,2 "
Bex	170,2 "	156,6 "
Nauheim	35,3 "	29,3 "
Salins (Jura)	26,0 "	22,7 "
Kreuznach	17,6 "	14,1 "

The brine and carbonic acid baths of Rheinfelden are indicated in convalescence, anaemia, chlorosis, lymphatic conditions, scrofula, rickets, and osteomalacia; diseases of women, affections of the bones and joints, diseases of the nervous system, cardiac diseases (Nauheim cure), chronic exsudates. Chronic catarrhs of the nose, pharynx and larynx. Dry eczema.

Physicians: Dr. Grawehr, Dr. Herzer, Dr. Keller, Dr. Kern, Dr. Müller, Dr. Welti. Music, lawn-tennis, hunting, and fishing.

Hotels: Grand Hôtel des Salines in the park (family apartments with brine-baths, single rooms with brine-baths), price of pension from 10,50 Frs.

Hotel Dietschy near the Rhine; price of pension from 7 Frs.

Hotel Schützen; price of pension from 6,50 Frs.

Any further information and prospectus free of charge by the above mentioned Hotels.

Bad Salzbrunn in Silesia.

Bad Salzbrunn, station of the Breslau—Nieder-Salzbrunn—Halbstadt Railway, is situated at the foot of the "Hochwald" (2975 feet above sea level) in a protected valley of the Waldenburg mountains, a massive intruding between the Riesengebirge and the mountain-district of Glatz. Running-time: London—Berlin 20 hours, Berlin—Bad Salzbrunn 6 hours.

The climate is mild and, at the same time, a stimulating alpine climate; 1407—1465 feet above the level of the sea. More than 346 acres of park-grounds with more than 24 km. of promenades, besides the "Hochwald" with its forests comprising 1482 acres.

Natural **Curative factors** are the mineral springs, cold alkaline acidulous waters, furthermore the alpine site, the fine promenades and parks.

The "Oberbrunnen", known among physicians since 1601, the "Kronenquelle" and the "Mühlbrunnen" are used for drinking cures, the "Luisenquelle" for bathing purposes. The "Marthaquelle" is an excellent dietetic table-water.

Comparative Table of the most important constituents of

	Oberbrunnen	Kronenquelle	Mühlbrunnen
1. Bicarbonate of Sodium	2,413	0,8762	1,810
2. Bicarbonate of Lime	0,4928	0,7091	0,564
3. Bicarbonate of Magnesia	0,5403	0,4045	0,577
4. Free Carbonic Acid	1,877	1,570	1,400

Of modern cure establishments are to be mentioned: 1. Two common inhalatoria, (systems of Heyer, Wasmuth and Reif) and appliances for single inhalations (improved system of Jahr); 2. Pneumatic single apparatus (system of Goebel-Ems), pneumatic chamber (Reichenhall system), and an apparatus for oxygen inhalation according to Dr. Brat; 3. Two gargling-halls, one of them with single chambers; 4. Bathing-establishment in Felsenhof for simple and compound baths and individual procedures of hydropathy; 5. the New bathing establishment for tub-baths of any kind, electric two- and four-cell baths, two departments for all kinds of hydropathic measures, electric-light baths and radiations, massage, Fango- and radiogen- mud packings; 6. Medico-mechanic Zander-institute; 7. Establishment for milk- and whey-cure; 8. Light- and air-bath; 9. Chemical-bacteriologic bath-laboratory.

Salzbrunn is of therapeutic value in acute and chronic catarrhs of the larynx, the nose and the pharynx, of the air-pipe and the lungs, in emphysema and asthma, in diseases of the digestive organs, in affections of the kidney and the bladder, in gout and diabetes, as well as after influenza.

The health resort has high pressure spring-water supply, canalisation, electric light and incandescent gas-light on the streets.

Season from May 1st to September 30th.

There is a sufficient number of apartments answering all demands of a modest or refined comfort. The price for lodging is according to the situation, the furnishing and the time of the season from 7—70 Mks. per week. Full pension from 3 Mks. daily.

The Grand Hotel established 1910, a splendid building of the Adam-style, most comfortably furnished, with verandas and gardens, has rooms for representation, for society, and restaurants, besides 130 rooms with 200 beds. There are also a number of other hotels, pensions, and more than 170 lodging houses.

Entertainments and Society-Life: Good music-band of 36 men, symphony-concerts and soirées of leading artists; artistic concerts, permanent theatre, social clubs and dancing-parties. Five-o'clock tea in the Grand Hotel; the unique and world-renowned illuminations of the park; reading rooms and libraries. For sporting purposes 5 tennis-links, great tennis matches, shooting-stand for pistol and rifle; riding-school. For communication and excursions into the charming surroundings good cars, automobiles (also auto-buss), and electric street-cars of the district of Waldenburg are at disposal, the latter leading to the immediate neighbourhood of the mountains.

Address for ordering Ober- and Mühlbrunn: "Versand des Oberbrunnens, Bad Salzbrunn in Silesia"; for Kronen- and Marthaque "Administration der Kronenquelle, Bad Salzbrunn in Silesia."

Literature, prospectus, other printed matters, and information of any kind by the *Fürstliche Brunnen- und Badedirektion in Bad Salzbrunn in Silesia.*

Bad Salzbrunn in Silesia

Owned by His Highness Prince von Pless.

I. Kronenquelle

(Alkaline Acidulous Spring.)

Hygiene-Exhibition Dresde 1911: Grand Prix.

On account of its relatively high content of lithium and its favourable composition, the Kronenquelle is indicated in renal and vesical diseases, urinary gravel and calculous affections, in the various forms of gout, diathesis, as well as articular rheumatism. Furthermore, in catarrhal affections of the larynx, the lungs, and in gastric and intestinal catarrhs.

Many patients cannot afford travelling to a distant health resort. For the treatment of such patients, physicians will, therefore, greatly welcome natural mineral waters, which not suffering alterations of their constituents and properties by a long transport, are therefore most suitable for cures far from the spring. Such a rational mineral water is the Kronenquelle, offering the advantage of being applied at any place and any time of the year at home.

As to the great stability of this mineral-water Prof. Poleck says in his complete analysis published in autumn 1882: "The mineral-water of the Kronenquelle stands without any impairment of its effect a long preservation in glass-bottles, in which it is also exported. Water kept in my cellar for almost one and a half years, has remained entirely colourless and free from odour, and preserved the pure taste particular to the

Kronenquelle. Of its ingredients only the small amount of bicarbonate of iron had changed by oxidation into hydrated oxide of iron; for the rest, it had remained unaltered".

According to the analysis of Prof. Poleck the water of the Kronenquelle contains per 1 liter 2.3305 gr. solids-viz.,

Chloride of Sodium	0.05899 gr.	Bicarbonate of Strontium	0.00280 gr.
Sulphate of Sodium	0.18010 "	Bicarbonate of Magnesium	0.00181 "
Sulphate of Potassium	0.04086 "	Bicarbonate of Iron	0.00913 "
Bicarbonate of Sodium	0.87284 "	Phosphate of Aluminium	0.00036 "
Bicarbonate of Lithium	0.01140 "	Alumina	0.00047 "
Bicarbonate of Calcium	0.71264 "	Silicic acid	0.03460 "
Bicarbonate of Magnesium	0.40477 "		

In imponderable amounts: bromine, iodine, boric acid, barium, and nickel. The amount of free carbonic acid is 1.5663 gr.

Form and appearance of the bottles: Claret wine bottles with blue labels and white metal capsules; corks branded "Kronenquelle Salzbrunn".

Sole consignees for the United Kingdom: Schacht, Warner & Co. 55 Fore Street, London E. C. (Near Moorgate Street Stations.)

Telegrams: "Schacht, London". Telephone: 48 London Wall.

II. Marthaquelle

The Marthaquelle, somewhat weaker than Kronenquelle, has a delicious taste, and is in high repute as a table-water. It is especially suitable for mixing with wine and fruit juices.

Geheimer Medizinalrath Prof. Dr. Erich Harnack, director of the Pharmacological Institute of the university of Halle, says at the end of his elaborate expert analysis of Marthaquelle: "Taking all in all, the new **Martha Spring** can without partiality or exaggeration boast of exceptional advantages. As the purest undisturbed product of Nature, it must be placed in the first rank of similar waters, and will soon win for itself, without doubt, universal popularity, not as a medicinal spring, but as a healthy, refreshing daily drink for the healthy and invalid alike. It can also be most warmly recommended in our colonies, where the greatest abstemiousness is enjoined as regards alcoholic liquors".

Sole Agents: Ingram & Royle Ltd, Bangor wharf, 45 Belvedere Road, London S. E., and at Liverpool and Bristol.

Brine-Bath and Inhalatorium Salzungen (Thuringia)

situated in the finest part of the Werra-Valley, at the line Eisenach—Meiningen, 917 feet above sea level. Mountain-spring water-supply, canalization. Electric light. Mild alpine climate, protected against rough winds from the north and north-east.

Number of visitors: 4849 in 1911 (excluding travellers). Season: beginning of May to beginning of October. Abundance of brine very rich in iron, salt-content from 5—27 per cent. (saturated).

Curative factors: Brine baths with any medically prescribed salt-content, as well as addition of mother-lye rich in iodine or bromide; brine pine-needle baths, brine mud-baths, carbonic acid baths; natural vaporisation of 27 per cent. brine at the thorn-walls of the graduation houses particularly built for cure purposes. Large inhalatoria with modern equipment for common and single inhalations, systems Wassmuth, Heyer, Körting, Schmitzler etc. Pneumatic chambers and apparatus. Drinking-cure at Bernhardsquelle containing, in addition to chlorides, principally magnesium bromide, potassium sulphate and calcium carbonate.

Indications: Scrofula, rickets, anaemia, gout, rheumatism, heart-diseases, inveterate exsudates, and most of the diseases of women. Furthermore, chronic catarrhs of the respiratory apparatus as well as affections of the lung-tissue itself, such as catarrhal pneumonia, infiltration of the lung, emphysema, and the incipient stages of phthisis, affections of the naso-pharynx and the auditory organs.

Prices: Baths: 1 brine-bath including bathing-clothes 1.25 Mk.; inhalations: from 25 Pfennig to 1 Mk.; Kurtaxe: 10 Mks.; 2 Persons 15 Mks.; a family of 3 and more persons 20 Mks.

Physicians: Dr. Fischer, Dr. Thaler, Dr. Wagner, Dr. Wegener, Ducal physician.

Hotels and boarding-houses in great number and variety. Especially recommendable is the Kurhaus with its villas standing in the large shadowy Kurpark; recently provided with balconies and verandas with view upon the lake and surroundings. Private apartments, rooms from 6 Mks. upwards per week.

Amusements: Concerts, theatre, reading-room, dancing-parties, gondoling, illuminations, children's entertainments, forest-parties, fishing, excursions into the Thuringian forest and the Rhön-Mountains. Very pleasant social life. Forest close by.

Detailed information and prospectus sent free of charge on application to the
Badedirektion.

San Remo

Grand Hotel Bellevue and Kurhaus.

Winterstation for Recreation and Internal Diseases.

Situation and climate of the health resort: San Remo, the pearl of Liguria, is situated between the green and black cape at a bay of the Mediterranean, open toward the south. The new part of the town surrounded by exuberant green, extends along the strand, whilst the old part of the town rises aloft further inland on a hill. From both the capes steep mountain-crests run towards the north uniting with the Ligurian Alps. These mountain-crests reaching their greatest altitude (4550 feet) in Monte Bignone, surround the bay like a wall protecting it entirely against rough winds.

The climate of San Remo is mild, equable, dry, and stimulating on account of the protection against north-east and north-west winds, on account of the situation at the ocean and the intensive insolation as well as of the great capacity of the soil of absorbing moisture, and of the considerable slope toward the strand. The vegetation of San Remo is almost to be called tropical. A dense olive-forest covers the hills for miles towards the north. There are lemon- and orange-groves in the deep valleys of the mountain-brooks; date-palms, agaves and cactus-plants. During the whole winter, roses with sweet perfume and carnations enrapture the eyes. This renders San Remo especially suitable for a longer stay in the winter, particularly on account of the stimulating, never relaxing air. The excellent effect of this climate is well known, and it has been emphasized for good reasons that a senile organism does actually grow juvenile in this climate. As the neighbouring Bordighera, San Remo too may be called, as Mantegazza says "the paradise of the aged".



Grand Hotel Bellevue and Kurhaus San Remo is situated on a small hill upon a ground with good hygienic qualities, at the eastern bay close to the Villa Zirio which has become historical by Emperor Frederic III. In summer 1912, the hotel was amplified by larger buildings, and was made an establishment unique for the whole Riviera. The purpose of this establishment is to make the very favourable climatic advantages

accessible also to such persons needing recreation and to such patients that do not want to dispense with the comfort of a first-class hotel, but on the other hand wish to take advantage of the facilities of a medically directed institute. The Grand Hotel Bellevue has, as a whole, preserved its original feature, as merely new furnishing of parlours and of a number of guest-chambers has been provided for. Furthermore, double doors have been supplied everywhere, in order to have every room as quiet as possible. The number of beds in Hotel Bellevue amounts to 125.

For cure purposes in general the Kurhaus was built, situated on a large garden-terrace in a lofty location between the Hotel and Villa Zirio, with an open panorama. The house was built according to the most modern hygienic principles of house-building. In its four stories are only apartments and boarding-rooms, apartments with parlours and baths. The entire house is fire-proof (fire-proof construction). Number of beds 75.

All of the boarding rooms are facing the south and have loggias for out of door cure. Noise is absolutely excluded by double doors, double roofs and walls. There are no dining rooms in the Kurhaus; meals may, however, be provided for in the Kurhaus and taken in the rooms. There is of course in both houses warm-water heating, electric light, and lift. A roofed and easily heated colonnade leads from the Kurhaus to the hydrotherapeutic institute, and further on to the first floor of Hotel Bellevue. The establishments are also connected with one another by a servants' passage in the basement, by which the management of the house is entirely separate. Above the hotel is the medical institute (hydrotherapeutics) with the most modern equipment. There are all possible appliances for an exact diagnosis of diseases, for example a modern richly supplied X-ray laboratory, a radium-inhalatorium, all the provisions for medicinal baths, massage, gymnastics and electric treatment, four-cell baths. The rooms for medical treatment are in direct communication with the boarding-rooms for the patients. Dietetic cures and, above all, special dietetic cooking are provided for with particular care.

Indications: The station is recommended for all internal diseases, excluding consumption and mental disorders. Particular indication is given for diseases requiring an exact clinical and dietetic treatment; for patients needing rest, for nervous and cardiac affections, disorders of metabolism, for gastro-intestinal diseases.

The leading **physicians** are Dr. Bröking and Dr. Allendorf, in the summer in "Hotel and Kurhaus St. Blasien in Baden" (Black-Forest). — Swedish gymnastics: Caspar André from Swede, in the summer "Hotel and Kurhaus St. Blasien". Best season from end of November to middle of May. Stay during autumn and spring especially recommended.

Entertainments: No other place of the Riviera offers such an abundance of beautiful promenades and excursions along the strand and to the mountains as San Remo does. International sporting-club: tennis, croquet, hockey, golf-links, quiet harbour for yachts, fashionable social life, flower-corso, regatta. Carnival, concours hippiques &c. Steamers as well as special trains to Monte-Carlo and Nizza. New fine classical Casino with splendid theatre.

Schlungenbad.

The Nassovian natural mineral-water bath in the administrative district of Wiesbaden, situated at the southern declivity of the Taunus, in a beautiful valley, is of an old repute as regards the curative effect of its thermal waters. It owes its character of an excellent forest-station to its situation amidst the forest, to the pure and invigorating air, and to the refreshing climate as well as to the broad and shadowy forest-promenades free from dust.

In the well-kept gardens are situated the seven Royal cure-establishments including three bathing-establishments, dining rooms, parlours, and boarding-rooms, furthermore numerous hotels and private houses at disposal for visitors, the springs and a colonnade. The hygienic conditions of the place answer the most modern requirements (water-supply, rinsing-canalization and removal of sweepings.)

Indications: Schlungenbad is of a particular repute as a sedative for the nerves, and is indicated in chronic diseases of women, in skin-diseases, and disorders of metabolism.

Curative-factors: The new thermal springs belong to the tepid natural thermal waters with a temperature of 28—31° C (82,4°—87,8° F). They are used for baths, in their natural temperature or heated. The effect of the baths is, in a most excellent way, supported by the drinking-cure. For the latter purpose the Schlungenquelle and the

Marienquelle are used. According to Fresenius (1878) the thermal water contains per liter 0.4 solids, among which are 0.270 sodium chloride; 23 free carbonic acid; 10.9 nitrogen; 3.19 cc. oxygen. There is also opportunity for milk- and Oertel-cures, for applying hydrotherapeutics, electrotherapy (baths, electric massage), electromagnetic therapy and massage.

Boarding: In the Royal Cure-houses are apartments at any price, likewise in the numerous private pensions and hotels.

Physicians: Dr. Hannappel, Dr. Müller de la Fuente.

Administrative boards: Mayorship, Royal Bath-Administration, during the season: Royal Cure- and Police-Administration.

Kurtaxe: 3 Mks. per week, up to the maximum fee of 12 Mks. Children from 5—15 years a third of this fee. Children below 5 years and servants free.

Special allowances: Physicians and their not independent relatives are free of any charge and have the baths free too. Petitions of others in this respect are to be sent to the Royal Bath-Administration (Königliche Bade-Verwaltung) three weeks before the beginning of the cure, and not later than August 10th. The certificate of a physician and an official statement of the annual income, must be enclosed.

Divine services: Roman-Catholic and Protestant church at the place. During the season also English service.

Communications: Post-office, telegraph and telephone. Branch-line from Eltville (station of the line Francfort-Cologne) to Schlangenbad.

Prospectus delivered free of charge by the "Königliche Badeverwaltung" and the "Verkehrsverein".

Export of mineral water in flasks by the "Königliche Badeverwaltung".

Schinznach-les-Bains

formerly called Hapsburg-les-Bains, Switzerland. Railway Station.

Famous Hot Sulphur Springs for gout and gouty disorders, rheumatism and skin diseases. Schinznach-les-Bains lies 1150 feet above sea level, in the lovely valley of the Aare, at the foot of the Wülpelsberg, on which stands the castle of Hapsburg. This valley and the neighbourhood of Schinznach-les-Bains, with its hills and mountains, wooded to



the tops, its many castles and ruins, picturesque villages and towns, may be truly considered the finest part of the "lovely Aargau", which reminds English people of the beautiful scenery of Scotland.

The supply of the sulphur springs is amounting to half a million gallons a day. The temperature is 95 degrees F. and heavily impregnated with sulphuretted hydrogen. The results of an analysis of one litre of water drawn from the twelve principal sulphur

springs of Europe (including Great Britain) showing the quantity of sulphuretted hydrogen that each contains, prove that the hot sulphur springs at Schinznach-les-Bains contain a heavier charge of sulphuretted hydrogen than any of the other celebrated sulphur springs (Gases in cubic centimetres per litre: Sulphuretted hydrogen 55, Carbon dioxide 111). The sulphur baths and douches are given in all forms, and the methods of treatment are the same as at all the great hydropathic establishments, but in certain details the Schinznach system has characteristics which make it unique. For instance, the pulverisation treatment has been more extensively employed than elsewhere, as a complexion restorer. As a spray of atomised water it reaches the patient, in the form of sulphur milk, having been converted into water and pure metallic sulphur *in statu nascendi*, owing to the oxidation of the sulphuretted hydrogen. It is in this way that the sulphur milk has been administered so successfully, both as an inhalation for catarrh, and as a spray for the rejuvenation of the skin. The massage treatment, which is carried out by fully qualified men and women, is equally successful in cases of rheumatism and for the removal of superfluous fat. Disorders in which the waters are also very beneficial are: diseases of the bones and joints. — Hot Sulphur. Mud application.

For illustrated pamphlets apply to the management.

Salsomaggiore (Italy) situated in a shallow valley at the foot of the Apennines, 20 miles from Parma, 5 miles from Borgo San Donnino, on the main line between Milan and Bologna; surrounded by vine-clad hills.

Sirmione on the Garda Lake, Italy.

The hot sulphurated spring originating in the centre of the lake, near the eastern bank of the beautiful and world-renowned peninsula of Sirmione, is owned by the Italian government. It yields about 500 liter per minute. Some years ago this spring was curbed and conducted on land in order to apply it in the newly built sanatorium open since 1897. The therapeutic results were so remarkable that the number of visitors has rapidly increased, and the bathing establishments as well as the adjoined hotel had to be amplified considerably.

The season is from March 1st to December 15th. The constant and extremely mild climate, however, allows bathing cures all the year round.

Curative Factors: The spring contains, according to the analyse made in the chemical laboratory of the Italian Home Office, per liter: sodium chloride 1,52 grams, potassium chloride 0,13 grams, magnesium chloride 0,06, calcium chloride 0,16, calcium sulphate 0,28, sulphate of magnesia 0,02, calcium carbonate 0,23, magnesia 0,01, lithium chloride, lithium, sodium bromide (0,004), iodide of sodium, silicic acid etc. in small amounts, altogether 2,48 gr of solid constituents; in addition free and half-free carbonic-acid 77,7 cc; sulphuretted hydrogen 11,0 cc; nitrogen 103,2 cc. The spring has also a strong content of radium. Thus the composition of the spring is uncommonly manifold, allowing the most various therapeutic applications. The temperature is constantly 65° C (149° F.), at the point of origine. The water is used for baths as well as for drinking cures and inhalations. The new water-system furnishes a greater supply of water.

Indications: Rheumatic and gouty affections, skin diseases, disorders of metabolism involving the digestive organs and the urinary apparatus, nervous diseases, diseases of women, sequelae of traumatism and osteal affections, some forms of chronic pharyngeal and bronchial catarrh.

Contra-indications: All forms of advanced tuberculosis.

Physicians: German and Italian physicians.

Lodging: The Kurhaus in connection with the bathing establishment (Prospectus) offers greatest comfort at moderate rates (pension from 9 lire!). Baths 2 lire.

Hotel Sirmione (Prospectus by A. Gennari, proprietor). Pension from 8 lire upwards. For visitors special cooking at request.

The great advantage of Sirmione is not only its wonderful situation in the neighbourhood of Roman ruins and the Scaliger castle, but also abundant opportunity for excursions to all places of the lake and to the battle-fields of San Marino, Solferino and

Castozza with their monuments, furthermore opportunity for any kind of water sport, bathing in the lake, and good roads for cycling. The hygienic conditions are very favourable.

Means of Communication: Twice a day steamers to Desenzano (Milano—Venice Railway) and Riva (railway to Mori on the Brennerbahn). Cars ready at the station of Desenzano (9 km). Large automobile-garage. Opportunity for motor-boating on the lake. Detailed information by the

Administration (Direzione dello Stabilimento balneare) in Sirmione.

Bad Soden in the Taunus.

Head-station of the branch-line Höchst—Soden, is to be reached by railway within half an hour from Frankfurt on the Main. Bad Soden is situated 490 feet above the level of the North Sea, at the southern slope of the Taunus, in a valley protected against rough winds by richly wooded hills in the north, east and west; amidst the most beautiful scenery of the Taunus range.

The climate is mild and refreshing, very equable and not stimulating, and therefore most suitable for irritable and sensible patients needing a mild climatic influence. The local winds coming from the neighbouring mountains bring about a sufficient cooling off during the night; the transition, however, is gradual and not abrupt as in alpine regions and in deep valleys of rivers. Even in the cool months and in the winter, the climate of Soden is distinguished by the absence of rough winds, and a relatively mild average temperature. The relative moisture is in the mean 7 per cent. with but slight variations.

These observations show that Soden during the summer months is not inferior to the health-resorts with a subalpine character, as regards climatic conditions. It is, moreover, evident that Soden is not only a health-resort for the summer-months warranting the most excellent results, but that it is a prominent transitional station in spring and autumn for those going to or coming from the winter-stations of the Alps and the Riviera. A stay at Soden during the winter will in many cases even have the same effect as at those winter-stations them-selves. The great value of the climatic conditions of Soden during the winter months has been proved by an experience of twenty years regarding winter-cures, in one of the sanatoria of this place.

Of the 25 springs existing, those applied most of all contain the following constituents in 1000 parts.

	Milch-brunn. Nr. 1	Warm-brunn. Nr. 3	Solbr. Nr. 4	Wihl-brunn. Nr. 6a	Schwerbrunn. Nr. 6b	Major Nr. 7	Wiesenbrunn. Nr. 18	Champ-brunn. Nr. 19	Sol-sprudel Nr. 24
Sodium chloride.....	2,4255	3,34755	14,2328	13,5549	10,0732	14,4008	11,2311	6,5273	14,5610
Potassium chloride.....	0,1366	0,083624	6,6560	0,3295	0,3386	0,5300	0,2659	0,0831	0,5707
Sodium carbonate.....	0,0126	0,020666	—	—	—	—	—	—	—
Calcium carbonate.....	0,4593	0,616061	1,3131	0,1920	0,9367	1,3503	1,0899	0,6509	1,2956
Magnesium carbonate.....	0,2807	0,363355	0,1421	0,1677	0,1563	0,1871	0,1852	0,4126	0,0756
Carbonate of ferrous oxide.....	3,0079	0,0110828	0,0152	0,0394	0,0282	0,0289	0,0282	0,0200	0,0664
Total of solid constituents	3,3990	4,537294	16,9259	14,4476	11,6454	16,7370	12,9681	7,7447	16,8739
Free carbonic acid in cc.	951,4	1022,82	845,1	1200,0	1550,0	1069,8	1312,5	1389,3	1525,6
Temperature..... Cj	24,0°	23,1°	21,1°	18,7°	16,2°	20°	15°	15°	30,5°
..... Fj	75,2°	73,5°	70°	64,6°	60,9°	68°	59°	59°	86,2°
Radioactivity.....	—	—	—	—	—	0,79	—	—	2,99

According to this table, the springs are characterized as muriatic waters more or less rich in carbonic acid, of various temperature, and with a slight content of iron. They are applied for drinking and bathing, for douches, packings, gargling and inhalation. Owing to their individual qualities and the great divergence of their composition, these springs allow a far going individual application. Their effect is as follows:

1. Dilution and modification of secretion of mucous membranes, especially of the digestive and respiratory tract, increase of diuresis.

2. Stimulation and regulation of the function of the skin, of the circulatory organs and of the nervous system, and as a result of this, by way of reflexes, an influence upon the entire metabolism and upon the reabsorption of pathological exsudates and deposits.

While the tepid and weak springs are merely influencing the gastric mucosa, the cool and more powerful waters have a slightly purgative effect; they discharge the intestines and the portal system, and are, therefore, to be classified among the springs of Kissingen and Homburg, as regards their therapeutic value. As a matter of experience

their application offers the advantage of precluding any stronger irritation of the vascular and nervous system. The long-known therapeutic influence of these springs on the air passages is due, on the one hand (in the weak springs), to the favourable influence of the reabsorbed sodium chloride upon the mucous membranes, and on the other hand (in the stronger waters) at the same time indirectly, to the elimination of disorders of the portal vein and pulmonary circulation.

Indications: 1. General affections: scrofula of the erethic type, rickets, convalescence after severe diseases, complications of influenza, gout and rheumatism.

2. Diseases of the respiratory organs: chronic nasal, pharyngeal and laryngeal catarrhs, bronchial catarrh, bronchial asthma and emphysema with congestive catarrhs of the abdomen, delayed reabsorption of pneumonic and pleuritic exsudates.

3. Cardiac affections: Compensated cardiac lesions, dilatations of the heart after over-exertion, diseases of the myocardium, neurosis of the heart, and arteriosclerosis.

4. Diseases of the digestive organs: Gastric catarrh, chronic intestinal catarrh (diarrhoea), habitual constipation.

5. Diseases of women: Anomalies of menstruation, chronic metritis, inveterate exsudates of the peri- and parametrium.

6. Chronic affections of the bones and joints.

7. Chronic renal affections.

8. Chronic diseases of the nervous system: tabes, neuritis, and neuralgia.

Cure-Establishments: City bathing-house with brine-baths and natural carbonic acid baths, sprudel-baths, electric four-cell- and light-baths, modern equipment for cold and tempered douches, central heating. Spacious drinking-hall with cabinets for gargling. Largest and most richly furnished Inhalatorium in Germany, offering in the perfectest manner the most known methods for common and individual inhalations, with every degree of moisture. Large pneumatic chambers, apparatuses for rarefied and condensed air, for medicinal evaporation according to the various best systems. Complete medico-mechanic institute with original appliances according to Zander and Herz, in the upper floor of the bathing-establishment. Röntgen-laboratory; for these latter institutes the special physician Dr. Frentzel-Beyne. Resting halls. Trained nurses for hydrotherapy, massage and attendance of patients. Milk-cure (cow's milk, whey, curdled milk, kephir, yoghurt, goat's milk).

Hygienic conditions: Owing to the country-house character of the health-resort, the copious sprinkling of the broad and clean streets, and the total absence of industrial establishments, any deterioration of the air is excluded, and those needing recreation are sure to find here beneficial rest. Excellent spring-water supply. New drainage, separating system with filtering appliances, electric light.

Fresh air can be enjoyed to the greatest extent not only in the hotels and boarding houses supplied abundantly with balconies and surrounded by many roseries, but also on shadowy promenades and avenues, in the magnificent park and in the adjoining forest of Soden ("Sodener Wald") crossed by gravelled paths.

Entertainments: City Kurhaus with electric light and central heating, renovated according to modern requirements, music-terrace and large roofed hall. Spacious conversation-hall, richly supplied reading-rooms, music-, playing- and billiard-rooms. Performances of the music-band three times a day, symphony concerts and performances of leading artists, réunions. Garden-parties with Italian night, fire-works, and attractive illumination of the Kurpark, lawn-tennis and croquet-grounds. Forest-parties, opportunity for promenades and excursions with carriages and autos to the picturesque Taunus Mountains.

Boarding: Boarding-houses: Städtisches Kurhaus, Hotel Colosseus, Grand Hotel, Europäischer Hof, Russischer Hof, Hotel Uhlrich, Hotel Adler, Park-Hotel, Quellenhof, Restaurant Weigand, Jewish restaurants Stern and Neuhof. If desired, pension at all these places.

Single rooms and complete flats for families furnished or unfurnished, for a permanent or transitory sojourn, in the numerous lodging houses and villas. Prices of rooms from 7 Mks. per week, full board from 28 Mks. per week upwards.

Soden is especially suitable as a permanent residence for families.

Official season: Middle of April to middle of October.

Export of all potable waters by the firm of Ph. H. Fay & Co., administration of the springs of Bad Soden in Taurus. Boxes with samples are most willingly sent to physicians.

Physicians (arranged according to the time of their settling): Geh. San.-Rat Dr. Thilenius, Dr. Hughes, Dr. Günzel, Dr. Rothschild, Dr. Jser'in, Dr. Prorok, Dr. Haupt, Dr. Wiechert, Dr. Thilenius jun.

Prospectus are sent free on application to the *Aerzterein. Kurverwaltung.*

Bad Sonder

above Teufen, Canton of Appenzell, Switzerland.

3220 feet above sea level.

Christian Kurhaus. In a very beautiful, sunny and much protected situation. Pure and mild, but still alpine climate, air free from dust. Magnificent view of the Säntis-crest and Lake of Constance. Pine forest with promenades and retreats. Much recommended by physicians to fatigued and nervous people, to chlorotic patients and convalescents &c.

Pension including room from frs. 5.50 to 7.—. Also very favourable for a stay during the autumn or winter.

Detailed prospectus by

A. Ruppanner, Proprietor.

Stachelberg, Canton of Glarus, Switzerland.

Climatic station with alkaline sulphurated spring, 2320 feet above sea level, five minutes from Linthal, situated in a valley unexcelled in its grand Alpine scenery. Stachelberg is particularly recommended as a starting point for greater or smaller trips to the mountains, and as a transitory station for those going to or coming from higher regions of the mountains or climatic stations.

The health resort consists of four buildings established at different times. They are in connection with one another by covered corridors and heatable glass hall. 150 rooms and private parlours, elegant dining room for 300 persons, ladies' drawing room, dancing-room, bar, billiard-rooms, warm-water heating, rooms partly with electric heating. Forest-park, wonderful maple groups, extensive promenades. Station of the funicular railway to Braunwald.

Curative means: Use of sulphurated waters for 1. drinking-cures; 2. bathing-cures; 3. inhalation-cures. Apparatus system Matthieu, i. e. direct inhalations, and system Wassmuth (Inhalatorium). New appliances for direct inhalation, system Goebel. Furthermore, all kinds of hydropathy; electric incandescent light bath, sun-and air-baths.

The sulphur water rising in a grotto $\frac{1}{2}$ hour above Stachelberg, has a temperature of 8° C = 46.4 F, and a specific gravity of 1.0009. The small specific gravity and the absence of calcium sulphate, render the Stachelberg water the most palatable and most digestible sulphur water. It is very suitable for exportation, and can be kept for many years in well corked bottles.

Analysis. The quantitative combination preferred by Dr. Simmler shows in 10 liters 5,794 solid constituents as follows:

Sulphhydrate of sodium	0.478	Bicarbonate of lithium	0.032
Sulphhydrate of lime	0.629	Bicarbonate of lime	0.418
Hyposulphite of sodium	0.042	Bicarbonate of Magnesia	1.525
Sulphate of sodium	1.438	Aluminium phosphate	0.046
Sulphate of potassium	0.169	Aluminium silicate	0.123
Chloride of sodium	0.056	Organic substances	0.838

Gaseous matters: Free carbonic acid 1.139 (578 cc). Free sulphuretted hydrogen in varying quantities. Nitrogen 16 cc.

Indications: 1. Chronic catarrhs of the respiratory organs (Inhalation-treatment). 2. Chronic catarrhal affections of the digestive canal (liver and bile ducts). 3. Chronic catarrhal affections of the bladder, uterus, and vagina. 4. Various chronic skin diseases and old ulcers. 5. All forms of scrofula and affections due to it. 6. Rheumatism and gout. 7. Nervous diseases, residues of apoplexy. 8. Lead and mercury poisoning.

Finally, Stachelberg is recommended to convalescents of any kind, on account of its protected situation in a moderate altitude, its air free from dust, and the great comfort offered here.

Moderate prices of pension, still reduced in May and June and from September to the end of the sea-on.

Divine services: Protestant and Roman-Catholic in the village of Linthal; English (in August) in the hotel.

Resident physician: Dr. H. Ludwig.

Direction: *Glarner.*

Teplitz-Schönau, Bohemia, in a Valley of the Erz-Mountains, sheltered from north winds. Hot alkali-saline waters: mud baths.

Taormina.



Grand Hotel International.

First class hotel, in every respect with all modern comforts. Charmingly situated with superb view on Etna and Greek Theater. Apartments with private bath. W. C. Terrace. Garden. Garage. Reasonable terms. Prospectus on request.

E. Infanger, manager.

Bad Tölz-Krankenheil (in Upper Bavaria).



Situation: 58 km railway-distance from Munich. Running-time $1\frac{1}{2}$ —2 hours. Situated at the foot of the Bavarian Alps in the wonderful "Isarwinkel" (on the river Isar). In the direct neighbourhood ($\frac{1}{3}$ —1 day's tour) are: Kochelsee, Walchensee, Tegernsee, Schliersee, Starnbergersee, Achensee. Mountain-tours. All kinds of communication. Fixed tariff for cab-drivers.

Climate: Subalpine, owing to the location of Tölz, 2350 feet above sea level. Temperature June to September maximum 19.6° C. = 66.5° F., minimum 13.2° C. = 55.5° F., mean temperature 16.2° C. = 70° F. Intense insolation rendered mild by permanent motion of air. Moisture 68%. Yearly rainfall 1361 mm per square decimetre. Numerous forests, there are no factories, and so the air is pure and rich in ozone. All in all the climate is stimulating. Anaemic and nervous patients and convalescents recuperate very rapidly.

Curative factors: Krankenheiler iodine-springs for drinking and bathing cures. Iodine-spring salt, mineral-salt lye, mineral-water-soaps, soap spirit, pastilles. Lye-inhalatorium, soap-massage by trained nurses. Mud, pine-needle, brine, carbonic acid electric baths.

Radio activity has been proved in all iodine springs of Krankenheil.

In 1000 gr. are contained	in Jodtrinkquelle	Marienquelle	Lauge III	Salz
Sodium iodide	0.00124	0.01757	0.6020	7.3045
Sodium bromide	—	0.01516	0.5202	6.3074
Sodium chloride	0.28101	2.26777	78.2050	913.1998
Magnesium chloride	—	0.10969	3.1080	32.9626
Sodium carbonate	0.40830	0.04819	1.718	—
Magnesium carbonate	0.03030	0.04909	—	14.8302
Potassium sulphate	0.01846	—	—	—
Sodium sulphate	0.00437	—	—	—
Free carbonic acid	0.02033	0.00268	—	—
Sulphuretted hydrogen	0.00142	—	—	—

Indications: It has been established by many years of experience that the use of a cure at Krankenheil stimulates metabolism, improves blood-production, and stimulates reabsorption of exsudates and inflammatory swellings. Consequently, the cure at Tölz is indicated in affections of the female genital organs (catarrhs of the vagina and the uterus, chronic endometritis and inflammation of the ovaries, myoma of the uterus, exsudates); scrofula and its localization on the skin, the glands, bones, joints, and sensory organs; syphilis, especially tertiary forms; chronic skin-diseases (eczema, psoriasis, acne, furunculosis, chronic ulcers of the skin); chronic catarrhs of the nose, the pharynx and larynx, of the bladder; chronic glandular swellings (goitre, lymphoma, swellings of the prostate, inflammation of the testicles and epididymis); diseases of the eye and nervous affections; arteriosclerosis; gout.

Physicians: Dr. Fortner, Medicinalrat; Dr. Höfler, Hofrat; Dr. Jungmayer, Stabsarzt; Dr. Morgenstern; Dr. Resch; Dr. Schwarzmayr; Dr. Wittenberg; Dr. Selz, Ophthalmologist.

Kurtaxe: 1 Person 10 Mks., 2 persons 15 Mks., more persons 18 Mks. — Physicians are exempt from such taxes.

Board: Besides the boarding-houses of the administration Kurhotel and Kurhaus and Pension Kur- and Badhaus, in direct communication with the iodine-baths and answering modest as well as luxurious demands, there are numerous good private hotels, pensions and villas. Price of pension 5—10 Mks. per day.

Winter-cure: The bathing-establishment has central-heating and is open in summer and winter. Resident physicians also present in the winter.

Winter-sport. Bobsleigh-road 15 750 feet long. Mountain-shelter on the Blomberg 4375 feet high. Ski-ing ground.

General remarks. At Bad Tölz all the benefits of ruralizing in the Bavarian Alps combine with the hygienic and other advantages of a health resort, such as drainage, water-pipe system, electric light, telephone, many wonderful promenades, well-kept roads, benches, charming views of the mountains. Kurgarten, colonnade, music, theatre in the seasons, réunions, tennis-links, swimming-baths and bathing-cabins, interesting national dress festivals &c. &c.

Richly illustrated prospectus on application to the

Baths' Directorate Bad Tölz, Oberbayern.

Thusis

with the Soliser Jodide-Ferruginous Acidulated Water.

Topography: Thusis is situated in the centre of Grisons, 2620 feet above sea level, station of the Albula-Line. Entrance to the world renowned Viamala-Gorge.

Subalpine stimulating climate, very little rain, extended pine-forests. A great variety of wonderful promenades and excursions with all degrees of incline.

Curative Factors: Drinking- and air-cure; Oertel-cures, hydro- and electro-therapy.

Donatusquelle. Jodide- and bromide-ferruginous acidulous water with a high percentage of sodium sulphate and ferrous oxide, strongest iodide-spring of Switzerland.

Indications: Goitre, scrofula, osteal tuberculosis, cardiac affections, anemia, residue of pleuritic and peritoneal exsudates, diseases of the genital organs, neurasthenia, rheumatic and metabolic diseases, gout, kidneys, calculus of the urinary and gall-bladder, obesity and diabetes.

Very well furnished large and small hotels, pensions with nearly 400 beds.

Physicians and apothecaries. Protestant and Roman-Catholic church.

For guides, prospectus, and information apply to the

Officielles Verkehrsbureau.

Triberg.

2450 to 3500 feet above sea level.

Most splendid station on the Baden line of the Black Forest. First-class climatic station for summer and winter. Number of visitors in 1911: 17 500, not including travellers. Black Forest industrial Exhibition with historical department.

Splendid location, amidst grand pine-forests, well-protected against winds. Wonderful Alpine scenery.

Largest Cataracts of Germany. Many convenient promenades. Magnificent excursions. Look-out towers worth while visiting. Swimming-bath, air- and sun-bath. Physico-dietetic therapy. Tennis.

Prospectus and list of prices free of charge by the

Städtisches Verkehrsbureau.

Vichy, France, department of Allier; the type of alkaline waters: called "the Queen of thermal watering-places"; very much frequented.

Villeneuve near Montreux (Switzerland).

Hotel Byron. 1st class family Hotel.

150 Beds.

Apartments with private Bath, Cabinet de Toilette. W. C.

The Hotel Byron is situated on the shores of Lake Lemman, in close proximity to Montreux. It is surrounded by a large park and fitted with all modern comforts. No other station more adequately supplies all the requirements of nervous and convalescent persons and, generally speaking, of those who need thorough rest.

A Hydropathic establishment with carbonic acid baths has lately been added thereto, enhancing the attractions of a stay at the Hotel Byron.

Being quite close to the Saline baths of Bex, the mother waters for carbonic acid baths are easily obtained, and these new baths can be favourably compared with the well-known ones of Bad-Nauheim.

With this new Installation the Hotel Byron can be highly recommended as an excellent resort for persons suffering from anaemia, chloralism, neurosis, rheumatism, digestive, constitutional and other ailments including that of heart trouble, if the latter be not in an advanced stage.

The inclusive terms of "pension" vary from 8 Frcs. upwards, according to the position of the rooms. Baths and medical treatment not included. The Hotel is open the whole year round.

Regular Tram Service with Montreux.

J. Fugner, Manager.

Vulpera-Tarasp, Engadine, Switzerland.

4455 to 4550 feet above sea level.

The most distinctive feature to which *Vulpera* owes its prominent significance and its great power of attraction, is its most exceptional and splendid situation. Being enframed by the grand dark and odoriferous pine-forests on an exquisite and picturesque meadow-terrace of the Lower-Engadine, it looks down upon the narrow valley, where on a confined place at the river Inn the drinking-hall with the renowned springs of Tarasp is to be seen. On the plateau inundated within sunshine and light, but at the same time most ideally protected, the splendid hotels and pensions are scattered about. They are to the greatest extent new and constructed according to modern principles. *Vulpera* may also boast of answering the most modern demands of a first-class health resort. Its abundantly rich curative means — climate, springs, baths, hydrotherapy, diet etc. — are applied in the most correct manner.

Far from the bustle and dust of the roads, and lying in a refined and idyllic seclusion in the midst of an extensive net of various ideal promenades and foot paths, especially fitted and used for Oerlel-cures, *Vulpera* offers an enviable stay with a full effect of all advantages of the wonderful alpine climate — the low barometric pressure (average 653 mm), great coolness (for the season 13° C = 55.4° F), rarefied atmosphere, exceptional dryness and purity of the air, plenty of sun, excess of ozone, wonderful vegetation, and so on. At the same time, *Vulpera* as a matter of fact does agree very well and without exception with very nervous people—for these the spring and autumn months are most recommendable (May, June, September), on account of the more quiet time—with patients suffering from light heart-diseases, and with aged people (also light degree of arteriosclerosis): all such people derive the greatest benefit from a sojourn here.

Beside the carriage-road several altogether convenient foot-paths lead from the individual hotels in a few minutes to the Trinkhalle, where the well-known Tarasp alkaline acidulous-waters — *Lucius* and *Emerita* — and the alkaline-earthly iron-spring *Bonifacius* are housed and drunk: a few steps further on are located the alkaline carbonic acid ferruginous baths.

Curative means: Alkaline-saline springs, alkaline-earthly-iron springs, alkaline and carbonic-acid baths, therapy, dietetic cooking, alpine climate in a beautiful scenery etc.

The following table allows one to compare the *Lucius* spring at Tarasp with the most celebrated European alkaline-saline-waters (Carlsbad, Marienbad etc.) on the one hand, and with an important type of the Sodium Chloride springs (Kissingen) and the simple alkaline springs (Vichy) on the other hand.

In 1000 parts are contained	Height above the sea in metres	Solid constituents in grams	Sulphate of Soda in grams	Bicarbonate of Soda in grams	Sodium chloride in grams	Bicarbonate of protoxide of iron in grams	Free carbonic acid in ccm	Temperature in degrees centigrade (and F.)
Tarasp (<i>Luciusquelle</i>)	1250	15.1	2.24	4.31	3.88	0.02	1608	5° C = 41° F
Carlsbad (<i>Sprudel</i>)	370	5.4	2.4	2.0	1.0	0.005	104	72.5° C = 161° F
Marienbad (<i>Ferdinandsbrunnen</i>)	630	10.1	4.7	2.0	1.7	0.07	1128	10.3° C = 50° F
Kissingen (<i>Rakoczy</i>)	200	8.5	—	—	5.8	0.03	1066	10.7° C = 50.8° F
Vichy (<i>Célestins</i>)	230	7.9	0.3	4.9	0.5	—	532	12° C = 53.6° F

Indications:

1. Diseases of the digestive organs:

- Chronic catarrhs of the stomach and intestines, atony and nervous diseases of these organs (constipation, chronic diarrhoea, nervous dyspepsia), chronic ulcers of the stomach, haemorrhoids.
- Enlargement of the liver, first stages of cirrhosis of the liver, catarrhal and chronic inflammatory conditions of the biliary ducts, gall-stones.

2. Nervous affections:

- Neurasthenia, particularly the exhaustive and depressive types.
- Grave's disease (Exophthalmic goitre).
- Megrin and neuralgia.

3. Disorders of metabolism and nutrition:
 - a) Obesity and the allied and resulting disturbances.
 - b) Diabetes.
 - c) Uric-acid diathesis, gout, gravel, stones in the kidneys, chronic rheumatism.
 - d) Chlorosis and anaemia; chronic tumors of the spleen after typhoid fever and malaria; scrofula, general weakness in childhood, certain forms of albuminuria.
4. Chronic infections and intoxications:
 - a) After-effects of tropical diseases.
 - b) Consequences of the abuse of nicotine and alcohol.
5. Diseases of the circulatory organs.
 - a) Insufficiency and hypertrophy of the heart in less pronounced cases.
 - b) Compensated valvular affections of the heart.
 - c) Fatty degeneration of the heart.
6. Affections of the respiratory apparatus.

Chronic catarrhs of the throat, chronic bronchial catarrh, emphysema of the lungs, bronchial asthma.

7. Diseases of the urinary apparatus:

Catarrhs of the kidneys, and the bladder.

8. Diseases of the female sexual organs:

Chronic endometritis and metritis, chronic pelvic exsudates.

Contra-indications: Severe heart-diseases, advanced cachectic conditions.

In *Vulpera* itself is a completely equipped hydrotherapeutic establishment (in Hotel Waldhaus) which possesses a complete hydropathic installation, and where, besides, brine, pine needle, carbonic acid-baths, electric light-baths etc. are applied. There are in the health resort a sufficient number of male and female masseurs, experienced in every sort of massage-work and exercises.

Considering the fact that a proper diet is one of the most important factors of a cure, there is not only at *Vulpera* the customary Table d'hôte (by the way as simple as possible and carefully modified) and the opportunity for dining separately according to demands, but particular dietetic tables for obesity, for gastro-intestinal diseases, gout and diabetes etc. under medical supervision have been provided for at fixed rates.

But not only the *Tarasp* cures are most conveniently and correctly carried out at *Vulpera*. Moreover, a great deal of healthy persons, and families with children, too, stay here, considering the place as a summer-residence and a climatic station. It is highly recommendable, indeed, as an intermediate halting station on the way to or from the considerably higher located places in the Upper Engadine, as well as a resort for supplementary or after-cure after treatment at Carlsbad, Marienbad, Franzensbad, Leivico etc.

Boarding: Hotel Waldhaus with Dependences (400 beds), Hotel Schweizerhof with Dependences (250 beds), Pension Villa Engiadina (30 beds), Pension Villa Silvana with Dependence (40 beds), Pension Villa Maria (30 beds).

Duration of season: 15th of May to middle of September.

Physicians residing at *Vulpera*: Dr. Leva, in the winter at Berlin; Dr. Müller, in the winter at Florence.

Kurtaxe: 17 Frs. per person and for the whole season (only for drinking-cure). Reduced fees for families of more than 2 persons.

Means of Communications: *Vulpera-Tarasp* can be reached from the stations of the Rhetian Railway Bevers (Engadine) within 5 hours on the valley-road, or from Davos-Dorf by 6 hours' journey over the romantic Fluëla-Pass; from the station of Landeck of the Arlberg-Railway per automobile up to Pfunds on the Swiss border, and from there within 3 hours' drive. — From the above mentioned head-stations there are several post-communications daily directly to *Vulpera*.

The new electric narrow-gauge railway from Bevers to the health resort of *Vulpera-Tarasp* will be opened in the summer 1913.

For further details on *Vulpera* see special prospectuses issued by the above mentioned hotels and pensions, as well as by the *Verkehrs- und Verwaltungsbureau Vulpera*.

Weilbach, Prussian province of Nassau; southern of the Taunus Mountains; Climate highly favourable. Sulphurous alkaline iodurated waters.

Weissenstein near Solothurn, Switzerland.

Climatic Station.

4550 feet above sea level, with the climate of alpine valleys. This climate has a stimulating and tonic effect upon the organism, and is indicated particularly for convalescents and for individuals mentally and bodily relaxed by a strenuous professional life. Anaemia, chlorosis, nervous affections of a light nature are influenced favourably, and many surprising results have been obtained.

Resident physician: Dr. Manfred Bott.

Kurhaus Weissenstein — situated in a location free from dust — is an establishment most comfortably furnished, with 70 rooms, parlours, and apartments with baths for families, large dining room. Excellent cooking. Electric light, central-heating, mail-delivery and telegraph in the house. Greatest alpine panorama of Switzerland, of the Vosges-Mountains and the Black-Forest, 60 km of forest-promenades on own property. Own Alpine dairy-farm with large establishments.

Summer season from June to end of September.

Winter sport.

Illustrated prospectus by

K. Jlli, Proprietor.

Westerland-Sylt, well-frequented sea-bathing station in the North-Sea; heavy surf.

Wiesbaden.

Wiesbaden, the pearl of all stations of the Taunus range, is the capital of the Royal Prussian district of the same name. Since the establishment of the new railway-station it is joined to the great lines of international traffic. Wiesbaden is situated in $50^{\circ} 4'$ latitude and $25^{\circ} 54'$ longitude, 400 feet above sea level, at the southern spurs of the abundantly forested Taunus-mountains, about an hour's walk from the Rhine.

Wiesbaden visited by more than 200 000 persons in the average every year, is flourishing more and more, not only as a health resort but also as a permanent residence. New edifices for hotels and private houses with the most up-to date out-fit, public buildings worth seeing, new streets etc. are constantly being built. The electric tram crosses Wiesbaden in all directions, connecting the town by many lines with the surrounding forests and the neighbouring places as well as with the near Rhine; there is also a communication with Mayence, and the new Kaiser-bridge between both towns renders the most lively traffic possible.

The **situation** of Wiesbaden is undoubtedly one of the finest in Germany.

The **climate** is mild and pleasant. During the summer the valleys opening towards Wiesbaden, make the air refreshing and cool, while during the Winter the mountain-crests of the Taunus protect the town against the cold northern winds.

The **hygienic** and sanitary conditions of the town are extremely favourable.

Cure-season and entertainments at Wiesbaden are going on all the year round.

Curative Factors: The 32 thermal waters of Wiesbaden, up to 65.7° C, belong to the class of sodium-chloride thermal waters, the principal spring being the "Kochbrunnen". There are in addition 31 other springs of the same composition, yielding about 1350 l. of water per minute, and applied for bathing, drinking, and inhalation-cures. Almost 900 Thermal-baths, to a large extent with shower baths and douches, hydrotherapeutic institutes, pine-needle, Russian, Roman, and medicinal baths of any kind. Medico-mechanic institute (System of Zander). Orthopedic and gymnastic establishments. Pneumatic appliances. Electricity. Renowned hospitals for eye-diseases. Milk cure establishment, whey- and goats' milk cures, massage. Special institutes for nervous diseases, for patients with drug-habit, gastric diseases etc.

Mineral waters of any known spring. — Inhalatorium. — Fango-mud treatment, vibration-massage, grape-cure.

Diseases against which the bathing cure is indicated: Gout and rheumatism, especially muscular and arthritic rheumatism, articular diseases of various kinds, paralysis and neuralgia, particularly sciatica, as well as the residues of inflammatory processes and enlargement of organs, swellings of the joints after lesions, alterations of the glands with and without suppuration, osteal diseases after traumatism, inflammations and suppurations of the long bones, of the joints and vertebrae, some diseases of women, hypertrophy of cellular tissues, especially in the lower extremities with and without ulceration after phlebitis, cutaneous affections, wounds and ulcers, cardiac diseases, affections of the nervous system, diseases of the kidneys and bladder.

Diseases against which the drinking cure is applied: Affections of the respiratory organs: nose, pharynx, larynx and bronchi, diseases of the digestive organs, chronic catarrhs of the stomach and intestines, and especially certain constitutional diseases such as gout and obesity, swelling of the liver and spleen.

The drinking cure is naturally mostly combined with the bathing cure.

Diseases against which the inhalation cure is applied: Pharyngeal, laryngeal, nasal and bronchial catarrhs, acute coryza, suppurations of the nose, hoarseness etc.

Indications for the grape cure: Constipation and haemorrhoids, gastro- and intestinal catarrhs, chlorosis, obesity, renal and hepatic diseases etc.

Owing to its excellent curative results in all the concerned diseases, Wiesbaden may be considered a bathing resort recommended most of all, at any time, by medical capacities.

About 30 private bathing-houses. - Königlich Badhaus Wilhelms-Heilanstalt, only for military persons. - City bathing-establishment "Zum Schützenhof". - City Hospital with baths for poor people. In the private bathing establishments besides the baths, lodging and full board.

The bathing establishments are almost all fitted up for winter cures. The rooms are in communication with the bath rooms by roofed corridors.

Winter cure and winter residence: Numerous visitors stay at Wiesbaden during the winter months, partly on account of the favourable climate, and partly in order to attend the special entertainments arranged during this season by the Kurverwaltung, the Royal theatre, the Residence-theatre etc.

Physicians: Apart from the manifold curative factors the advantage of the large health resort of Wiesbaden consists in the fact that any patient has the possibility of consulting renowned specialists.

Municipal Administration of the Bath: Kurdirektor v. Ebmeyer.

Abstract of Orders of Kurtaxe: Every visitor staying in Wiesbaden more than five days, including the day of arrival, will be required to pay a Kurtaxe; visitors, however, who can prove that their stay is for exclusively other purposes than those of cure recovery or amusement, are exempt. In receipt for the payment of the Kurtax, three kinds of cards will be issued: 1. the "Kochbrunnen card", entitling the holder to visit the Kochbrunnen and take the Drink Cure, and also attend the concerts given there. 2. the "Kurhaus Card", entitling the holder to visit the Kurhaus and all the rooms of the Kurhaus open to the public, and all the regular concerts in the Kurhaus and Kurgarten. The ticket does not admit to the "Künstler-Konzerte" and other special entertainments. 3. The "full card" admits to both Kurhaus and Kochbrunnen.

The holder of a Kurtaxe card may obtain supplementary cards for the members of his household. (For the Kochbrunnen alone, however, such supplementary cards will not be issued.)

Tariff.

For a stay, the first five day of which are included, of	Kochbrunnen and Kurhaus including Cloakroom		Kurhaus including Cloakroom		Koch- brunnen
	First card	Supple- mentary card	First card	Supple- mentary card	
10 days	10	6	7	4	4
3 weeks	20	12	14	8	8
6 weeks	35	22	24	14	14
3 months	50	30	35	20	20
6 months	60	40	45	25	25
12 months	70	50	55	30	30

It is in the interest of the visitors to procure a card at once in order that they may be able, from the very beginning of their stay, to enjoy the advantages to which its possession entitles them. If a visitor has not taken out a Kurtaxe card within the first five days of his stay, the amount of the card will be at once collected.

Besides, day cards will be issued entitling the holder to visit the Kurhaus and the regular concerts, as follows: day cards at Mks. 1.50 valid for the whole day, and Entrance tickets at Mks. 1 valid for entering once only

Entertainments: The newly built Kurhaus is open all the year round. Concert halls, play rooms, bars, conversation and reading rooms etc., the latter with about 400 news-papers. — Fine gardens and parks. — Excursions into the attractive surroundings. Beautiful beech forests to be reached within a few minutes. Trips on the Rhine. — Fêtes of spring, summer-festivities, rose-fête etc. — Visits to the "National Monument". — Gondoling. Excellent tennis-links.

The "Kurkapelle" (music-band) consisting of 60 musicians, plays during the whole summer season three times daily, in the winter twice a day.

There are also national celebrations, promenade and artistic concerts, garden-fêtes, illuminations and firework displays, corso, lectures of famous scientists, carnival-concerts, masquerades etc.

Divine services: Protestant, Roman-Catholic, Old-Catholic, free church (German-Catholic), English, Russian-Greek, and synagogue.

Lodging: Is to be had at any time at various prices according to situation and comfort, furnished and unfurnished.

Number of visitors: 1896 = 106 511, 1897 = 116 080, 1898 = 118 995, 1899 = 123 192, 1900 = 136 011, 1901 = 131 521, 1902 = 132 695, 1903 = 124 125, 1904 = 146 044, 1905 = 156 515, 1906 = 159 535, 1907 = 180 848, 1908 = 186 131, 1909 = 193 407, 1910 = 179 183, 1911 = 177 135.

The enormous amount of visitors adds considerably to enlivening the traffic on the streets and promenades and to giving the impression of a metropolitan and cosmopolitan life. Apart from the regular visit of the Imperial Family, a great number of princely personages, and numerous members of aristocracy as well as famous personages of art and science are accustomed to sojourn for curing purposes at Wiesbaden.

Detailed prospectus sent on-application to the

"Städtische Kurverwaltung".

Sanatoria and Cure-Establishments at Wiesbaden, see Section II ("Sanatoria and Cure-Establishments").

Wildbad in the Kingdom of Württemberg.

Wildbad, royal bathing resort in the Black-Forest, situated 1500 feet above sea level, in the picturesque Enz-Valley surrounded by the most wonderful pine forests. Wildbad has been appreciated as a mineral spring since the 14th century, and has been visited all the time from all parts of the world. It still owes its world-fame to the unexcelled curative effects of the thermal waters originating directly from the primitive rocks.

The health resort of Wildbad with about 3800 inhabitants, is the terminal station of the Enztal-railway, 23 km. long, branching off at Pforzheim from the great international route Vienna—Paris.

The season at Wildbad begins officially Mai 1st and lasts until the 30th of September. A part of the thermal baths, however, is open for use all the year round.

During the last 20 years the number of visitors of Wildbad has increased up to the threefold (1899: 5—6000, 1909: 16—17 000, 1911: 20 600).

Large hotels of first class, good middle class lodging-houses, pensions, villas, and private houses are in great number at the disposal of visitors. The map and the list of hotels and boarding-houses, added to the prospectus, give information as to situation and prices of the individual places.

Sanitary conditions and mortality of Wildbad have always been favourable. There is a well-kept canalization in the town, and a mountain-water system supplies good drinking water of unusual purity.

The climate of Wildbad is also very favourable, owing to the characteristic advantages of the Black-Forest, to the fresh air, rich in ozone, to the cooling in the morning and evening, on account of which even in mid-summer oppressive heat of long duration never occurs. The valley itself is protected against rough north- and east-winds, due to its natural situation.

All the bathing and cure establishments as well as the large parks with the Enz-promenade are owned by the State. The establishments are of the first class, perfect and new.

The thermal waters of Wildbad constitute its natural curative factors of old repute. The curative waters spring from 36 drilled sources with a temperature of 33—37° C (91.4—98.6° F) and run directly into the tubs.

Further curative factors: Electric, steam, and hot-air bath, swimming tanks, medico-mechanic institute (System Dr. Zander), massage, and thermal drinking-water.

Indications: According to the experiences of centuries, the following diseases and affections have been treated and cured at Wildbad, or at least mitigated: rheumatism and gout, sequelae of traumatism, acute and chronic inflammations of the bones and joints (scrofula and rickets), spinal-affections and paralysis of any kind, nervous affections, especially nervous irritability (neurasthenia), neuralgia, metal poisoning, exhaustion, catarrhs of the air passages, urinary affections, diseases of women. There are also appliances suitable for the treatment of cardiac affections, anomalies of constitution, and dyscrasia of the blood (obesity, stoutness, disorders of digestion &c.). Wildbad is likewise recommended quite especially as a summer residence and climatic station.

The large mountain-plateau can be easily reached by anybody in taking the wire-tramway which leads from the centre of the town to the Sommersberg, 2550 feet above sea level (1050 feet above the valley).

Plain promenades running for many hours' distance through the mountain-forest are in close connection with the mountain station. A mountain-hotel furnished according to the most modern comfort receives visitors for a permanent climatic cure.

Physicians: Royal Physician in chief Geheimer Hofrat Dr. Weizsäcker, Dr. Grunow, Sanitätsrat Dr. Haussmann, Dr. Hiller, Dr. Josenhaus, Dr. Layer, Dr. Lorenz.

Entertainments: Orchestra, theatre, concerts, and performances. Elegant reading-, music, and card-rooms, dancing parties, lawn-tennis and croquet. Opportunity for target-practice, for hunting and fishing (water rich in trouts).

Divine services: Protestant, Roman-Catholic and English in churches of their own. Hebrew hall for prayer-meetings.

Means of communication: Telegraph and telephone to the largest towns of southern Germany. Railway, mail coach, cars and cabs, messenger-office.

Literature: Numerous publications concerning Wildbad, guides, maps, and pictures permanently in stock at J. Paucke, book-dealer at Wildbad.

Prospectus with map of Wildbad and a list of hotels and boarding-houses free of charge by the

Königliche Badeverwaltung (Royal Administration).

Wildungen, Germany, Principality of Waldeck; a very charming place; with cold alkaline ferruginous waters of great efficiency.

Woodhall Spa (Lincolnshire, England).

This Spa and Health Resort lies midway between Lincoln and Boston.

Topography and Climate: Picturesque Town, population 1450, built upon gently rising gravel soil, altitude 50 feet above sea level, sheltered by extensive woods on North and East, bracing air from Moors and Pine Woods; 20 miles inland from sea; dry and temperate climate, rainfall small 22 inches.

Mineral water (Heilmittel): Strong Bromo-Iodine saline water, rich in chlorides of sodium, calcium, and magnesium (vide Thorpe's Analysis 1911).

The Spa bath establishment recently enlarged contains numerous immersion mineral baths with under-current and local douches, nose, throat and eye mineral sprays and douches; modern accessory treatments, including Aix and Vichy Douche Massage, thermal light and electrical installations.

Season: April to November.

Indications: Rheumatism, gout, and scrofula, diseases of women, and tumours.

Doctors: Drs. Calthrop, Gwyn, Williams, and Boys.

Hotels: The "Victoria" adjoining the Spa Baths, "Eagle" and "Goring".

For information apply to **Medical Superintendent:** The Spa Baths.

Zugerberg (Switzerland).

Grand Hotel Felsenegg.

(3339 feet above sea level).

Climatic station of old repute. Electric railway from the station of Zug. **Wonderful** situation with a charming panorama, large pine-forests, plain promenades of long distance.

Resident physician. Modern appliances for hydro-therapeutics. — Massage. — Electric light Central-heating.

Indications: Exhaustion from mental overwork, chlorosis and anaemia, asthma and failing nutrition.

J. Bossard Ryf, Proprietor.



SECTION II.

Sanatoria and Cure-Establishments.



Arosa. Villa Gentiana.

The only private English Sanatorium in the Alps.

Combining the advantages of the Mountain climate with the careful medical supervision and nursing of an English Sanatorium. Facilities for all modern methods of treatment: a well-equipped bacteriological laboratory, Röntgen-rays and massage are available.

Prospectus and suggestions for equipment and journey on application.

*Egbert Morland, M. B., B. Sc. London.
Miss Wright.*

Children's Sanatorium Arosa.

Dr. med. P. A. Pedolin.

Founded 1904, since the autumn of 1907 in a new house built especially for this purpose, above Arosa, situated amidst the forest, 6335 feet above sea level. Location entirely free from dust. Large roofed open-air galleries, spacious parlours and school-rooms. Warm-water heating, ventilation, electric light, spring-water supply, canalization.

School sanatorium for a limited number of weak children, prophylactic patients, asthmatics, patients with glandular tuberculosis. Individual treatment.

Open pulmonary tuberculosis is not admitted.

As soon as the health and the constitution of the children allow, they receive regular instruction in all chief and side-branches in small classes. Boys up to the fourteenth, girls up to the 17th year of age. Lowest limit of age 5 years.

Details about the health-resort Arosa see page 92. Cable-address: Höhwald Arosa. Detailed prospectus sent on application to the proprietor *Dr. med. P. A. Pedolin.*

Baden-Baden.

Sanatorium of Dr. Burger.

for gastro-intestinal diseases, disorders of metabolism, affections of the liver and kidneys, diabetes, gout, and other affections, anaemia, neurasthenia; for convalescents and individuals needing recreation, for reducing and feeding-cures.

The sanatorium is situated in one of the most hygienic, beautiful, and quiet parts of the town, surrounded by shadowy gardens and parks, not far from the Gönnerpark, the playing-grounds, and the Lichtenthaler Allee. It is furnished with the most modern comfort, and equipped with all modern therapeutic appliances. In the house are applied electricity in all forms, all kinds of baths, most elegantly arranged (carbonic acid baths, electric-light bath, four-cell bath, sun-bath etc.), massage etc.

Prospectus and information by the leading physician

Dr. med. H. Burger.

Baden-Baden, Sanatorium Dr. Ebers

For Internal and Nervous Diseases, Recreation and Convalescence.

Open all the year round.

The sanatorium of Dr. Ebers is located about 10 minutes from the centre of the town, half-way up the Annaberg, opposite the Grand-Ducal palace, amidst an old and shadowy park of 6 acres. Owing to its elevated location above the bottom of the valley, yet protected by the higher mountain-crests, the establishment enjoys even in mid-summer a cooler and more refreshing atmosphere than the town lying in the valley.

The house built up as a sanatorium, has beside the conversation rooms (winter-garden, dining-room, music- and ladies'-saloon, billiard- and smoking-room), 40 rooms for visitors, and is furnished according to all the requirements of comfort and rest, but without any exuberant luxury. (Central-heating, electric light, warm and cold water supply in each room, lift etc.) — Balconies in most of the rooms. In a distance of about 50 feet from the house there is a villa, built 2 years ago as a dependance, and containing beside the lodging of one of the physicians, 10 fine rooms for visitors (with balconies).

In the medical treatment chief stress is laid on observing a dietetic and rational mode of life, and on psychical influence upon patients infirm in their will-power and initiative. Furthermore, all the physical, dietetic, and medicinal cures, approved by experience are applied. For this purpose the establishment is provided with the most up-to-date appliances for **Hydrotherapy**; such as full- and semi-baths, flowing sitz- and foot-baths, cold and tempered douches of any kind, carbonic acid baths, sinusoidal alternating current baths, electric sudatorium, and light-bath for the whole body and single limbs, electric four-cell baths (W. Schnée), medicinal baths of any kind, appliances for hot-air treatment etc.

Electrotherapy. Contrivances for constant and induced current and for Franklinisation, vibration-massage; Roentgen-apparatus for diagnostic and therapeutic purposes etc.

Gymnastics. Complete equipment for exercise-therapy according to Frenkel, resistance-appliances etc.

Open-air treatment. There is a large air- and sun-bath in the adjoining park, furthermore, in the house a laboratory for the examination and permanent supervision of all excretions and secretions.

The cure is indicated for convalescence after acute, somatic and psychical affections as well as for people needing recreation; anomalies of development, and metabolic diseases (anaemia, chlorosis, gout, obesity, diabetes), functional and organic affections of the respiratory organs, of the heart and the vessels, diseases of the gastro-intestinal tract, of the male and female urogenital-apparatus; chronic intoxications, (alcohol, nicotine, morphine etc.). Insanes, epileptics and patients with infectious or offensive diseases are not received.

Prices for room, full board, heating, light and use of all curative factors of the sanatorium from Mks. 12 daily upwards varying according to choice of room.

Detailed information by prospectus as well as by the leading physicians.

Telephone No. 174. Cable-address: Sanatorium Ebers.

Physicians: *Dr. Paul Ebers* (Proprietor), *Sanitätsrat Dr. Theodor Zacher*.

Baden-Baden.

Sanatorium of Dr. Groddeck.

The sanatorium established by Dr. Groddeck in 1897, offers care and treatment to any kind of patients except those suffering from infectious or mental diseases. Only 15 patients are taken in at a time. The results of the sanatorium are due to this limitation of the number of patients.

The aims of this sanatorium are most evidently shown by the considerations that have induced the leading physician Dr. Groddeck to establish this institute. In his medical practice among a constantly increasing number of patients of all nations, with chronic diseases, also the so-called "given-up" cases, Dr. Groddeck became convinced that for any medical treatment the fundamental rule is, at least in difficult cases, to have the patient live under simple conditions easily to be investigated, overlooked and controlled by the physician. For the patient is undoubtedly the product of his own life in the broadest

sense of the word. If we do not want to leave success to mere chance, but wish to achieve it ourselves, on the basis of a thoroughly elaborated plan and with medical intelligence, we must eradicate or at least render innocuous all the factors of life that have in the given case made the patient sick or are still working to make him sick. For this, however, it is necessary to recognize these factors clearly, and to have a thorough insight into the patient's life. If we have the patient live under simple and easily controlled conditions, the physician will very soon learn, where the vicious factor of life is, and he is then able either to cure the disease or to modify it in a way as to giving the patient his former strength, or at least rendering the affection tolerable. The physician is also able to teach the patient how to live in order to remain as healthy as possible in future.

Such a control of life is often not possible neither in the private house nor in hotels and in the crowded modern sanatoria. But three things are necessary above all—viz., an institute directed by a physician entirely independent of other people and under his sole responsibility; secondly all the provisions allowing the greatest freedom of the patient, but at the same time giving certainty to the physician that nothing can be done with the patient without the physician knowing it; thirdly the greatest possible limitation of patients which allows the physician to devote his entire energy to each patient. These considerations have inaugurated the establishment of the sanatorium with its peculiar organization, and the efficiency of the institute has been proved by the experiences of 15 years.

The patients of the sanatorium are treated exclusively by the leading physician himself. All therapeutic measures (massage, gymnastics, electric treatment &c.) are carried out by the leading physician personally.

The situation of Dr. Groddeck's sanatorium in the direct neighbourhood of the Kurhaus and of the forest, far from the bustle of life, in the finest part of Baden-Baden, allow a view of the town, of the castle and of the mountains of the Black-Forest.

Detailed information by the leading physician and proprietor *Dr. Groddeck.*

Baden-Baden.

Dr. Heinsheimer's Waldpark-Sanatorium.

Gastro-Intestinal Diseases. Disorders of Nutrition and Metabolism (especially Diabetes). Weir-Mitchell- and Banting-cure.

Most complete appliances. Very best comfort. Delightful situation at the margin of the forest. Large park.

Two physicians. — Open from March to December.

Prospectus on application. — Cable-address: "Waldpark". Badenbaden.

Baden-Baden. Sanatorium of Dr. Lippert

for gastro-intestinal diseases (also of a nervous origin), diabetes, hepatic (gall-stones) and renal affections, Banting- and Weir-Mitchell cures.

The sanatorium situated near the Gönner-parks is in a splendid, open, and quiet location with a favourable climate, near the Lichenthal Allee. It is provided with all the therapeutic, hygienic, and comfortable equipment of modern times.

Individual and strictly scientific medical treatment: massage, electro- and hydro-therapeutics. Limited number of patients. Most painstaking dietetic cooking. The sanatorium is open from March to December.

The expenses of a stay are, according to the choice of the room, for full board, light, heating, complete dietetic pension, including baths, all prescribed applications and curative means, and ordinary nursing 13—25 Mks. per day. The honorarium for the physician is according to the individual treatment.

Detailed prospectus by the proprietor and leading specialist

Dr. med. Hugo Lippert,

formerly, for many years, first private assistant to
Geheimrat Prof. Dr. Fleiner at Heidelberg.

Pneumatische Anstalt Baden-Baden.

Compressed air baths.

Treatment for Catarrh of the respiratory organs and ears; Bronchial Asthma; Emphysema; Pleuritic exsudations; Whooping cough; Anaemia; Venosity; Dysmenorrhoea; Adipositas; Gout.

Duration of Treatment: 30 days. Season: April—October.

Apply to: "Direction der Pneumatischen Anstalt, Baden-Baden, Kaiser Wilhelm-strasse 2."

Bad-Reichenhall. Sanatorium Villa Romana.

In this first-class sanatorium (24 beds) situated close to the Royal Kurpark amidst gardens, are treated especially: 1. Asthma and all forms of chronic dyspnoea; 2. complications of affections of the respiratory organs with disorders of the cardiac and renal function, of the gastro-intestinal function, of metabolism &c.; 3. the sanatorium is of extreme value for dietetic cures with patients applying at the same time the curative factors of Bad-Reichenhall, and in general for dietetic cures of any kind, on a scientific basis. (Most remarkable results in dietetic treatment!) Institute highly approved during the seven years of its existence. — Genuine therapeutic agents! Modern comfort. Open from April 5th to November 15th.

Detailed information by the proprietor and leading physician

Dr. L. Dresdner.

Sanatorium Bad-Reichenhall.

(In the Bavarian Alps.)

Summer and Winter Station.



prospectus on application. — Patients not admitted.

Recently built, central situation, near the Royal Kurgarten. Furnished with the most modern and hygienic comfort. — Quiet establishment; apartments with cold and warm water in the rooms; Roentgen-cabinet; gymnastics and massage; dietetic cooking and curative remedies of the health resort. Auto with berth in the house.

Indications: Internal diseases, conditions requiring recreation, heart diseases, especially diseases of the organs of respiration (asthma and emphysema); scrofula; diseases of women and surgical (after-)treatments. Specialists. Detailed

with mental diseases and open tuberculosis are

Direction: Dr. v. Heinleth.

Ballenstedt-Harz.

Sanatorium Dr. Rosell.

The sanatorium of Dr. Rosell takes in patients with chronic affections of internal organs. The examination is carried out with all special methods of modern science. The treatment consists above all in a carefully individualizing diet, and in physical measures by appliances provided for the use of the patients in a most complete manner, in the institute for physical therapy completed in October 1909.

Topography: Ballenstedt is situated in the climatically favourable and picturesque Eastern Harz, on a wooded mountain-crest separating the largest and most beautiful rivers of the Harz, the Selke and Bode, from one another. The town towers up a mountain declivity in an altitude of 840—1190 feet. The sanatorium is excellently located upon a small hill, declining somewhat to the east, south and west, above the south end of the town. Although it is almost entirely framed by forests, there is still an open view of all sides. Sunshine is at no time of the day kept away from the sanatorium by hills, houses etc.

Climatic conditions: In the above mentioned altitude our climate favours alike the processes of nutrition, metabolism and excretion, without, in a favourable contrast, distinction to the sea, to alpine regions or to the south, forcing the sick organism to adapt itself to the climatic properties of the various places.

This is the greatest advantage of our location with regard to the purposes of our sanatorium. Our climate does not interfere with pathologic processes, moreover it allows full control of the latter by the curative factors of the sanatorium itself, and thus an individually dosed treatment. Further climatic advantages of Ballenstedt are the dry climate (only 455 mm of rain during the year); the almost entire absence of fogs (on account of the absence of rivers and valleys); the great number of sunny days, especially in winter. The location in the neighbourhood of the margin of the mountain warrants uniform daily and annual temperature, i. e. warm evenings in the spring and autumn, cool summer, mild winter.

Owing to the heavy stone formation, dust cannot arise even at dry times of long duration.

Indications: 1. Diseases of the circulatory organs: cardiac weakness and dilatation, cardiac neurosis, lesions of the heart-valves, affections of the myocardium, adipous heart. Arteriosclerosis, vicious distribution of blood, varicocele, vertigo; Graves' disease. 2. Diseases of the digestive organs: gastro-intestinal catarrhs, — ulcers — haemorrhages, dystopia of organs, constipation, haemorrhoids, congestions of the liver, jaundice, bilious gravel. 3. Metabolic diseases: chlorosis, anaemia, incipient leucaemia, scorbutus, gout, muscular and arthritic rheumatism, arthritis deformans in the incipient stage; rickets, diabetes, obesity, emaciation, scrofula. 4. Diseases of the muscles, bones and joints: periosteal irritations, ankylosis and curvatures; chronic arthritis. 5. Sexual diseases: impotence, inveterated syphilis, chronic gonorrhoea and complications. Diseases of women: dysmenorrhoea, disorders of the climacteric period, dislocations, chronic inflammations and catarrhs, sexual anaesthesia and sterility. 6. Diseases of the air passages, of the organs of speech and of the respiratory organs: catarrhs, reflex-neurosis, asthma, emphysema, residues of pleurisy. 7. Diseases of the excretory organs a) of the skin: chronic dermatoses on an inflammatory basis; b) of the urinary organs: chronic nephritis, Bright's disease, renal gravel, floating kidney, vesical catarrh, weakness of the vesical sphincter, prostatic disorders. 8. Nervous diseases: neuralgia, palsy and irritative conditions, writers' cramp, insomnia, hysteria of light stages, neurasthenia, migraine, tabes. 9. Diseases of the sensory organs as far as they are connected with general affections. 10. Fistulae, glandular swellings and suppurations, poorly healing wounds. Excluded from admission are: Consumption, mental diseases, epilepsy, contagious and repugnant diseases.

Diagnostic aids: Beside the generally applied methods of investigation: inspection of the body-cavities (endoscopy), functional tests, kinematographic registration, e. g. of pulse-curves, of heart-sounds, of the electrocardiogram etc., orthodiagraphic Röntgen-fluoroscopy and instantaneous x-ray photographs. A very large chemical, biological and bacteriological laboratory with all technical appliances allowing any kind of investigation. Our diagnostic means are constantly kept on the highest level of scientific research by a permanent supply of new appliances.

Curative agents: 1. A carefully individualizing diet under the permanent control of the physician. 2. Massage according to the Swedish method. 3. Medical gymnastics in our Zander hall (70 feet long) furnished with all appliances. 4. Resting- and Oertel-cures; exercise- and occupation-therapy. Athletics, sporting and games. 5. Hydrotherapy, steam-applications, fango-packings, hot air-baths and douches, sand baths, electric incandescence and arc-light baths, brine and carbonic acid baths, electric water baths. 6. Heliotherapy by means of iron-light, uvioi-lamp and Röntgen-light etc. 7. Electricity: galvanization, faradization, electrolysis, kataphoresis, galvano caustic, Arsonvalisation by autoconduction, direct application and condensation, voltaization, static electricity, thermopenetration. 8. Electromagnetism. 9. Radium for drinking, bathing, and inhalation cures. 10. Inhalation of compressed air, of nebulized air, of steam and warm air. 11. Application of condensed and rarefied air to the lungs. 12. Air and sun baths. 13. Psychological treatment.

The **Sanatorium** has 100 beds. Electric light and central heating by distant heating engine for all rooms. Three large buildings serve for lodging the patients, while the fourth building, the Kurhaus proper contains, in its three large flats, a model equipment of all physical aids. In the ground floor are large rooms for douches with all kinds of

shower baths, a swimming tank, all kinds of tubs for all methods of hydrotherapy, baths with natural carbonic acid, electric-bath tubs, sand and fango baths, rooms for gargling and enema etc. In the first floor are the most various sweating-boxes for full and partial steam and hot air baths, the polysol-light and arc light bath, the electrothermal apparatus, the refractor, hot air douches, places for massage, berth and resting halls. To this is annexed the large vestibule from which one goes to the consultation room, the operation room and the office. In the second floor is another vestibule, the room for occupation therapy, the inhalatorium, the Roentgen cabinet, the room for electro-medical apparatus, the large Zander room, and the sun baths for ladies and gentlemen. All the flats are connected with one another by electric lifts, and by convenient stairs. A resting hall and four large air baths are located in the beautiful pine forest close to the building. A number of drawing rooms, verandas, well-kept gardens make the establishment complete. The kitchen was entirely renovated in 1910, and is now an object of greatest interest which is willingly shown. There are the most various cooking vessels and grills. Any desired temperature can be obtained in the heating tables and boxes, the water-bath with central-steam heating on the hearth, a fire-place for cooking, in the grill and spit-rack, and also in the pastry fireplace. An electromotor of 2 horse-powers runs an ice-machine for ice-cream, a stirrer and a kneading-machine, a separator, a whisk and a machine for whipped cream, a universal grinding-and cutting-machine, a coffee-mill, a meat-chopper, and a machine for skinning potatoes etc. A refrigerator according to the sulphuric-acid compression-system keeps two rooms at a temperature of 3 and 6° C and makes artificial ice.

The sanatorium is open all the year round and, owing to the appliances answering the highest demands, frequented exclusively by the best classes.

The advantages of winter cures being more and more acknowledged, visit during the winter has grown considerably. Opportunity for sport of all kinds. Exaggerations and neck-breaking performances are, however, not allowed here.

Prices for adults per week:

1. Pension in rooms with 1 bed: 2 £ 16 sh—4 £ 11 sh, with 2 beds: 5 £ 5 sh—8 £ 15 sh, according to choice of room. For the months of November, December, and January price for pension 7 sh less.

2. For the cure including medical treatment: 1 £ 1 sh for 10—20 single prescriptions, and 1 £ 15 sh for 20—30 single prescriptions per week.

First examination 10 sh. At a second stay for cure this fee is no more charged.

No extra fees for any additional thing. One has to bring with oneself only 1 large bath-towel and blankets for resting-cures. In the rare cases which do not agree with this bulk, special agreements are made.

Persons needing recreation without a regular cure and companions pay the pension-price only.

Servants accompanying the visitors may have their meals with our servants and pay 1 £ 1 sh per week.

For Children the price of pension in rooms together with the adults is 1 £ 1 sh up to the fifth year of age, 1 £ 8 sh up to the tenth year, and from 15 years upwards 1 £ 15 sh; for the cure 7 sh less than adults per week.

All the visitors of the sanatorium have to give notice 8 days before departing. Detailed information in the prospectus.

Means of communication: Ballenstedt is about $\frac{3}{4}$ railway-hours distant from the stations of Halberstadt or Aschersleben of the main line Hildesheim—Halle—Leipzig, at the branch-line Quedlinburg—Aschersleben. Here are two railway-stations; drive as far as Schlossbahnhof Ballenstedt.

Further information by prospectus, printed descriptions and by the undersigned proprietor.

Dr. Rosell.

Bendorf on the Rhine.

Dr. Erlenmeyer's Sanatoria for Patients with Nervous and Psychical Affections.

For the various forms of mental and nervous diseases are three special and separate establishments:

I. Sanatorium for Psychical and Nervous Affections, situated at the north-end of the city of Bendorf. Also for patients addicted to alcohol, for morphinists, and epileptic patients.

Pavilion-buildings. Working rooms. 13 acres of park with gardening and tennis-links. Electric light. Central heating.

II. Hydrotherapeutic sanatorium "Rheinau". Kurhaus for nervous patients and such needing recreation. Situated near the Rhine, south-west to the town. Especially for neurasthenics, patients with spinal affections, with heart-diseases, arteriosclerosis. Cure of drug-habit. No insanes admitted. Electric light. Central heating. 14 acres of park. Best hydrotherapeutic-physical appliances.

III. Kolonie "Albrechtshof", establishment for agricultural occupation for invalids, convalescents, juvenile weakness. Situated eastern to Bendorf.

Total area of establishments = 580 acres.

For each one of these establishments special prospectus.

Bendorf is a small city of 6000 inhabitants situated between the south-western spurs of the Westerwald-mountains and the Rhine, in a region rich in forests. Protestant and Roman Catholic church, synagogue. Middle-class school. Station of the line Ehrenbreitstein—Neuwied on the right bank of the Rhine. Fast train station of Bendorf is Engers (25 minutes distance). Bridge-station of Rhine-steamers. Electric tram to Ehrenbreitstein—Coblenz (30 minutes).

Leading physicians: Geheimer Sanitätsrat Dr. Erlenmeyer, Dr. Max Sommer, and one or two assistants.

Sanatorium Tannerhof in Bayrisch-Zell (Upper-Bavaria).

Physical-dietetic Sanatorium and Country Home for Recreation with family character.

2940 feet above sea level, at the foot of the Wendelstein (6433 feet high, with the first Bavarian mountain-train), protected against winds; alpine character. About 345 acres of garden, lawns, forest and alpine pasture up to an altitude of 4480 feet. Weak carbonic-acid mountain-spring.

Large air-light baths on wooded declivities up to the alpine pastures. Two boarding-houses.

Cottage-colony at the mountain for one or several persons and families. Resting-halls.

Help-system, i. e. well bred young girls under the personal direction of the lady owner, for domestic work; no servants and tips. Limited number of visitors.

Recuperation of the entire metabolism (patients with grave or contagious diseases are excluded), preferably lacto-vegetable diet without stimu-



lants, very little meat no alcohol, milk from the pasture from a dairy under control of our own. self-baked whole-meal bread; 3 meals per day. — All simple hydrotherapeutic applications without complicated apparatus, special hot partial steam-baths, hay- and pine-needle baths, massage, also nervemassage according to Oberstabsarzt Dr. Cornelius, carried out by Dr. v. Mengershausen himself.

Sun- and air-baths with gymnastics, under the supervision of special instructors, and with Oertel-cures. Instruction in rational and hygienic mode of life. Helping work in house, garden, lawns and forest.

Especially suitable ground for winter-sport. Ski-ing and bobsleigh for beginners near the house; for advanced people on the neighbouring Südfeld (well known winter-sporting place in Upper-Bavaria).

Prices: 42–70 Mks. per week. First consultation 10 Mks. Baths and medical treatment 6–10 Mks. per week.

Railway-communication from Munich to Bayrisch-Zell 4 to 6 times a day.

Prospectus by the owner and director

*Dr. med. Chr. v. Mengershausen and Barbara v. Mengershausen,
geb. v. Kummer.*

Sanatorium Birkenwerder

near Berlin

(Nordbahn, 45 minutes from Stettiner Vororts-Bahnhof).

Telephone: Amt Oranienburg 40.

Sanitätsrat Dr. Sperling.

Office-hours: Berlin Charlottenburg, Joachimsthalerstr. 39 40,

Monday, Friday 4–6. Telephone: Amt Charlottenburg 8175.



Sanatorium Birkenwerder, suitable also for cures in the autumn and winter, is fitted for heart-diseases, acute or chronic cases, as a station after a cure at Nauheim &c.; for diseases of the circulatory organs, and beginning affections of the blood-vessels; in such cases especially good results have been obtained; for acute bronchial catarrh or convalescence after catarrhs, pneumonia, influenza &c. The large pine-forests (about 80000 acres) surrounding the sanatorium in the east and north, offer the patients an aromatic air rich in ozone, pure and free from dust. — Resting-cures in roofed and open-air galleries are suitable for such persons; for convalescents and those needing recreation, for people that have overworked and over-exerted themselves, and wish to enjoy rest, the regular mode of life in the sanatorium, the good air and the opportunity for walking, driving and riding in the surroundings. With over-exerted inhabitants of large cities it has become a habit to live for a longer or shorter time in the sanatorium and to attend here to a part of their business matters; for women after confinement, wishing to recuperate thoroughly and to get rid entirely of the sequelae of confinement (relaxed abdominal wall, pendulous abdomen, constipation, depression, endometritis or dislocation of the uterus): for digestive affections — including diseases of reabsorption and

assimilation of foodstuff as well as of metabolism in general — constipation, haemorrhoids, dyspepsia, tendency to irritation of the appendix and to the formation of bilious and renal concretion, obesity and emaciation), for which an individually adapted diet is required, and in which the patients after recovery want to know how to live.

For all such cases the treatment of the digestive organs which is here the essential part of a general and local treatment (diet, thermal treatment, gastro-intestinal massage), is an excellent aid. The function of the digestive organs is to use the chemical energy of the food-stuff; for Julius Robert Mayer, the discoverer of the law of conservation of energy, has already proved that the chemical energy of food-stuff is to be considered a general source of energy for all functions of man and animal. Modern natural sciences and medicine (Rubner) hold the same view. We are thus justified to consider a false nutrition the cause — in the widest sense of the word — of a great number of diseases, and we are also justified to place the question of nutrition — again in the widest sense of the word — into the centre of our treatment. Therefore, our approved principles are — training the digestive organs for a proper digestion — instruction in proper mode of nutrition with regard to choosing food and drinks as to quantity and quality — practical advice in securing a proper assimilation of the food by bathing, gymnastics, air-baths — conservation of health reestablished by the cure.

For detailed information on these points see our illustrated prospectus. Also articles about gastro-intestinal massage, assimilation of food-stuff, circulatory disturbances &c. are at disposal. The sanatorium has been made still more pleasant and comfortable by some improvements and new establishments.

Price of cure 10—12 Mks. per day according to choice of room. Medical treatment, baths, diet, boarding are included in this price. The first examination, night-call, and medicine are charged extra. For physicians and their relatives special reduction for cure and stay in Sanatorium Birkenwerder.

For sake of physical power and freshness of life it should become a custom to visit the sanatorium and to consider it much more a hygienic-prophylactic institute. Principiis obsta — oppose the beginnings; it is far easier to nip in the bud than to subdue the flames.

Blankenburg (Harz), Kuranstalt Müller-Rehm; Establishment for physical-dietetic treatment.

Blankenburg (Harz), Sanatorium "Villa Bergfried", Sanitätsrat Dr. Retslag.

Blankenburg (Thuringia).

Villa Emilia.

Sanatorium for Nervous Diseases.

Three doctors. Chief physician: Sanitätsrat Dr. Warda, formerly first assistant to Geheimrat Binswanger at Jena.

The sanatorium is charmingly situated at one of the finest spots of Thuringia. Visitors find there clinical treatment and family life. Beside the approved physical curing methods, particular stress is laid upon Psychotherapy.

Price for pension: 9 to 20 Mks. a day.

Blankenhain in Thuringia.

Sanatorium for Diseases of the Throat and Lungs.

The sanatorium for diseases of the throat and lungs at Blankenhain is the only private sanatorium of this kind in Thuringia. It is existing since the year 1885, and can look back upon a great number of cured consumptives. The sanatorium is situated in a quiet location protected against winds, and it offers the best chances for healing tuberculosis. The establishment is provided with excellent open-air galleries, with a high-pressure water-system, electric light and vacuum-cleaner.

Chief stress is laid upon the dietetic treatment and upon respiratory exercise. This is always performed under the control of the physician. The price of pension is about 70–84 Mks. per week, according to choice of room, including full-board, lodging, and all extra expenses, such as heating, light, baths and rubbings etc. Only medicines and drinks are charged extra.

Detailed information by prospectus and the leading physician

Dr. Leo Silberstein

Sanatorium St. Blasien in the Southern Black-Forest of Baden.

Sanatorium for the treatment of diseases of the Lungs.

2800 feet above sea level.

Directing physician: Medizinalrat Dr. Sander.

The sanatorium is situated amidst extensive pine-forests on the southern slope of the Bötberg which is 4290 feet high. It was built in 1881 by Dr. med. Haufe after a careful investigation of the climatic conditions, and is being

conducted since 1895 by the present directing physician Medizinalrat Dr. Sander. In 1900 and 1908 it was entirely renovated and rebuilt according to the demands and progress of the modern hygienics of the building technic.

The approved therapeutics of the sanatorium is a hygienic, dietetic and strictly individual method. Thorough medical supervision and instruction of patients, open air cures, hydrotherapeutic treatments adapted to each individual case, copious and variable nourishment.—The efficacy of this therapeutic method has been sufficiently proved by the permanent results obtained during a period of 30 years with the treatment of diseases of the Lungs, at all seasons of the year, in the Sanatorium St. Blasien.

There are in the sanatorium apart of the drawing rooms, 95 rooms for patients, most of which are exposed to the south and have balconies. Pavilions in the Forest for the open air cure. Summer and Winter, modern baths and



central-heating, lift, electric light, special ventilating system, linoleum-flooring, oil painted walls and rounded corners, strictly hygienic provisions all over the premises combined with every comfort.

Full board, medical and hydrotherapeutic treatment 7,50 Mks. per day. For physicians 6 Mks. and accompanying persons 5,50 Mks. Rooms from 2 to 6 Mks. per day.

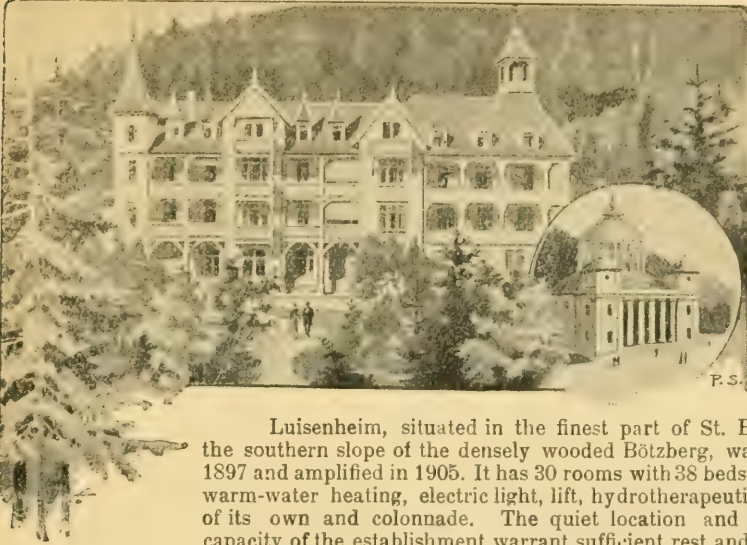
Illustrated prospectus on request free of charge,

Sanatorium Luisenheim, St. Blasien.

For Diseases of the Internal Organs, Disturbances of Digestion or of the Nervous-System, or of the Circulation of the Blood, as well as for Convalescents.

Open all the year round.

Medical Direction Professor Dr. Determann Hofrat, Dr. Wiswe.



Luisenheim, situated in the finest part of St. Blasien, at the southern slope of the densely wooded Bötztberg, was built in 1897 and amplified in 1905. It has 30 rooms with 38 beds, parlours, warm-water heating, electric light, lift, hydrotherapeutic institute of its own and colonnade. The quiet location and the small capacity of the establishment warrant sufficient rest and thorough

treatment of the individual patient. The establishment was united in December 1908 with the Kurhaus.

Owing to the very much protected location of St. Blasien, to the long duration of sunshine (7—12½ hours) in the winter, to the very favourable temperature in December, January and February (only 0,9° C in the average) the establishment which is open all the year round, is a remarkably suitable station for winter-cures, particularly for patients that have to remain in a permanent recumbent position, and still want to have the beneficial effect of a strong insolation on sheltered verandas. Further advantages of the winter-cure are offered by the winter-sport rendered possible by a permanent snow-cover, and a stay during the winter is recommended to all those whose treatment allows or requires taking part in winter-sport.

The establishment is equipped particularly for dietetic cures. In addition to a strictly individualizing dietetic therapy, all other scientifically approved therapeutic methods are applied, such as hydrotherapy, medicinal baths, Roentgen- and thermo-penetration apparatus, electricity, massage, gymnastics, open-air resting-cures, Oertel-cures, air- and sun-baths on a wonderful meadow embraced by a fine forest, as well as internal treatment.

According to its situation, to the appliances and curative factors the sanatorium is preferably suitable for:

1. All disorders of metabolism (diabetes, obesity, gout, severe cases of anaemia), which require a thorough dietetic cure;
2. those affections of the gastro-intestinal canal and the nervous system that require a special consideration of diet and thorough nursing;
3. chronic renal affections, functional and organic diseases of the heart, in which a long continued supervision of the mode of life and nutrition are required.

Consumptives and insanes are not admitted.

Prices of pension: Room including three meals according to the prescription of the treating physician, light and heating, from 10—20 Mks. per day and person. From June 1st to October 1st 25 per cent. more for boarding and pension. For visitors living outside the house prices by arrangement.

Medicines, drinks and baths are charged extra. — Honorarium for the physician according to the individual case. — Prospectus are to be had on application to the *Director*.

Department for Physical Therapeutic Factors of Hotel and Kurhaus St. Blasien.

(Consumptives are not admitted.)



St. Blasien, Hotel and Kurhaus. — Total view.

Owing to its alpine situation, 2612 feet above sea level, protected against wind, and amidst endless pine-forests perviated everywhere by the most beautiful paths, this establishment is one of the most highly located and most renowned of the German mountains. It was considerably improved in 1900 1901 by a renovation and subsequent enlargement of ground, increase and more elegant equipment of bathing- and packing-cabins, and by the provision of very effective top-light.

The hydropathic establishment has a complete equipment for all the methods of hydrotherapy, for ladies and gentlemen in separate apartments, all kinds of baths and douches, including mud-baths, carbonic acid brine- and electric-light baths, electric four-cell bath, and practical rooms for packings and for resting. In the neighbourhood of the establishment is an elegant colonnade 115 feet long and more than 14 feet broad; furthermore two open-air galleries 175 feet long with fine views, one of them provided with resting-chairs.

The method of treatment is strictly individualizing. Very well trained attendants for bathing.

Chief physician: Professor Dr. Determann, Hofrat.

Massage and Swedish gymnastics: Mr. Casper André from Swede, and a lady assistant. In the Kurhaus are open and closed glas-verandas (42 dining-tables.) — Electric light. — Lift. — Air-baths, separate for ladies and gentlemen on a meadow of about 3000 square-yards, embraced by forests, playing-grounds, skittle-ground, gymnastic apparatus, opportunity for hunting, (hunting grounds owned by the Kurhaus) trout-fishing.

The garden extending between the institute and the Kurhaus offers a splendid view of the Menzenschwand Valley with the two "Spießhörner". This garden was renovated in the style of a park and laid out with a number of resting-chairs and, at the end of the pretty flower-beds, with large playing grounds for lawn-tennis, croquet, nine-pins and other games. At the end of this park is a milk-cure establishment with a roofed hall, the model of a modern and practical establishment.

Pension: For the various forms of diseases special diet according to medical prescription at fixed prices and at special tables.

Indications: Nervous diseases, circulatory disorders, especially in affections of the heart, chronic catarrhs and atony of the digestive organs. — Constitutional anomalies, such as chlorosis, anaemia, obesity, diabetes, uric acid diathesis, and gout. — Chronic diseases of women. — Affections of the respiratory organs, as asthma, emphysema, chronic bronchial catarrh, residues of severe pleurisy, sensibility, tendency to frequent cold, cures for inurement etc. Consumptives are not admitted.

For further details see the illustrated prospectus of the Kurhaus.

Carlsbad in Bohemia (Westend).

Dietetic Institute "Villa Ritter".

This establishment receives patients needing a more thorough dietetic treatment and attendance in addition to the cure at Carlsbad. Treatment only for diseases of the stomach and intestines and adnexa of the gastro-intestinal tract (liver), furthermore, disorders of metabolism. Patients with infectious diseases are not admitted.

The villa has not room for more than 27 beds. It is located in the Westend district, surrounded by gardens, near the forest and meadows. Most modern and comfortable furnishing (electric light, lift, etc.). For the colder seasons of spring and autumn central-heating on the stair-cases, the corridors and the W. C.'s etc. Honorarium for treatment according to requirements. Detailed information on application.

Medicinal-Rat Dr. Ritter.

Carlsbad (Bohemia).

Dr. Tyrnauer's Institute for Swedish Gymnastics (Zander-Apparatus), Medical Massage, Hot-air treatment. Radium-treatment (Newly established).

Kaiserbad.

Dr. Tyrnauer, J. C.

Superintending physician.

Etablissement Hydrothérapique de Champel

with Hotel Beauséjour in the same park
10 minutes from Geneva (Switzerland).

There can scarcely be a more delightful place than Champel on Arve, and especially for a cure-establishment this magnificent location offers the best advantages conceivable.

All good things are united here, such as a bubbling curative water, extended promenades on a magnificent plateau; wonderful shadowy retreats. The hotel is located at the bank of a river on a hill, sufficiently high as to allow a permanent change of air, and to offer a charming view of the surroundings. Unequaled station for spring and autumn.

The institute provides all curative factors, such as cold and warm douches of the most various kind, with regulation of pressure and temperature, Scotch douches, cold hip-baths with flowing water, douches from below, piscines with flowing water, rooms for packing, for half-baths. Sun- and air-baths, electric light baths, steam-douches. All kinds of electro-therapy. The temperature of the water of the Arve-river is $9^{\circ}\text{C} = 48.2^{\circ}\text{F}$.

Indications: The diseases treated especially in Champel are affections of the nervous-system, anaemia and neurasthenia, nervousness, diseases of the digestive organs, convalescence after severe diseases.

The hydrotherapeutic institute was established in 1876 under the protectorate of the Corps médical of Geneva.

Resident physicians: Dr. A. W. Roelrich (speaks English) Dr. M. Egger, Dr. Röthlisberger (speaks English). Electric train from Champel to Geneva from 7 to 7 minutes.

Open all the year round.

Clavadel near Davos.

Sanatorium for Lung - Diseases.

5500 feet above sea level.

The sanatorium Clavadel (price of pension including room, medical treatment, full board, packings, baths etc., light and heating, from 14—20 Frcs. per day according to size and location of the room; reduction in the summer) was built in 1902/03, and established as a sanatorium for lung-diseases according to the most modern requirements as regards sanitary and hygienic equipment. The chief aim was to give the rooms a home-like and comfortable appearance as far as it was possible. 60 rooms, most of

them with roofed and very spacious balconies, warm and cold water in all bed-rooms, electric light, low-pressure steam-heating, lift. Numerous baths, douches, operation-room, most modern Roentgen-appliances, laboratory, coiffeur, dark-room. Near the house two large isolated, protected and well-ventilated open-air galleries. — Two physicians, trained English nurses.

Leading physician: Dr. H. Bodmer (formerly at Geheimrat Dr. Turban's, Davos-Platz).

The treatment is carefully adapted to the individual case, and considers all aids of modern therapeutics (Tuberculin, artificial pneumothorax). Management by Miss Galmier. Special attention is paid to good cooking and use of first-class food stuff.

For further details see prospectus.

La Soldanelle, Château d'Oex.

Dieteric Kurhaus.



La Soldanelle is situated 3400 feet above sea level, in one of the finest regions of Château d'Oex, close to the forest in a park of its own, with playing-grounds, tennis-links, summer- and winter-sport. Open all the year round. Modern comfort, central heating, electric light, lift.

Climate: Owing to its very sunny and protected position, Château d'Oex has a mild alpine climate of essentially tonic action; thus a sojourn there is highly favourable for all seeking health and recreation; another item in the beneficial effect of the cure there is the very dry and calm air.

Indications: Gastro-intestinal diseases, affections of the functions of nutrition (diabetes, obesity, gout), anaemia, general weakness, Grave's disease, convalescence, station after strenuous bathing-cures.

Curative factors: Hygienic invigorating diet of first-class quality, dietetic cooking for gastro-intestinal and affections of the functions of nutrition. Open-air cure, sun-cure (heliotherapy) resting-cure, massage, hydrotherapy, electrotherapy (taradization, galvanization, electric,

baths, four-cell baths, light-bath, Dowsing). Arsonvalization. Roentgen. cures for inurement. Attention is especially called to the sun-cure by which more and more splendid results are being obtained.

Terms: Price of pension 9 to 18 frs. daily (for at least 5 days). Included in this price are: room, pension with 4 meals (breakfast, lunch, afternoon-tea, and dinner) including diet according to medical prescription, central heating, electric light. 5% of the bill is charged for service. It is requested not to give tips.

For the sake of the visitors the house-regulations posted in every room have to be strictly observed.

Contagious diseases (especially consumptives), in-anes and very nervous cases are not admitted.

Means of Communication: Château d'Oex is a station on the line Montreux—Bernese Oberland, one of the most interesting electric railways of Switzerland; from Montreux, Château d'Oex can be reached in 2 hours, from Lausanne and Interlaken in 3 hours.

Sanatorium Davos-Platz Davos-Platz (Switzerland).

First-class Establishment. Open all the year round.



Medical director: Dr. A Schnöller.

This well-known sanatorium for lung-complaints is situated in a sunny position above the health resort, free from dust and smoke, and sheltered from wind. The house is close to the borders of the pine-woods and offers an extensive view of Davos. In front of the building stretches a terraced-garden with graduated ascents, which facilitate methodical walking exercise, and at the back, a bridge specially constructed for the convenience of the visitors, enables them to reach without any effort the wooded mountain paths, where a magnificent view of the valley and lake of Davos, and a panorama of the Grison Alps is obtained.

The interior arrangements of the sanatorium are most complete and hygienic. All the south-rooms are built with separate covered balconies, which allow the patients to

enjoy the invigorating air from morning till evening. The near vicinity of the pine-forest with its easy paths makes the sanatorium an ideal sojourn in summer. The treatment under the personal supervision of the leading physician Dr. A. Schnöller is a hygienic-dietetic one, following the principles of modern psychotherapy, avoiding any exaggeration and individualizing as much as possible. In gastro-intestinal disorders special diet is prepared by medical prescription, without any extra fee being charged.

Prospectus with detailed information as to indications, terms of admission etc. are sent on application.

Terms from 14 francs (11/3) to 19 francs (15/2) per day including board and residence, medical treatment, douches, frictions, baths, heating, light and attendance.

Davos-Platz. Grisons. Switzerland.

Altitude 6000 feet.

Schatzalp Sanatorium.

For diseases of the lungs. 1000 feet above Davos-Platz.

Reached in ten minutes by funicular.



Physicians: Dr. Lucius Spengler, Dr. Edward C. Neumann.

The Schatzalp Sanatorium stands away from the town of Davos on a windsheltered terrace getting maximum sunlight. Surrounded by 50 acres of own private park. The house is provided with every comfort. Electric light, central heating, private and public curing galleries. Rooms with private bathroom etc. attached can be had. Terms: 3 £ 18 sh. weekly for medical attendance, service, light, heating, baths, douches and six meals a day. Rooms from 1 sh. 6 d. to 4 sh. a day, without private curing gallery; rooms with private curing gallery from 4 sh. 8 d. per diem.

For all information write to Dr. Edward C. Neumann. The Sanatorium is open all the year round.

Prospectus gratis on application.

Forest-Sanatorium of Professor Jessen at Davos-Platz.

Sanatorium for all Forms of Tuberculosis.

350 feet above Davos-Platz, situated close to the forest embracing the establishment from the east and north, whilst toward the south the entire Valley of Davos is open. Maximum of insolation. The first sun-ray over Davos touches the establishment.

The sanatorium has 70 beds; all the rooms are facing the south, and have their own large berth-halls, hot and cold water. Bed-ridden patients may be brought into the open air in their beds.

Warm water central-heating, three lifts for persons, laundry, and meals. Vacuum cleaner. Instead of bells light-signals are given, whereby as much quietness as possible is secured. Private apartments with special bath and private telephone.

Rinsing drainage, disinfecting apparatus, spring-water. All table-requisites are disinfected.

Inhalation-rooms, great hydrotherapeutic equipment, swimming-tank, sun-bath.

Aseptic operation-room, first-class Roentgen-appliances. Operation-room for the larynx, large laboratory, two dark-rooms.

Climate: Alps of calming character.

Climatic-hygienic as well as specific and operative treatment applied. All forms of tuberculosis, if not too far advanced, are admitted.

Leading physician: Professor Dr. F. Jessen (speaks English fluently).

Admission only certain if previously guaranteed by the directory.

Detailed prospectus are sent free of charge.

Dr. Turban's Sanatorium at Davos-Platz.

Sanatorium for Lung-Diseases.

Situated entirely free toward south, 5500 feet above sea level. Principal house with lift. Three country houses connected with the establishment, and Dependence with 90 rooms, the most of which are facing the south. New elegant furniture of parlours and dining room. Low pressure steam-heating, warm water-heating, ventilation, electric light, spring water, drainage, disinfection-apparatus, dark-rooms, large shadowy parks.

Treatment in the sanatorium according to special principles regardless of season. So-called prophylactic patients, and such with an incipient or not far advanced pulmonary tuberculosis as well as with bronchial asthma and pleurisy are admitted.

Leading physician: Geheimer Hofrat Dr. Turban.

For further information see the detailed prospectus.

Degersheim, Switzerland.

"Sennrütli", Alpine Sunbath Establishment, and Wintersport Resort.

Altitude 2870 feet, mountain climate, southern exposure, pure and bracing air, high intensity of solar radiation, magnificent views, pinetree forests, excellent opportunity for practising ski-ing and lusing in Winter. Modern comfort, central heating, electric light, hot and cold water.

Complete installation for Hydropathy and for Sunbaths, Air Huts, 4 extensive wooded Airbathparks. Constant medical supervision.

Prices 5 to 7 sh without treatment, 8 to 10 sh treatment included. — Open the whole year. English spoken.

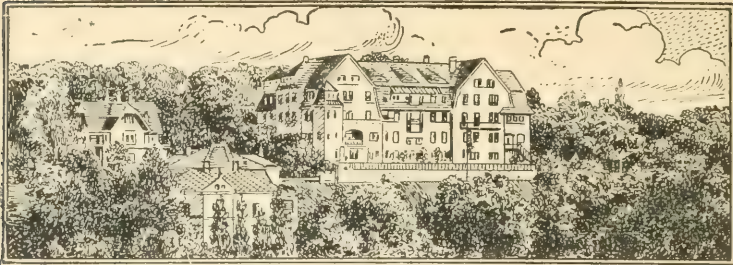
For Prospectus apply to the medical adviser

F. v. Segesser, Dr. med. (Diploma Univ. Zürich).

Dresden-Loschwitz.

Dr. Möller's Sanatorium.

Institute for Dietetic Cures according to Schroth.



The sanatorium is at Loschwitz (a suburb of Dresden) in great repute on account of its wonderful situation on the hills bordering the Elbe river. The centre of the fine capital and town of arts, so rich in diversion, can be reached from Loschwitz within 20 minutes.

In the sanatorium the method of Schroth is applied in an individualizing scientific manner. This dietetic method is in great repute on account of its excellent results even in inveterated cases. The individual curative factors are: action of moist heat, partial elimination of albuminous food, substituting it by white bread and dry vegetables.

Restriction of liquids and periodical allowance of a light wine or fruit-juice free from alcohol.

The almost universal effect of this cure is due to the immensely increased metabolism, whereby all waste-products of metabolism, especially uric acid are thrown into the circulation and oxidized or excreted by the organs of excretion showing an increased function.

The same occurs with bacterial toxins and other detrimental substances ingested with drugs, such as mercury, iodine etc. If the individual cell by this cure is freed from the poisonous load, it can develop again and take up its normal function. The privations in this cure are fully compensated by the results obtained by it.

Indications: Gastro-intestinal diseases, affections of the nervous system, diseases of metabolism, of the blood, and uric-acid diathesis, chronic catarrhs of the ears, the eyes, and upper air-passages. Cutaneous affections, inveterated sexual affections, and mercury-intoxications.

Prices: 8—14 Mks. per day according to cure and room.

Description and illustrated prospectus in English, German, Russian, and French are sent free of charge.

Dr. Rumpf's Sanatorium Ebersteinburg near Baden-Baden.

1470 feet above sea level.

Refined house only for ladies.

Prophylactic cures and light pulmonary affections.

Open all the year round.

Illustrated prospectus sent free of charge on application to

Dr. med. Rumpf.

Waldhof Elgershausen.

Dr. Georg Liebe's Sanatorium for Lung-Diseases.

Situation: Post- and railway-station Katzenfurt of the line Giessen-Cologne, 1225 feet above sea level, in the Westerwald, entirely surrounded by forests, with a free vista of the charming valley.

Curative factors: Sanatorium for lung-diseases, on modern principles. Special care is devoted to physical-dietetic therapeutics as well as to a hygienic instruction of the patients. High-pressure water-supply of its own, central-heating, berth-halls close to the pine forests, air- and sun-baths, gymnastic exercises, common excursions, and other entertainments. Lectures on hygiene. (On demand vegetarian diet.) Annexed is a sanitary educational home for sickly and infirm children.

Indications: Only light cases of pulmonary diseases and prophylactic patients are admitted. Severe laryngeal and intestinal diseases, and other severe complications are refused.

Prices: Waldhof Elgershausen is a sanatorium for the middle-classes. 8-9 Mks. per day. Children: 5 Mks.

Bad-Elster (Kingdom of Saxony).

Dr. R. Schmincke's Institute for Heart-Diseases and Disorders of Metabolism.

The establishment is a supplement to the natural curative factors of Bad-Elster. The physical curative methods are applied preferably.

For cardiac affections all the modern methods of examination, such as cardiograph, x-Ray photograph, are at disposal; for therapy the various forms of massage and gymnastics, high-frequency current, alternating current etc.

Of metabolic diseases special attention is paid to uric acid diathesis (gout).

Radium. Drinking- and inhalation-cure from the strongest Radium spring in the world (Brambach) are the principal therapeutic measures besides diet and application of heat in form of hot-air treatment.

Literature: Bad-Elster, a health resort for diseases of the heart and vessels, by Dr. Schmincke, published at Hirschwald's, Berlin 1911.

Dr. med. R. Schmincke.

Bad-Elster (Kingdom of Saxony).

Sanitätsrat Dr. Paul Köhler, Sanatorium Bad-Elster.

Open all the year round.

Quiet and protected location amidst a large park, close to the drinking- and bathing springs of the royal Bad-Elster.

Comfort and rest are provided for in any respect (numerous parlours, lift, central-heating, water-pipes in the rooms, a number of rooms with separate baths and toilets etc.).

The advantages of the climate due to the forest, to the air entirely free from dust, the medium high situation, the calmness of air, are added to the following curative factors:

1. All natural curative agents of Bad-Elster (alkaline-muriatic acidulous springs, sodium-sulphate springs, carbonic-acid ferruginous- and mineral mud-baths).
2. In addition, the neighbouring radium spring of Brambach, the strongest radium-spring of the world (alkaline, mineral-saline ferruginous acidulous spring with 2200 Mache-units), used for drinking purposes, and supplying the spring emanatorium.
3. All modern scientifically approved physical methods (all hydrotherapeutic and heliotherapeutic methods, air- and sun-baths, Swedish gymnastics, manual and vibration massage, electricity in all forms of application).
4. Individual psychical treatment.
5. Dietetic cures under the strict control of the physician as regards quantity, form and manner of preparation (Over-feeding cure, restricted diet, diet for gout, diabetes, renal affections etc.) — 4 Specialists.

Admission for convalescents and people needing recreation, besides

- a) patients with anaemia, neurasthenia, gastro-intestinal affections (catarrhs, constipation) heart-, liver-, and kidney-diseases, arterio-sclerosis, metabolic diseases (gout, diabetes);
- b) Affections of the abdominal organs;

c) disorders of motion in paralysis, neuralgia, spinal affections, diseases of the bones and joints (rheumatism, sequelae of traumatism).

Especially suitable for cures in the winter (applying the curative factors of the spa).

Total price 12 to 25 Mks. per day. — Detailed prospectus on application.

Endenich-Bonn.

Private medical establishment for mental and nervous diseases.

The establishment was founded by Dr. Richarz in the year 1844. It is situated at the foot of the Kreuzberg. The garden encloses 10 acres and has a fine view.

Physicians: Geheimer Sanitätsrat Dr. Oebeke (for regular consultations), Dr. von der Helm, leading physician, as well as one assistant.

Nine different buildings.

Rooms for 61 persons (ladies and gentlemen).

Terms: First class: from 13 £ 15 sh. upwards a month; second class: 11 £ 5 sh. a month.

The establishment can be reached by tram from the station of Bonn within 10 minutes. Prospectus to be had from *Dr. von der Helm, Bonn-Endenich.*

Ermatingen on the Untersee (Switzerland). Medical New-School "Villa Breitenstein".

Topography: Beautiful family-home surrounded by shadowy parks, with magnificent view of the idyllic Untersee (Lake of Constance), in one of the most lovely regions of Switzerland; situated about 1585 feet above sea level. Quiet country-life, abundance of sun, air free from dust. Lake and large forests close by. — Ermatingen is a much favoured climatic station and summer residence, station of the line Schaffhausen—Constance, and head-station of steamers on the Untersee and the Rhine.

Curative means: Combination of medical and psycho-pedagogic treatment. Individualizing psychotherapy, instruction in hygiene of life, regulation of metabolism, tub-baths, sea and sun-baths, massage, gymnastics, occupation-therapy, games and sport, tennis, croquet, rowing, swimming, skating, slide-driving, ski-ing. **Pedagogics:** Education in occupation and self-reliance by harmonious development of all valuable functions of the organism in the mode of a "Newschool". Individualizing instruction in the branches of the lower and middle schools. Great reduction of school-time by individual teaching and instruction in small classes. Academically trained teacher, lady teacher with states diploma. Intimate cooperation of physician and pedagogue.

Indications: All infantile and juvenile forms of psychoneurosis, as far as they can be treated "openly" and influenced pedagogically, especially psychically infirm and bodily delicate children with a one-sided talent, tired of school, needing recreation, finally "Holiday-home children".

Prices: Boarding and pension from 6 Fs. (5 Mks.) per day, according to the age, requirements as regards physician and teacher and choice of room. "Holiday-home children" from 5 Frs. (4 Mks.) per day. Fee for instruction 5 Frs. (4 Mks.) per week; single hours by special arrangement.

Illustrated prospectus (in German and French) and information by the proprietor and director *Dr. med. Rutishauer, neurologist.*

Sanatorium Tannenhof, Friedrichroda in Thuringia.

Dr. med. Kurt Bieling.

Sanatorium for physical, dietetic and psychical treatment.

Situation: The establishment is most wonderfully situated on the Herzogsweg 19,21 amidst a park about 2,5 acres large, directly at the grand forest; sunny and entirely protected against winds.

Accommodations: The two country-houses connected with one another by a wintergarden, are established as a first-class sanatorium with high, well-ventilated, and light rooms, all furnished most comfortably. Bath-rooms fitted up according to the most modern comfort are in the house. Air-bath and several open shelters in the park.

Winter-cures: All the rooms of the house have electric light and central-heating. The establishment is, therefore, especially adapted for winter-cures, the more so as there is opportunity for winter-sport in Friedrichroda for patients wanting it. (Ski-ing and skating, sledge-driving and bob-sleigh on a sledging-run 8750 feet and a bob-sleigh-run 7700 feet long).

Treatment: The following methods are applied: Hydrotherapy, electricity, massage, Swedish and German gymnastics, mechanotherapy and exercise-therapy, x-ray method, Radium-drinking and bathing-cures, Radium-inhalation. Air-baths, Terrain-cures; light-treatment, all forms of psychical treatment.

Special attention is paid to the nourishment without allowing any schematic treatment in this direction. The diet is in general an excellent mixed food with copious amounts of vegetables and fruits. Furthermore, any desired rational diet is provided for. (Vegetarian diet, or food free from uric-acid, Banting-diet).

Indications: The treatment is indicated for a general inurement and strengthening of the body, for convalescence after severe diseases, for nervous diseases of any kind, circulatory disorders (cardiac affections &c.); for diseases of the respiratory organs (consumption excluded), chronic renal diseases; disorders of metabolism or general affections, complications of muscular, arthritic or osteal affections or lesions; tropical diseases, such as malaria and its complications; anaemia and chlorosis. Gout, Rheumatisms, gastric and intestinal complaints.

The sanatorium is also open for people needing a change, and is recommended especially for an after-cure or as a resting place for winter-sport.

The social life in the house is that of a convenient home-like family-life.

Prices: Lodging, full board, medical treatment, cure, heating, and electric light 12 to 20 Mk., no extra fees being charged for medical baths, electric treatment &c.

The sanatorium is frequented very much in summer and winter.

Route: One stops at the railway station of Rheinbardsbrunn.

Telephone: Amt Friedrichroda 21. Cable-Address: Tannenhof, Friedrichroda.

Prospectus and information by the leading physician and proprietor

Dr. med. Kurt Bieling.

Sanatorium Friedrichroda in Thuringia,

1500 feet above the sea level.

First class health resort for all nervous di-eases, derangements of heart and blood-vessels, of development and assimilation, affection of digestion, chronic intoxications, general weakness and delayed convalescence after severe illnesses and operations, also an eminently suitable place after mineral-cures at Nauheim, Kissingen, Carlsbad, Ems, Baden-Baden, Marienbad. All arrangements for treatment are of the highest standard and include everything, that the present standpoint of science and hygiene ask for — even a radium emanatorium and Roentgen laboratory and the whole electric apparatus called for now in medical cases.

The Sanatorium was subject to a thorough enlarging and renovation during the winter 1911/12 and answers now without question to the highest demands of well being. Very comfortable drawing and living rooms with fine views from the windows. bath on every floor, lift, Vacuum-cleaner, electric light. Large park with beautiful fir trees — quite near the forest, the situation is extraordinarily beautiful, quiet and healthy in summer as well as in winter. Opportunity for out-door entertainments and all kinds of sport.

Friedrichroda is reached by leaving the main line Berlin—Frankfort Maine at the station of Fröttstedt. All further information and illustrated prospectus will be sent willingly on application to the proprietor and leading physician

Dr. med. Kothe, Geh. Sanitätsrat.

Bad Godesberg on the Rhine.

Dr. Franz Müller's Sanatorium Schloss Rheinblick.

Special sanatorium for Alcohol and Drug - Inebriety, Neurasthenia and Insomnia.

The sanatorium established in 1899 is a free institute for the withdrawal of morphine (opium, heroine, cocaine, codeine, dionine, bromine, soporific drugs etc.) and alcohol. Nervous patients (especially such suffering from insomnia) and pensioners are also admitted. The establishment is one of the most modern, most completely equipped and finest special sanatoria much visited and of international repute.

The sanatorium in the new Schloss Rheinblick built for this purpose is situated in a beautiful park. 7 acres of grounds, near the forest. It offers a charming view of the valley of the Rhine (from Cologne to Bonn, to the Seven Mountains Chain as far as Remagen). Most comfortable and hygienic; electric-light supply of its own, central-heating, warm and cold water-supply throughout the house, double windows, inlaid floor, drainage, large elegant drawing-rooms, billiard-room, large resting-hall of about 80 square yards, rooms with their own bath-room (W. C.), and rooms for servants, elegant bath-rooms etc.

The curative factors are as follows: 1. All the curative factors of Bad Godesberg itself: Chalybeate spring and elegant bathing-establishment (6 minutes' distance from the sanatorium) and the climatic advantages etc. (cool in summer, warm in winter); 2. refined comfort and rest in the whole place in general as well as in the sanatorium itself; living with people of equal breeding under the permanent supervision of the physician (specialist); 3. most excellently trained attendants; 4. dietetic cures, milk, feeding and reducing cures etc.; 5. hydrotherapy, elegant bath-rooms on every floor. Porcelain tubs. Full-, partial-, and hip-baths (also with running water), foot-baths etc.; douches, rubbings, packings, carbonic-acid, oxygen, brine-baths, pine-needle baths etc.; 6. electrotherapy. All methods of faradic and galvanic treatment, also baths. Alternating-current baths. Incandescent- and arc-light baths (blue and red); 7. manual and vibration-massage; 8. air- and sun-bath; 9. hot-air treatment for the trunk and the extremities, also steam douches; 10. gymnastic appliances; 11. psychotherapy and occupation therapy; 12. at any time, for special cases, authorities of the near University of Bonn.

In a practice of more than ten years the undersigned has elaborated an original method of treating drug inebriety. This method consists in the main of two equivalent components — viz., 1. the psycho-therapeutic and 2. the medicinal treatment.

Chief stress is laid during the whole cure upon the patients' feeling entirely well and "at home" in their rooms as well as in the house. The refined character of the house precludes all those well known and disagreeable harassings, and the undersigned always takes great pains in securing by all means the comfort any visitor is accustomed to — and more than that. The social life in the house is of a family character. The food is the very best taking regard of the international character of the establishment. Only the patient treated here knows of how remarkable a psychical influence such a house and such surroundings are.

The sanatorium is no modern Kurhotel, and it offers only room for 20 patients; thus the greatest attention can be paid to the individual patient. The undersigned is in permanent contact with his patients, and can therefore always control all their doings simply by way of conversation; this will spare the patient the troublesome and often incomprehensible and long-winded "instructions"; he is, moreover, quite unconsciously directed to do the right thing.

Compulsion and restraint are precluded, as relapses are only prevented with those who have learned in the institute to renounce the drug voluntarily.

A permanent cure is the main final purpose of the treatment.

The withdrawal of morphine (and all opiates) is facilitated particularly by a special medicinal treatment. It eludes from the very beginning all the symptoms of abstinence, which could not be avoided before (restlessness, loss of appetite, insomnia, pain and dragging in the calves and in the small of the back, diarrhoea, yawning, sneezing, vomiting etc.).

Under the influence of the medicinal treatment applied here, the morphinist omits the syringe at once voluntarily without having the slightest craving for it or its content.

At the same time his general condition is usually better than at home. In this way complete withdrawal is attained within 4—6 weeks in the average. (Specially difficult conditions (primary diseases) may naturally delay the complete recovery, or render it impossible.

Primary diseases are, of course, also considered and treated most thoroughly.

Alcohol inebriety, too, is treated by a method adapted to the case. See "curative factors" (farther above).

Alcohol is withdrawn at once under the influence of the method recommended here, and of the patient's own accord. Complications are prevented by medicinal prophylaxis. Drinks free from alcohol. In suitable cases hypnosis and method of disgust. If desired, joining societies for abstinence.

Duration of treatment: according to the case an average residence of 6 to 8 weeks is sufficient.

Any arrangements reminding of a hotel or a hospital are by all means precluded. The physician has no office-hours, but is in contact with the patients throughout the day. Every patient lives so to speak under the eyes of the doctor. The sanatorium offers thus a true home-life, but notwithstanding provisions are made, and all the means supplied for devoting the most thorough and up-to-date cure even in severe cases. The sanatorium is, therefore, particularly suitable for the treatment of neurasthenics needing quite a special nursing, or showing insomnia as the most tormenting symptom.

Pensioners are also received.

Terms: 16 to 20 Mks. inclusive per day and room according to treatment and requirements, medicine excepted. Complete flats with private bath-room or servants' room according to arrangement.

Detailed information and elaborate illustrated prospectus gratuitously and free of charge on application to

Dr. Franz H. Müller.

Godesberg near Bonn on the Rhine.

Dr. R. Schorlemmer's Sanatorium

for Gastro-Intestinal and Metabolic Diseases.

Topography: Godesberg is situated 227,5 feet above the level of the North-Sea at 24,45° eastern longitude, and 50,41° northern latitude. Owing to its most charming location, it is one of the finest places on the Rhine, and is resembling a large garden with well-kept, shadowy roads and avenues. The beautiful views of the "Godesburg" and the Seven Mountains Chain add to the pleasant character of this garden-town.

Climatic details: According to many years' observation, the temperatures in winter are the lowest of Germany: in summer they are mostly below 25° C = 77,0° F; there are about 60 rainy days during the year.

Dr. Schorlemmer's Sanatorium is located in the country-house quarter, in the Rheinallee, one of the finest streets of Godesberg, at about 10 minutes' distance from the steam-ship station, from the railway-station, and from the Rhine-promenade which extends for 4 kilometres. It stands entirely isolated amidst a shadowy garden, remote from any disturbing noise. The principal establishment rebuilt in 1905/06, and the "Dépendance" established in 1908, answer any demands as regards hygiene and comfort. Electric light, central heating, vacuum-cleaner, stuffed double-doors, Salubra wall-paper to be washed off in all rooms, balconies in most of the rooms. The establishment offers hygienic accommodations and a home to a limited number of patients (35) of best classes. It maintains the pronounced feature of a most comfortable, home-like, and refined residence: but at the same time it offers all the advantages of a hospital equipped according to the most approved experience, without showing at the first glance the character of such, neither inside nor outside.

Medical appliances for diagnosis and treatment: 1. The laboratory is equipped according to the most approved scientific experience, with all the auxiliaries required for an exact microscopic-histological, chemical, and bacteriological diagnosis. There are also apparatuses for any kind of applied electricity, vibration-massage, translumination of the stomach, intestines and oesophagus, and for a thorough examination of metabolism and blood. 2. The Roentgen-laboratory with the complete equipment for photos, fluorescence, radiation and radiometry of individual organs. 3. The bath-rooms are most completely furnished. — Porcelain-tubs, douches of any degree of temperature, Scotch douches, full- and hip-baths, carbonic acid and steam baths, baths with medicinal additions, light-baths, electric four-cell and electric full-baths with faradic, galvanic, and pulsating

continuous current, with alternating and sinu-oidal faradic current. Appliances for massage. Packings. Bier's heat-boxes. 4. The orthopedic room with universal apparatus for rowing-, climbing- &c. movements, with Ergostat for an exact dosage of work. Velotrab for riding motion, apparatus for improving disorders of gait in spinal affections: appliances for general gymnastics, such as dumb-bells, clubs &c. 5. Resting-hall, for open-air cures. 6. An operation-room with north- and top-light, and the adjoining rooms for physicians for sterilizing and washing.

Diseases treated here: Admittance exclusively for patients with affections of the oesophagus, the stomach and intestines, of organic and nervous origine, affections of the liver and gall-passages, of the pancreas, patients with diabetes and gout; determination of tolerance, for anaemic and for convalescents after operations on the digestive tract. — Feeding and reducing cures under control of metabolism.

The establishment is open all the year round.

Charges for board and lodging: These are from 15 Marks upwards per day according to size, appointment, and position of the room, including electric light, heating, nursing, massage and packings. Special prices for a second bed. Beverages are charged extra. Rooms are to be paid for from the day on which reserved. Notice to be given in the office five days before departure. Bedroom with bath and parlour can also be provided if desired.

Baths and Röntgen-treatment according to tariff, night-watch and extra nurse likewise.

Honorarium for physician: First examination, including chemical analysis, and fixing plan of cure Mks. 20. — For the rest, the honorarium is fixed according to the service in the individual case; it is to be paid at the end of the cure.

Besides the dining-room, a drawing-room, winter-garden, and a smoking-room are at the disposal of the guests, likewise comfortably furnished halls on every floor and a billiard.

Kurtaxe: During the months of May to September the community of Godesberg charges a Kurtaxe of Mks. 9, and Mks. 3 for each additional person of the same family: where as visiting the concerts, kur-park and reading rooms, are free of charge.

Protestant, Roman-Catholic and Anglican Church at the place, synagogue at Bonn.

Godesberg is a railway station on the left bank of the Rhine, 10 minutes from Bonn, 40 to 50 minutes from Cologne and 60 minutes from Coblenz. Station of the Cologne—Düsseldorf steam-ship company; communication with Bonn and the Seven Mountains Chain also by branch-line, within half an hour: electric branch-line is being prepared. Access to the Seven Mountains also from Godesberg by crossing on an electric ferry.

Illustrated prospectus in three languages free on application.

Detailed information most willingly given by the leading physician and proprietor

Dr. R. Schorlemmer.

Specialist for gastro-intestinal and metabolic diseases.

Dr. C. Uhl, second physician.

Hohenhonnef on the Rhine, Seven Mountains Chain

Sanatorium for Lung-Diseases.

Leading physician: Prof. Dr. Meissen.

Sanatorium Schloss Hornegg.

Establishment furnished with modern comfort, conducted like a clinic, with all provisions for the treatment of nervous and internal diseases, especially cardiac and gastro-intestinal affections. Psychotherapy, and all physical and dietetic methods. Charmingly situated in the pleasant richly wooded valley of the Neckar-river, near Heidelberg. English speaking physicians and attendant.

Price from Mks 14 per day upwards all included. See prospectus.

Leading physician San-Rat Dr. Roemheld, for many years clinical assistant at Heidelberg.

Homburg v. d. Höhe.

Sanatorium Drss. Pariser-Dammert (Clara Emilia).

Special Sanatorium for Gastro-Intestinal and Metabolic Diseases.



The sanatorium of Drss. Pariser-Dammert is known to be a special institute for the treatment of all gastro-intestinal diseases, and disorders of metabolism as well as of general nutrition.

Besides local diseases of the stomach, the intestines, liver and bilious affections, the following conditions enter into consideration: general subnutrition (feeding cures), anaemia, nervous prostration, obesity, (reducing cure), diabetes, gout, anaemic affections, and diseases of the vascular system.

Apart from this special domaine, however, the sanatorium receives and treats patients suffering from any internal disease, and convalescents.

In addition to the baths and springs of Homburg and all the curative factors of this place itself, all the scientifically approved therapeutic methods are applied, and great care is devoted to an individualizing treatment of every disease.

Especial attention has been paid to the application of strictly scientific dietetics provided for in a kitchen under a special conduction. The daily diet is known to be prescribed in every detail by the physician.

Strictly scientific laboratory, examination of anomalies of metabolism, gout, diabetes &c.

Roentgen-laboratory with most modern equipment. Furthermore, in addition to the medicinal treatment indicated, physical therapy of all kinds is applied according to individual indication. We mention of the latter:

Electricity in all approved forms, hydrotherapy, hot-air treatment, fango- and Homburg clay-mud treatment, massage, inhalations in a special inhalatorium, radium-emanatorium, gymnastics and exercise-therapy.

The sanatorium is located at one of the finest spots of Homburg, remote from the noise and dust of streets; it offers an open view of the Taunus. The house is close by the grand Haardtwald and the Kurhaus with its parks, and owing to this favourable location, the springs and baths of old repute can be used most conveniently.

The sanatorium is thoroughly fitted up according to a refined comfort, especially adapted for those needing recreation: low-pressure steam heating and porcelain stoves; — electric light in every room to provide sufficient comfort; — double doors and muffled walls; — model baths — and douches (separate departments for ladies and gentlemen) &c., &c.

A park-like garden more than six acres large, with fine old groves is adjoined to the sanatorium. Open, half-open, and entirely closed resting-halls and colonnades give opportunity for staying in the open air, and for resting cures even in the late autumn and winter in unfavourable weather.

The results of cure are independent of the season.

Medical treatment by the undersigned physicians.

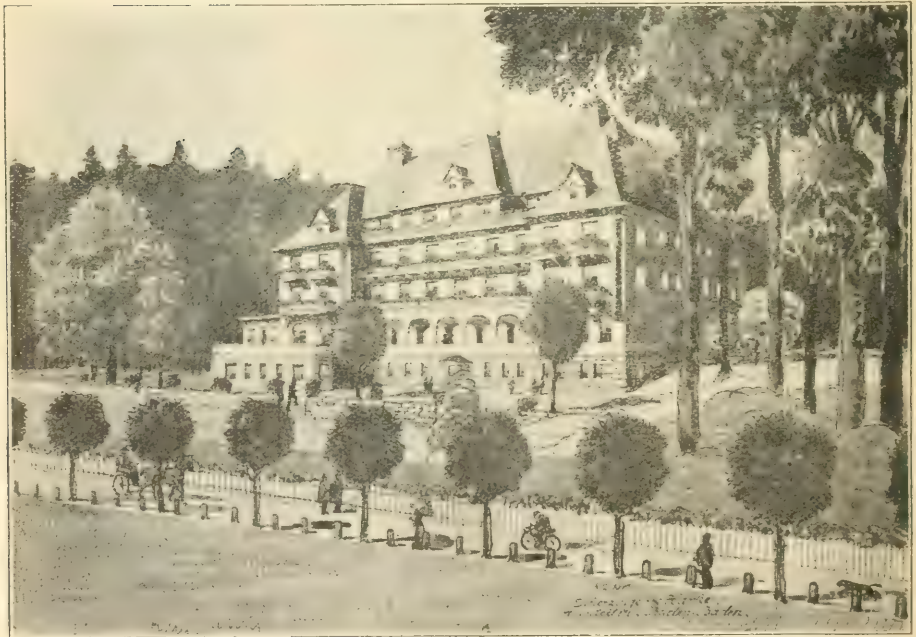
Assistant, trained attendants.

Prospectus and information by the office of the establishment.

Dr. Curt Pariser and Dr. Franz Dammert.

Homburg vor der Höhe.

Sanatorium of Dr. Baumstark.



The establishment is most favourably located in the south, free on all sides, in an old and very quiet park of about 18000 square yards belonging to the sanatorium. It is, nevertheless, but a few minutes distant from the springs, the Kurpark and the Kurhaus.

The house is supplied with all modern comfort, as lift, central-heating, vacuum-cleaner, running warm and cold water in the bed-rooms, ventilation for every room, balconies and verandas for resting-cures, fine drawing-rooms &c., and furnished most comfortably without being excessively luxurious. Curative factors are the well-known invigorating and refreshing climate of Homburg, the mineral-waters, the natural carbonic acid baths, the mud-baths &c.

In addition, the sanatorium is equipped with all the appliances for any physical or dietetic method, as for example all balneological, hydro-, electrotherapeutic appliances,

massage, gymnastics, Röntgen-cabinet, sun-bath, Radiumemanatorium. Especial stress is laid upon dietetics on a scientific basis adapted to the individual case.

The sanatorium is, therefore, indicated for all people needing recreation and for patients with any internal disease (excepted tuberculosis), especially gastro-intestinal diseases, disorders of metabolism, obesity, diabetes, gout, rheumatism, for nervous patients, for feeding and reducing cures.

Prospectus by the bureau.

Dr. med. R. Baumstark,
formerly Assist.-Phys. to Geh. Rat Erb-Heidelberg,
Geh. Rat Ewald-Berlin, Prof. A. Schmidt-Halle.

Kurhaus Beaulieu at Interlaken.

2000 feet above sea level.

For recreation, dietetic- and alpine-cures.



2 country-houses in a quiet location with large parks for subalpine resting- and climatic-cures, anaemia, general asthenia and convalescence. Rational dietetic and physical cures for disorders of digestion, for nervous (Grave's-disease), renal and metabolic affections (diabetes, gout, albuminuria), for Weir-Mitchell and Banting-cures. Oertel-cures for cardiac affections and asthma. Hydro-, balneo- and electrotherapy.

Modern comfort. — Central heating. Open all the year round.

Prospectus are sent free on application to

Dr. E. A. Grandjean, leading physician.

Hydrotherapeutic Institute Kaltenleutgeben.

Hofrat Prof. Dr. W. Winternitz.

The institute of old repute founded by Hofrat Professor Winternitz in 1865, has rooms for more than 300 persons. Provisions for all physical and dietetic therapeutic methods. The establishment is situated in the beautiful Wienerwald, at 40 minutes' distance from Vienna.

The institute is visited by high class native and foreign people, and has obtained a world-wide reputation on account of the strictly scientific conduction and the individualizing therapeutic methods.

Hofrat Professor Dr. W. Winternitz is the consulting physician, Professor Dr. Alois Strasser leading physician, and Kais. Rat Dr. Carl Pick superintendent physician.

Bad Kissingen.

Hofrat Dr. v. Koziczowsky's Sanatorium

for Gastro-Intestinal-, Nervous-, Cardiac- and Metabolic Diseases. Open from March to November.

Prospectus free of charge on application to

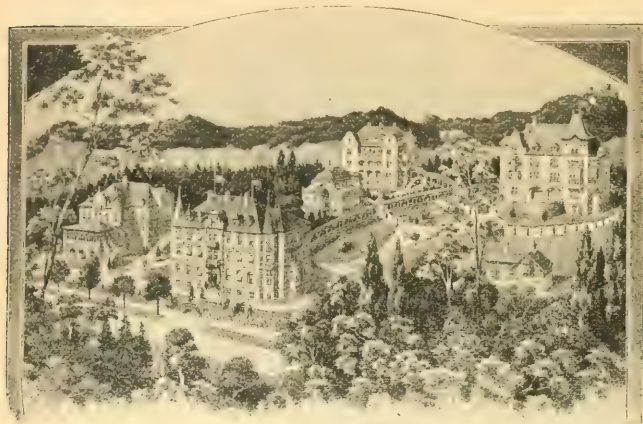
Hofrat *Dr. v. Koziczowsky.*

Bad Kissingen.

Prof. Dr. C. Dapper's Sanatorium "Neues Kurhaus".

Especially for gastro-intestinal diseases*), for disorders of metabolism and of nutrition (diabetes, gout, obesity*), anaemia, for functional and organic heart- and vascular-diseases, for chronic renal affections*), and

disorders of the nervous system (neurasthenia, migraine, neuralgia, sciatica) etc. Strictly individual dietetic treatment and care according to scientific demands. Application of all scientifically acknowledged therapeutic methods, dietetic and Oertel-cures, electricity, baths and douches of any kind, gymnastics, massage (only by physician), in addition to all the curative factors of Kissingen. Reducing-cures with examination of metabolism in the completely equipped



laboratory of the sanatorium. Feeding-cures. The sanatorium rebuilt entirely in 1893, is located at one of the finest spots of Kissingen, at the foot of the Stationsberg and the Bodenaube, close to the Kurgarten, surrounded by a large garden of 15 acres. The elevated location allows a wonderful view of the valley of the Saale-river and the Rhön-mountains. The four country houses are connected with one another by a closed colonnade, well-heatable for the greatest part. For the purpose of a convenient cure in spring and autumn all rooms of the new villa, the drawing-rooms, the corridors, the large veranda and the colonnade are provided with central-heating. Electric light everywhere. Special house, built and equipped on the most recent scientific principles and experiences, for the application of the entire field of physical therapy. There are in this house appliances for carbonic acid-baths, for brine- and pine-needle baths, Arsonvalization and Frankhization, electric alternating- and four-cell baths, galvanic and faradic baths, electric-light and steam-baths, appliances for all kinds of tempered douches, half- and full-baths, flowing tempered foot- and hip-baths, fango-treatment and inhalation in separate cabinets: room for Zander-gymnastics and exercise-therapy. Radium-Inhalatorium and Roentgenlaboratory. Open from March to December.

Physicians Dr. E. Jürgensen (formerly private Assistant to Professor von Noorden Vienna). Dr. F. Tecklenburg (for many years Assistant to Professor Fleiner, Heidelberg) and Professor Dr. C. Dapper, königlich bayerischer Hofrat, Gross-herzoglich Oldenburgischer Geheimer Medizinalrat (Proprietor).

*) See: "Ueber den Stoffwechsel bei Entfettungskuren" von Dr. C. Dapper, Bad Kissingen; Zeitschrift für klin. Medicin. Band XXIII. 1.—2. und "Ueber den Stoffwechsel fettleibiger Menschen bei Entfettungskuren" von Prof. v. Noorden, Berlin, und Dr. C. Dapper, Bad Kissingen; Berliner klin. Wochenschr. 1894. No. 24. "Untersuchungen über die Wirkung des Kissingener Mineralwassers auf den Stoffwechsel der Menschen" von Dr. C. Dapper, Bad Kissingen; Berl. klin. Wochenschr. 1895, No. 31. "Ueber den Einfluss der Kochsalzquellen (Kissingen, Homburg) auf den Stoffwechsel der Menschen" und "Ueber die sogenannte kurgemässe Diät" von Dr. C. Dapper, Bad Kissingen (see reprint from Zeitschrift für klin. Medicin. Vol. 30. No. 3—4. 1896) "Ueber Entfettungskuren" von Dr. C. Dapper, Bad Kissingen; Archiv für Verdauungskrankheiten 1897; "Ueber die Indicationen der schwachen Kochsalzquellen (Kissingen, Homburg) bei Augenkrankheiten" von Dr. Carl Dapper, Bad Kissingen; lecture delivered on the 17th Congress of internal medicine at Carlsbad 1899, and Berliner klin. Wochenschr. 1899, No. 39. "Ueber die Schleimkolik

des Darms (colica mucosa) und ihre Behandlung" von Prof. Carl v. Noorden und Dr. Carl Dapper 1903; published by A. Hirschwald, Berlin. "Ueber den Einfluss vermehrter und verminderter Flüssigkeitszufuhr auf die Funktion erkrankter Nieren". Beitrag zur Diätetik der Nierenkrankheiten von Dr. C. Dapper, Kissingen, und Dr. L. Mohr, Zeitschrift für klin. Medicin. Vol. 50, No. 5—6. "Ueber den Einfluss der Kochsalzquellen (Kissingen, Homburg) auf den Stoffwechsel des Menschen" von Carl Dapper, Bad Kissingen, No. 5 of „Sammlung klin. Abhandlungen über Pathologie und Therapie der Stoffwechsel und Ernährungsstörungen“ von Professor v. Noorden. Published by A. Hirschwald, Berlin 1904. „Der Einfluss der Mineralwässer auf den Stoffwechsel“ von Carl Dapper und Carl v. Noorden. Handbuch der Pathologie des Stoffwechsels. Vol. II, Berlin 1908. Published by A. Hirschwald.

Bad-Kissingen.

Sanatorium for Internal Diseases, of Hofrat Dr. Dietz, formerly "Pneumatische Anstalt".

Sanatorium especially for affections of the air-passages (nose, throat, lungs, asthma, and complications of influenza), diseases of the heart, the stomach, intestines, disorders of metabolism (obesity, gout, diabetes), and for nervous affections. Application of all scientifically approved physical and dietetic methods.

Curative factors: Large, high, and well-ventilated inhalation-rooms for inhalation in common, separate inhalation-cabinets, direct inhalation-apparatus according to the most various systems, oxygen-inhalations, pneumatic apparatus, especially pneumatic chambers with patented contrivances for exhaling into rarefied air, gymnastic appliances, apparatus for electromassage and vibration, general and local electric light-baths, electric four-cell baths, apparatus for general and local application of high-frequency currents (Arsonvalisation), thermopenetration, radium-, drinking-, bathing- and inhalation-cures, entirely new Röntgen-Laboratory for distance, and instantaneous-photographs for exactly determining the borders of the heart etc., carbonic-, acid-, oxygen- and pine-needle baths, laboratory of the sanatorium with modern equipment for chemical and microscopical examination of urine, gastric contents, blood, and faeces etc. Feeding- and reducing-cures with examination of metabolism. Great stress is laid upon dietetic treatment. Pension with room from Mks. 9 upwards.

Tuberculous and insane patients are not received.

Detailed information by the owner and leading physician Hofrat *Dr. Dietz* or the assistant physicians *Dr. A. Dietz II, Dr. B. Dietz III.*

Bad Kissingen.

"Neues diätetisches Kurhaus und Kuranstalt" of Hofrat Dr. E. Marquardsen

(formerly first Assistant to the Medicinal Clinic of Jena, to the Gynecological Clinic of the University of Würzburg, and to the Diakonissenhaus of Geheimrat Kussmaul and Professor Fleiner of Heidelberg.)

The Sanatorium newly built in 1901/2, is located at the foot of the Altenberg, the forests of which are extending down to the garden of the establishment. The rooms and balconies of the sanatorium offer a magnificent view over the whole valley of the Saale-river and the old castle-ruin. The establishment can be heated in all parts. It has a moderately elevated situation in a quiet place, conveniently close to the Kurgarten and the springs.

The house answers to all requirements of an hygienical order and is fitted with all modern comforts desired. A lift supplies direct communication from the rooms to the baths, douches, Veranda for open-air cures &c. &c.

Modern appliances based on the most recent scientific experiences and principles are to be had: half-baths, hip- and full-baths, steam-baths, exactly tempered douches and electric baths of any kind.

The treatment is strictly individualizing, taking into consideration all the approved and scientifically acknowledged methods, and the rational application of the curative factors of Kissingen. Most careful dietetic treatment according to the individual

case. Oertel-, feeding- and reducing-cures (special laboratory for examination of metabolism in the institute), massage and electricity.

Indications for cures are given concerning all diseases of the stomach and intestines, of metabolism and the blood (diabetes, gout, obesity, reducing-cure), anaemia, functional and organic affections of the heart and disorders of the nervous system (neurasthénia, sciatica, neuralgia and migraine). Furthermore are received convalescents after diseases, and persons with subnutrition.

The establishment is open from April to November. For further details see prospectus. Hofrat *Dr. E. Marquardsen.*

Bad Kissingen.

Hofrat Dr. Leusser's Sanatorium "Villa Thea".

The sanatorium is open for patients suffering from cardiac- and gastro-intestinal diseases, disorders of metabolism (diabetes, gout, rheumatism, anaemia and obesity), renal- and nervous affections, and for people needing recreation. — Strictly individualizing treatment and application of all suitable scientific methods such as electricity, hydrotherapy, massage, gymnastics, dietetic cures (feeding and reducing cure), and Oertel-cures, besides the approved mineral waters of Kissingen. Quiet location, free from dust, in a large and shadowy garden close to the baths, the springs, and the promenades. Modern comfort.

Open from April to November. — For further details see prospectus.

Kreuzlingen, Sanatorium Bellevue.

Dr. Binswanger's Sanatorium, founded in 1857.

Leading physician: Dr. Ludwig Binswanger. Superintendent physicians Dr. Haymann, Dr. Reese, one assistant. **Manager:** Dr. phil. Otto Binswanger.

Combined institute for nervous and psychical diseases. Separate country-house system, allowing the thorough separation of the various forms of diseases. Seven villas for neurosis, nervous prostration, slight depressive conditions and convalescence. Three villas for psychical afflictions. Complete equipment for hydro-electro-therapy, gymnastics, massage, sea-baths, garden-work, weaving etc. Intimate family-life. Price of pension including medical treatment, heating and light, excluded under-ware and medicine. sh 12 per day (Frcs. 15), rooms from sh 2 upwards. Private nurse, if necessary, sh 6 per day (Frcs. 7,50). For drawing-rooms or several rooms special terms.

Address: Kreuzlingen, Canton Thurgau, Switzerland.

Haus Bartenstein, Bad Kreuznach.

Home of Recreation for Children.

Newly built house located on a plateau close to the graduation-works, well-protected, with all modern hygienic provisions, such as drainage, central-heating, electric light, vacuum-cleaner free from dust etc. Large park with playing grounds belonging to the house; furthermore playing-rooms, winter-garden, inhalatorium for dry inhalation, room for athletics, and sun-baths.

Admittance of sickly children or such needing recreation, alone or accompanied by relatives. Contagious diseases not admitted.

Curative factors: Brine-baths with Kreuznach mother-lye, radium-baths, brine and radium drinking-cures, inhalations, dietetic and resting-cures, massage and gymnastics. Opportunity for school-instruction.

Season throughout the year. Owing to the favourable southern situation, where the almond is growing, cures are also taken most successfully in the winter. Price of pension from Mks. 5,50 upwards.

Detailed information by prospectus.

Dr. Bartenstein, Paediatr.

Küsnacht on Zürichsee.

Dr. med. Th. Brunner's Sanatorium for Nervous and Psychological Diseases.

Located close to the bank of the lake, surrounded by shadowy parks with long promenades and a wonderful view of the mountains. The sanatorium serves for the treatment of nervous and psychological diseases, for people needing recreation and attendance, and for convalescents of the upper classes. Treatment of people suffering from Morphia and Alcohol Inebriety. Individualizing special treatment. Country-house system. Modern hydrotherapeutic equipment. Sea-, air- and sun-baths. Two physicians. Open all the year round. Price altogether from Frs. 12 upwards. Illustrated prospectus with references.

Dr. med. Th. Brunner, leading physician and proprietor.

Leipzig-Lindenau.

Sanatorium for Cosmetics, Diseases of the Skin and Hair.

Dr. med. Jhle and Dr. med. Böttger.

Careful special treatment. Best attendance. Large establishment consisting of three country-houses standing amidst park-grounds. Lawn-tennis, gondoling, billiard &c.

Detailed illustrated prospectus free.

Alpine Health Resort for Chest Complaints of Leysin

Open air Establishments.

The four following establishments are owned by the Société de la Station climatérique de Leysin (President Dr. Morin).

1. Sanatorium Grand Hôtel.

Excellent establishment (5075 feet above sea level) at the border of the forest, facing the south, and entirely protected against north and east winds. Large veranda with splendid view to the Rhône-Valley, the Mont Blanc range and the Dents du Midi. 180 rooms and sitting rooms, very comfortable apartments.

Bath-rooms and shower baths. Private verandas for each room facing the south. Large open air galleries, solaria, central heating and electric light, lifts, excellent ventilation, luxuriously furnished winter-garden, large library, billiards. Excellent cooking. Tennis-ground and skating-rink.

Prices: From 12,50 to 25 Frs. per day, including room, board, heating, light, and medical treatment.

Physicians: Leading physician: Dr. Jaquerod; Assistant: Dr. Mamie; Manager: Mr. J. A. Bossi.

2. Sanatorium du Mont-Blanc.

Large establishment next to the railway-station and the post-office. 140 rooms and parlours, good ventilation, central heating, electric light, lift. Fine winter-garden, open air galleries in direct communication with the principal building. Numerous shops, hair-dresser, noted for its cooking, library, billiard, tennis. Large skating-rink close by.

Prices: From 11 to 16 Frs. per day including room, boarding, heating, light, and medical treatment.

Physicians: Leading physician: Dr. Meyer; Assistant: Dr. Tecon; manager: Mr. J. Rubli.

3. Sanatorium du Chamossaire.

Large establishment with 150 beds, furnished simply but comfortably. Beautiful situation facing the south. Magnificent veranda near a pine-forest. Central heating, lift, electric light, broad open air galleries and private verandas. Library, billiard, good cooking.

Prices: From 9 to 13 Frs. per day including room, boarding, heating, light, and medical treatment.

Physicians: Leading physician: Dr. Sillig; Assistant: Dr. Roulé; manager: Mr. Hasenfraz.

4. Sanatorium Anglais.

Recently opened establishment, furnished according to the latest hygienic demands. 150 beds. Baths and douches. Private verandas and common open air galleries. Solaria. Excellent cooking, partly worked by steam; central-heating, lift, electric light, library, English billiards.

Large hall with magnificent panorama.

Prices: From 12 Frs. including room, boarding, heating, light, and medical treatment.

Physicians: Leading physician: Dr. De Peyer; Assistant: Dr. Dieudonné; manager:

Mr. A. Genelin.

Sanatorium Liebenstein

At Bad Liebenstein, Thüringer Wald.

Proprietors Sanitätsrat Dr. Fülles and Dr. Otto Meyer.

Clinically conducted Sanatorium for Physical, Dietetic and Psychical Treatment.

Situation: At the southern slope of the "Thüringer Wald", 1225 feet above sea level, in a most favourably situated scenery close to the forest, stands the sanatorium amidst a park of its own. Wonderful surroundings with many promenades and roads.



Sanatorium Liebenstein

Climate: Pure forest-air free from dust. Spring is beginning early; summer with medium temperatures and always cool nights; autumn of long duration; mild winter with snow for two to three months. No fog at all. Owing to the favourable climatic conditions, the health-resort is equally suitable for all seasons. Useful transitional station for patients coming from the south.

Curative factors:

The sanatorium pre-

sents itself now as the type of a sanatorium on a broad scale, with the most complete therapeutic appliances, its principal aim being a combined and strictly individualizing treatment of its patients under the special consideration of modern methods of treatment.

Large and light bathing-houses with all contrivances of modern hydrotherapeutics. Large air-bath with swimming-tank of about 220 square yards, sun-baths. Large resting-halls and balconies. Gardens for garden-working. Work-shop for applied art under expert conduction (metal-work, tarso-technique, wood-carving, painting, book-binding etc.). Gymnastic cures (training of nerves and organs, individual gymnastics). Electric cures (all methods of applying the electric current). Röntgen-cabinet. Dietetic cures of all kinds (feeding and reducing-cures, metabolic-diet). Massage. Air-, light-, open air resting-cures. Resting-cures, exercise-cures. Psychical treatment. Application of the powerful carbonic acid ferruginous-arsenate spring of Liebenstein, for bathing- and drinking-cures.

Indications: All curable functional and organic nervous diseases, as neurasthenia, hysteria, hypochondriac prostration, depressive conditions, Neuralgia, *Tubes*, *Grave's* disease, chorea, migraine, paralysis etc. — *Anaemia*. — Organic and nervous heart-affections of any kind. — Gastro-intestinal diseases, such as chronic catarrhs, ulcer of the stomach, constipation. — Subnutrition, obesity, gout, diabetes, renal affections, rheumatic affections.

Insanes, epileptics and tuberculous patients are not admitted.

Very suitable station for cures after Kissingen, Carlsbad, Marienbad etc.

The sanatorium is open all the year round.

Leading physicians: Sanitätsrat Dr. Fülles, neurologist; Dr. Meyer, neurologist. Dr. Strassner, specialist for internal diseases.

German, Russian, French, and English spoken.

Terms: Price of pension (including board, meals, treatment and baths) Mks. 10 to 18 per day according to choice of room. From October 1st to March 31st a 10 per cent. reduction.

Communication: Visitors coming from England and Amerika take the line Hamburg or Bremen—Hanover via Eisenach—Immelborn, coming from South-Germany via Meiningen—Immelborn to Bad Liebenstein.

Large detailed prospectus sent free of charge on application to the leading physicians.

Kurhaus and Sanatorium Lindenfels

between Darmstadt—Heidelberg, 1400 feet above sea level, in the most beautiful forest district of the Odenwald.

Most modern comfort, all curative factors at disposal. Electric light, central heating. Large park and own fine timber-forest. Most favourable station for diseases of the nervous system, of metabolism, of the heart (especially suitable for a cure after a stay at Bad-Nauheim or Wiesbaden), and chronic internal diseases, (tuberculosis excepted).

The establishment is open and frequented all the year round. Moderate rates. Prospectus.

Sanitätsrat Dr. Klaus Schmitt.

Pension Villa Maria.

Lindenfels.

First-class hotel, open all the year round. Most modern comfort. Electric light, central heating. Price: Mks. 4.50 per day. Prospectus.

Sanitätsrat Dr. Klaus Schmitt.

Sanatorium Kurhaus Sonn- Matt, Lucerne (Switzerland).

525 feet above the Lake of Lucerne — 2100 feet above the sea level.

Open from April to November.

Absolutely quiet location, free from dust, amidst meadows and forests. Extensive

view of the lake and the mountains.

200 000 square metres of own property — 10 minutes' drive by auto to the station. 80 beds. Home-like comfort — Perfect sanitary conditions.

The establishment is conducted by physician. It is fitted up particularly for physical therapy and dietetic cures.

Large bathing-house (hydrotherapy, massage etc.). Air and sun-bath.

Individualizing treatment of metabolic disorders: Obesity, Gout, Diabetes.



Diseases of the Circulatory and Digestive Organs: Cardia: affections, incipient arterio-sclerosis, gastro-intestinal disorders, liver affections and bilious diseases. Nervous Affections.

Pleasant home for convalescents and recreation.

Persons suffering from infectious diseases and insanity are not received.

Prices: Pension (room, meals, light and heating) from Frs. 10 per day upwards.

Cure: Frs. 25 per week.

Detailed information by prospectus.

Leading physician: Dr. *Heinrich Holz*.

Hydrotherapeutic Institute Mammern (Switzerland).

Sanatorium for Nervous and Internal Diseases.

The well-known and comfortably furnished establishment is standing on the most charming spot of the Untersee (Lake of Constance), at the foot of a forest-clad mountain-crest rich in castles, and surrounded by a very large park washed by the waves of the lake. (1435 feet above sea level.) In 1901 a villa was built in order to have a great number of very quiet rooms at disposal for patients particularly sensible to noise, and for persons wishing to live as quietly as possible. This villa, most wonderfully located at the lake, is provided with all modern comfort and answers the utmost requirements.

The **climate** of Mammern is of a subalpine character, the sea-air is very pure and free from dust. The following curative factors come into consideration: scientific medical treatment in general: all the methods of hydrotherapy with all modifications in an absolutely mild and sparing treatment; carbonic acid baths, electricity (electric baths), light-baths, massage (vibration-massage), gymnastics, exercise-therapy, diet, rational mode of life, roads for Oertel-cure, psychical treatment, great attention paid by the family to cooking and nutrition.

Corresponding to these curative factors, treatment is indicated for the most various nervous disorders, such as nervousness, neurasthenia, hysteria, organic diseases of the nervous system, neuralgia, spasms, neuritis, palsy, spinal affections, Grave's disease, furthermore anaemia, chlorosis, scrofula, delayed convalescence, intermittent fever, rheumatism, inclination for catching cold, catarrhs, digestive disorders, nervous dyspepsia, chronic constipation, chronic inflammations and relaxation of the abdominal organs, neurosis of the heart, and degeneration of the heart, arterio-sclerosis, obesity, gout, diabetes, renal affections, disorders and insufficiency of the sexual organs.

Proprietor and leading physician: Dr. Oskar Ullmann.

Price: Frs. 10 to 12 per day.

Life at Mammern is very home-like, but not noisy. Opportunity for various and well paying excursions in the vicinity, by foot, by carriage, steamer or railway.

Mammern is a station of the line Zürich—Schaffhausen—Constance. Steam-ship station of the line Constance—Schaffhausen.

Detailed prospectus free of charge on application.

Dr. Binders Sanatorium "Stefanie" at Meran

for Physical and Dietetic, Open-Air and Oertel-Cure.

Season from September 1st to June 1st.

Climate and Topography: The magnificent climatic advantages of Meran, such as intense insolation, great dryness of air, protection against winds and subalpine location (1000 feet above the Adria-Sea) permit of the most thorough application of all methods of mechanical treatment during the whole winter, and especially the use of hydrotherapy and all medicinal baths, as well as of open-air and sun-cures in any form.

Owing to the favourable topographical conditions of Meran, to its situation at the slope of the gigantic mountain crests, owing to its splendid promenades, roads, and paths, partly smooth and partly gently ascending, made in the course of decades at great expenses, Oertel-cures for strengthening the cardiac muscle, respiration, and for stimulating metabolism can be carried out in the most variable way and with the minutest dosage.

Advantages of the Sanatorium treatment: These exceedingly favourable climatic and topographical conditions warrant the most remarkable curative results obtained in a

great number of diseases by a systematic dietetic and mechanical treatment in the sanatorium: nay, there are even affections and diseases for which a permanent medically superintended Oertel cure, a control of the effect of the climate and of the diet, are a *conditio sine qua non*; such cases being left to themselves and to the exerting life in a hotel, will surely derive little advantage, sometimes even suffer harm, from a stay at the health resort.

Provisions of the sanatorium. The sanatorium "Stefanie" established in 1903 and renovated according to the most up-to date requirements in 1910, combines the most modern comfort of a hotel with the most practical and hygienic provisions of a sanatorium. It stands in a somewhat elevated location, remote from the street to Obermais, opposite the parks of the Archduchess Valerie. Towards south is extending the park of the sanatorium itself, about 10000 square yards large, by which an abundance of air and sun as well as beneficial rest are provided for.

Two reception-halls, waiting-rooms, well-ventilated rooms for cure, bath-rooms and gymnastic-halls in the ground floor. Larger dining-room, lunch, reading, smoking room, and a conversation-hall in the first floor. All this serves for the comfort and the recreation of the visitors

There are in the establishment, including a dépendance, 55 most comfortably furnished rooms for patients, also separate apartments with parlour, bath-room and W. C's. Double doors, double windows, Venetian and outside-blinds, fine roofed and open balconies, comfortable berths for an open-air bath, linoleum flooring, electric light, vacuum-cleaner, warm-water central heating, hot water everywhere, lift, noiseless management, central ventilation.

Diet and attendance. Chief stress is laid upon palatable cooking on hygienic principles. Only first-class eatables are used, and the kitchen of the establishment can meet the most complicated dietetic requirements.

Normal rationally mixed meals are prepared as well as half vegetarian, lacto-vegetable, and strictly vegetable diet, pure milk-cures, diet for diabetics, dry diet and food poor in fat; furthermore diet for reduction of food, for severe anaemia, for gastro-intestinal diseases, for renal affections, and for uric acid diathesis. Grape-, fruit-, and yoghurt cures are also carried out.

Curative factors. The following physical curative factors of the sanatorium are provided for:

1. Most up-to date hydrotherapeutic appliances, separate for ladies and gentlemen.
2. All modern medicinal baths as radium-, pine-needle extract-, herb-extract, arsenious, oxygen-, sulphurated-, ferruginous, mud-, sea-salt-, and brine baths. — Carbonic acid baths prepared by pressure.
3. Electric baths, as faradic, galvanic and alternating current-baths, monopolar- and four-cell baths.
4. Appliances for photo- and thermo-therapy, as sun-baths, radiation with blue and ultra-violet rays, furthermore electric hot-air baths, electric light-baths, thermo-penetration;
5. Electrotherapy; especially Arsonval, Oudin, high frequency, Franklinization.
6. Mechanotherapy and orthopedics; passive and active Swedish gymnastics, breathing-gymnastics, Swedish manual massage, vibration massage.
7. Radium and oxygen-inhalation.
8. Air-bath and provisions for open-air resting-cures.
9. Occupation- and sport-therapy.

Indications: The sanatorium is indicated especially for

1. delayed convalescence after severe diseases (especially after tropical diseases), and after operations;
2. for diseases of the blood and disorders of metabolism, such as diabetes, anaemia, chlorosis, pernicious anaemia, uric-acid diathesis, gout, subnutrition, obesity, Graves' disease;
3. Cardiac affections, vascular diseases (arterio-sclerosis, aneurysm), disorders of circulation;
4. rheumatism, and its complications;
5. renal diseases;
6. nervous diseases, especially due to over-exertion, occupation-neurosis, neurasthenia, neuralgia, neuritis, paralysis, tabes, etc.;
7. gastro-intestinal diseases (constipation);
8. tardive syphilis and its complications.

9. Indication is furthermore given, especially in autumn, for all those cases which after a mineral cure at Carlsbad, Marienbad, Nauheim, Neuenahr, Kissingen, Homburg, Tarasp, Levico, Franzensbad, and Gastein, need a dietetic and mechanical after-cure (grape-cure) in a sanatorium with a dry and sunny sub-alpine climate.

Contra-Indications: Tuberculous and psychically affected patients, morphinists and alcoholists are absolutely not admitted in the sanatorium, likewise not patients with cancer, or people suffering from skin-diseases, or other suppurative and offensive maladies.

Prices: The prices in the sanatorium are equivalent to those of first-class hotels. Detailed prospectus and list of prices always at disposal on application.

Outside patients. The curative factors of the sanatorium and the service of the leading physician are at disposal also for patients outside the sanatorium.

Dr. R. Binder, Leading physician and proprietor.

Sanatorium Martinsbrunn near Meran

for Internal and Nervous Diseases.

Indications: Constitutional and metabolic diseases, convalescence, cardiac and circulatory affections, diseases of the kidneys, of the respiratory organs (positively diagnosed Tuberculosis not admitted!), diseases of the nervous system.

No admittance for patients suffering from alcoholism, epilepsy, bacillary consumption, and psychosis fit for asylum.

Detailed prospectus by the manager.

Leading physician and proprietor: *Sanitätsrat Dr. Norbert von Kaan.*

Montreux-Territet.

Kurhaus Territet and Sanatorium L'Abri.

Dietetic, Hydro- and Electrotherapeutic Institute.

The Kurhaus Territet and Sanatorium L'Abri is located in Territet, i. e. in the eastern part of the communities of Montreux, protected best of all against winds. It faces the south with its chief front, and stands amidst large parks; thus opportunity is offered to those looking for recuperation of taking advantage of the climatic conditions of the renowned health-resort. From the windows, a most wonderful view of the lake and the Alps can be enjoyed. The establishment, recently built as a sanatorium (1905/06), is provided with all the best hygienic appliances, such as spring-water. There are in the establishment 50 well furnished rooms for visitors, most of which facing the south, with roofed separate balconies; in addition, rooms for curative purposes and salons.



supply, W. C. (English system), rinsing canalization. It is most comfortably furnished (warm-water central heating, electric light, hydraulic lift). Concrete ceilings, flooring of Terrazzo, and Delmenhorst cork-carpets, double-walls with stuffings of material deadening sounds, providing absolute noiselessness and silence in the house.

Curative factors: Hydrotherapy. Demi-baths and full-baths, running sitz- and foot-baths with variable temperature, cold and tempered douches of any kind, medicinal baths, carbonic acid baths, carbonic acid brine-baths for the indications of a Nauheim-cure. Natural brine and mother-lye from Rheinfelden and Bex are applied for baths in any desired concentration.

Electrotherapy: Apparatus for constant and induced current and for Franklinization, electric perspiration- and light-baths for the whole body or single limbs.

Air- and sun-baths. — Psychotherapy (Suggestion, Psychoanalysis).

For drinking-cures is applied the own mineral spring of the Sanatorium, (alkaline water, containing lithia), successfully used in gastric, renal, hepatic affections, and gout.

Furthermore are applied all the scientifically approved mechanical, dietetic and medicinal cures, such as milk-, whey-, kephir-, and grape-cures; special dietetic cures for albuminuria, diabetes, gout, gastro-intestinal diseases; feeding cures according to Weir-Mitchell; Banting-cures combined according to Ebstein and Eichhorst, Oertel-cures; massage, gymnastics.

Most completely equipped laboratory for chemical analysis, and clinical-examination allowing a permanent control of gastric-juice, faeces, urine, blood etc. so that the treatment is strongly individual on the basis of an exact diagnosis and a permanent superintendence.

Indication is given: For internal and nervous affections, especially for diseases of the digestive tract (stomach, intestines, liver etc.), diseases of the circulatory apparatus (heart, vessels, kidney), disorders of metabolism (anaemia, chlorosis, rheumatism and gout, obesity, diabetes, emaciation and prostration), affections of the nervous system (neuralgia, nervous dyspepsia, neurasthenia, general weakness). Furthermore, convalescents and persons needing rest find here a most suitable and pleasant retreat (rational food, not as in hotels, wine not obligatory, house very quiet.) (At the entrance of the park is a halting-place of the electric tram Vevey—Montreux—Chillon, connecting the Kurhaus with the centres of social life at Montreux; conversation-house with renowned concerts etc.)

Insanes and persons with offensive and infectious diseases (pulmonary tuberculosis) are not admitted.

The establishment is open all the year round.

Prospectus by the administration.

Detailed information most willingly given by *Dr. Loy, leading physician.*

Hotel Château Belmont, Montreux

Celebrated Residence all the year round. — Excellent intermediate Station.

One of the finest and most popular modern first class family Hotels in Switzerland. Holding the best position, the most beautiful and quiet, in Montreux; standing well above the Lake (200 feet) with splendid views; surrounded by its own gardens, vineyards, terraces and New Tennis Court. 5 minutes from Station and Tramways.

Appartments with Bathrooms. Playroom for Children. English and French Billiards. Sports of all sorts.

Weekly concerts and soirées dansantes.

Central hot-water heating and electric light throughout. Perfect sanitary arrangements.

Lift. Darkroom. Baths and Douches.

Regular Motor-Bus service to Station, Town and Boats. Garage-Boxes. Excellent Cuisine and careful service.

Telegram Address: Belmont Montreux. — *Thos. Unger-Donaldson*, Propr. and Manager.

Hofrat Dr. Decker's Sanatorium

for Gastro-Intestinal and Metabolic Diseases (especially Diabetes),
Munich, Seestrasse 4.

The sanatorium was reestablished in 1905 after its having existed for 9 years in Türkenstrasse. It stands in an ideal and quiet location, close to the "English Garden". Most of the patients' rooms are facing the south, and have spacious balconies for open-air resting-cures. The house is surrounded by gardens. The institute is open all the year round. Electric light, central heating, electric lift, top-light.

Treatment for patients with whom chief stress is to be laid on dietetic treatment, persons needing recreation after severe diseases, neurasthenics, patients with gastro-intestinal diseases (catarrh of the stomach and intestines, ulcers of the stomach and intestines, dilatation of the stomach, relaxation of the stomach and intestines, carcinoma of the stomach and intestines, constipation, diarrhoea, haemorrhoids, nervous dyspepsia etc.), metabolic diseases (affections of the liver, the bile, the kidneys, diabetes, anaemia), and patients needing a feeding or a reducing-cure. Owing to the great routine in dietetics, the sanatorium is especially suitable for diabetics, for whom the daily diet is prescribed on the basis of quantitative examination of urine and the estimation of calories.

Baths and hydrotherapeutic applications of any kind.

Completely equipped laboratory for the examination of metabolism, and all the necessary physiological and chemical investigations.

Prospectus free of charge on application to *Hofrat Prof. Dr. Decker.*

Formerly As-istant to *Prof. Dr. v. Leube* at Würzburg.

San.-Rat Dr. H. Schmidt's Sanatorium Bad Nauheim for Heart-Diseases, Gout, Rheumatism etc.

In addition to the baths of Nauheim, especial consideration of the curative factors offered in this sanatorium, such as hydrotherapeutic applications, massage, gymnastics, electricity. Dietetic cures. Air-bath. Roentgen-cabinet. Open from March to November. — For further details see prospectus.

Private-Sanatorium Bad Nenndorf.

Sanitätsrat Dr. Ch. Michelet, Royal Bathing-Physician.

Cures also in the winter: In the house bathing- and drinking-cures with the sulphurated springs belonging to the fisc, local mud-baths, hot-air baths, combined Salvarsan-Mercury treatment, without by-effects.

Rheumatism, gout, neuralgia (sciatica), skin-diseases (furunculosis, psoriasis), diseases of women (exsudates), syphilis (tardive forms with functional disorders).

Telephone No. 8.

Dr. Ortenau's Family Pension Hygiea at Nervi.

For Pulmonary Diseases.

Open from October 15th to May 1st. Since 1893 under the proprietor's care.

This establishment, formerly "Friedmann's Institute", has the character of a family pension, and is conducted on the well approved lines of modern treatment, chief stress being laid upon a copious nutrition and a strictly systematic open-air cure (resting-cure). The country-houses located in the sunniest part of the place are provided with high, ventilated and well heatable (central heating) rooms facing the south, large and well-protected gardens, and covered resting-halls. As only a limited number of patients is admitted, the treatment is strictly individualizing, the control by the physician most thorough, and the patients have the advantage of an intimate family life. The house is, therefore, especially recommended for young persons. — Careful cooking, well trained servants. The proprietor has full command of the English language.

Prospectus by the undersigned. Questions up to Oktober 1st are to be addressed to Bad Reichenhall.

Dr. Ortenau (during the summer practising in Bad Reichenhall).

Bad Neuenahr, near the Rhine, Sanatorium Dr. Graul.

The sanatorium of Dr. Graul is located in the most quiet part of the health-resort, close to the Kurgarten and the springs. It is a special sanatorium for diabetes, affections of the stomach, intestines, liver, kidney, disorders of metabolism (gout). All dietetic cures carried out individually. Besides the strictly individual diet, the following curative factors of the sanatorium are to be mentioned: electricity, baths and douches, light-baths, massage, fango-treatment, gymnastics. — Limited number of patients, and consequently most thorough treatment for each individual patient. First-class equipment in the house. The sanatorium is open all the year round.

Prices for boarding and pension from Mks. 9 to 17.

Prospectus on application to

Dr. G. Graul

(formerly Assist. Phys. to His Excellency Prof. v. Leube at Würzburg.)

Sanatories for Diabetic Patients at Neuenahr.

45—49—56 Hauptstrasse.

Diabetic patients who wish to be sure of definite and permanent results ought to go to a special sanatorium for diabetes.

The three sanatories "Villa Carola", "Belvedere" and "Anna", comfortably furnished according to the requirements of refined private houses, are situated protected against high- and mountain water.

The sanatories receive: 1. All cases of dubious glycosuria for the purpose of a positive determination of metabolic disorders; 2. all recently noticed cases of diabetes mellitus for perfect recovery; 3. cases of diabetes that have gone through other cures without success; 4. inveterate cases complicated by chronic acetonuria.

Not admitted are: lunatic and consumptive patients.

The patient is most carefully examined and methodically observed. His individual mode of life is regulated according to a thorough investigation of his metabolism. The cooking of the establishment is perfect as regards quality of material, palatable meals, varying and reliable food.

Patients are also received in winter. A winter-cure is particularly to be recommended. Prices for board, i. e. living, meals, light, heating, service from Mks. 9 to 27 per day according to size of room and saloons.

Relatives of the patients may have living and boarding in the house at the same rates, if not otherwise agreed upon. At their request they may have special meals. Rooms for servants, horses' stable, coach-house, and auto-garage are existing.

Villa Anna can also be rented *en bloc*.

Dr. Külz-Neuenahr.

Bad Neuenahr.

Sanatorium of Dr. Ernst Rosenberg

Formerly assistant to Professor Dr. Albu, Berlin, and Professor Dr. Adolf Schmidt, Dresde-Halle.

Special sanatorium for gastro-intestinal diseases and diabetes. Uric-acid diathesis. Diseases of the kidney. Neurasthenia. Feeding and reducing cures.

Refined comfort. First class accomodations for dietetic and mechanic treatment. Quietly located close to the springs and parks of Bad Neuenahr.

Oberloschwitz-Weisser Hirsch near Dresden.

Dr. Teuscher's Sanatorium.

for Nervous-Diseases, Cardiac Affections, Gastro-Intestinal Diseases and for persons needing Recreation.

Epileptics, consumptives, and insanes are not admitted.

Scientifically equipped institution for physical and dietetic treatment.

The establishment stands on the woodclad plateau of the right embankment of the Elbe-river, and is in communication with Dresden by an electric tram (station: "Weisser Adler").

The situation towards south, at the border of the heath of Dresden (Dresdner Heide) extending for miles, is the best imaginable.

Price: from Mks. 12 upwards per day all included. Prospectus free of charge. Open during summer and winter.

Telephone: Loschwitz 913, Cable-address: Teuscher, Weisser-Hirsch.

3 Physicians. Leading physician and proprietor

Dr. med. Heinrich Teuscher, Neurologist.

Sanatorium Oeynhausen (Westphalia.)

The sanatorium, built in 1891 in the Gothic style, is located in the immediate neighbourhood of the Kurpark of Bad Oeynhausen; it was enlarged considerably in 1898, 1903 and 1909 by additional buildings. Most modern and comfortable furnishing, pleasant residence for summer and winter. The winter-baths are given in the house itself, with water from the Kaiser Wilhelmsprudel drilled in 1897. Central heating, water supply, drainage. Electric lift, electric light. Physician in the house.

Prices for board and pension from Mks. 50 to 98 per week.

Indications: Diseases of the central and peripheral nervous system, paralysis, ischias etc. Functional and organic diseases of the heart; diseases of women, all forms of rheumatic and gouty affections, convalescence after inflammatory and exudative processes, complications of traumatism and accidents.

Notification of arrival to one of the physicians is asked for.

Sanitätsrat Dr. K. Reckmann. Sanitätsrat Dr. F. Huchzermeyer.

Villa Dr. Oster. — Ospedaletti-Ligure, Riviera di Ponente.

Sanatorium for Internal Diseases and Persons needing Recreation,
excluding Tuberculosis, other Infectious Diseases, and Insanes.

The sanatorium is especially equipped for the rational treatment of functional and organic affections of the heart, vessels, kidneys, of gastro-intestinal and liver-diseases, of metabolic and nervous disorders (rheumatism, gout, obesity, diabetes, anomalies of blood, neurasthenia, neuralgia, migraine etc.).

Dietetic cooking wholly adapted to the individual, and under permanent superintendence of the leading physician. Hydro- and electrotherapy in all forms, such as fresh-water, sea-water, sea-salt, pine-needle, carbonic-acid, and carbonic-acid sea-salt baths (system Fischer-Kiefer), tempered douches, electric baths. Electrodiagnostic and therapeutic appliances for all the other approved therapeutical methods. Apparatus for hot-air treatment. Manual and vibratory massage. Out-door cures, splendidly located, intensely insolated, large, open, and roofed resting-halls allowing a cure at any weather and season. Oertel-cures under medical supervision. Drinking-cures in the winter: the various mineral-waters (Carlsbad, Kissingen, Marienbad, Vichy etc.) always as fresh as possible, are applied in addition to diet-, resting-, Oertel-, bathing-cures etc. Appliances for resistance-gymnastics. Laboratory for chemical and bacteriological examinations. Roentgen-cabinet.

The establishment built in 1903, and amplified later, stands on the finest spot of the health-resort, in a large park. All the rooms allow wonderful view of sea and mountains. Refined comfort. Modern hygiene. High and spacious rooms, mostly facing the south, and drawing rooms for 50 visitors with their relatives. Central-water-heating, inlaid floor, electric light, ventilation, American bathing-outfit, Stigler-lift. Open from October to May. Prospectus by the proprietor and leading physician Hofrat Dr. Oster, formerly for many years, Assistant Physician to the Medicinal Clinic and to His Excellency Professor von Leube, at Würzburg.

Dr. Wigger's Kurheim, Partenkirchen.

Partenkirchen is situated in the idyllic valley of the Loisach and Partnach, opposite the Zugspitze, protected against rough winds on all sides by mountains rising to an altitude of 6300 to 10 500 feet.

The climatic conditions are as favourable as they can be imagined. Partenkirchen is, above all, distinguished by an almost uninterrupted calm, and in winter by an intense insolation; hence permanent resting-cures in the open-air can be carried out most conveniently all the year round. On the verandas of the Kurheim temperatures of 30—40° C (86—104° F) were observed for weeks in the winter sun. In summer, on the other hand, there is a permanent change of air, and the heat cannot grow up to a molesting degree the high mountains getting warm in the morning earlier than the valley and, on the other hand, cooling off much earlier in the evening. The changing currents of air carry along fresh ozone from the extensive plateau richly wooded with

pine-forests, and from the spurs of the mountains densely covered with pine-trees. As a result of this ventilation, the air is extremely rich in ozone, and the place excels most of the climatic stations as regards purity and freshness of air.

Kurheim.

Dr. Wigger's Kurheim, built in 1905 at the most sheltered and sunny spot of Partenkirchen on the slopes of the Riedmountains, was enlarged considerably in 1906-07 by an entirely new building, and in 1909 by the most advantageous acquisition of a large and shadowy park in front, with several comfortable country-houses. Later on considerably amplified by a new building.

The establishment is situated somewhat above the town, remote from noise and dust, but still to be reached most conveniently (particularly by means of a lift going down to the bottom of the valley.)

The large and imposing establishment is furnished throughout with a refined comfort satisfying those who need recreation. Lift, warm-water central heating, electric

light from own electric works, double doors, a whole series of decently and elegantly furnished drawing-rooms, skittle-ground, roofed and open colonnades, large protected verandas for each room facing the south, large and shadowy park of about five acres with air-bath etc., render the residence most home-like and pleasant. From the verandas of the Kurheim the most delicious panorama opens upon the valley scattered all over with country-houses, on the Watterstein-mountain with Dreitorspitze, Alpspitze, Zugspitze, on the Alps of the Tyrol and Allgäu etc.

Indications: The Kurheim is recommended for convalescents, for those needing recreation and a change of air in a refreshing and stimulating alpine climate, and the treatment is particularly indicated for:

1. Diseases of the heart and blood-vessels (diseases of the cardiac muscle, vascular neurosis etc.).

2. Affections of the respiratory organs (bronchial catarrh, emphysema, asthma and allied conditions, with strict exception of any infectious disease).

3. Diseases of the blood and of metabolism (chlorosis, anaemia, gout, rheumatism, diabetes, obesity etc.).

4. All diseases of the digestive organs (gastro-intestinal affections, chronic constipation, tendency to diarrhoea etc.).

5. Affections of the liver, bile, kidneys and bladder.

6. All affections of the nervous system of organic as well as functional nature (paralysis, tabes, neuralgia, sciatica, all forms of neurasthenia and hysteria, especially nervous disorders of the cardiac function, of the digestive function, of the sexual sphere etc.), and any kind of prostration.

7. Chronic intoxications (nicotine, alcohol, morphine, cocaine etc.), the latter under special conditions.

8. Complications of surgical or gynecological interference, and the sequelae of professional over-exertion and injurious climatic influences (tropical diseases etc.).

9. Cures after staying at Marienbad, Carlsbad, Nauheim, Kissingen etc., and transitional station from southern health-resorts to the north or vice versa.

Strictly precluded from admittance are insanes and patients suffering from infectious diseases. — Five physicians.

Communication via Munich in 2½ hours by railway.

Address questions in business matters to the directory, and questions in medical matters to the proprietor and leading physician

Dr. Florenz Wigger.



Kurhaus Pegli.



Only Sanatorium for physical and dietetic therapeutics in the South. Wonderfully situated on the Mediterranean; quiet and free from dust. Air-and sun-baths; individual treatment.

Proprietor:
H. Ernst.

Medical Director
Dr. A. R. Ernst.

Sanatorium Bad Pyrmont of Professor Dr. Schücking, Sanitätsrat.

For diseases of women, cardiac diseases and blood-affections, anomalies of metabolism (gout). 3 refined country houses. Large private park. Frequented by the highest English aristocracy.

Dr. Wichmann's Sanatorium Pyrmont Saline.

Patients suffering from anaemia, neurasthenia, chronic internal diseases, and persons needing a change are admitted all the year round. Cure and treatment by physician. Most quiet and isolated location near the lower princely brine bathing-house; the total area of the establishment is about 10 acres.

Electric light and central heating in all rooms. Water-supply. Drainage. Baths. Electrotherapy. Massage. Dietetic cures. Berth-halls for open-air cures. Sun- and air-bath.

Price of pension Mks. 7 to 10 per day according to choice of room. Family-home for single ladies. Insanes, coughing patients, and such affected with infectious or skin-diseases are not admitted.

Detailed prospectus by the proprietor

Sanitätsrat *Dr. Wichmann*, neurologist,
District physician at Pyrmont.

Sanatorium Schierke in the Harz.

2250 feet above sea level.

The sanatorium furnished with all modern comfort, lift, comfortable drawing-rooms, stands at the southern declivity of the 3997 feet high mountain-crest radiating from the Brocken. An old mountain-forest surrounds the place in a semi-circle and protects it against rough winds.

Owing to its favourable and very sunny alpine location and to its stimulating air, Schierke is known to exert in summer as well as in winter a most powerful therapeutic influence upon physical and nervous affections. It is specifically suitable for nervous prostration, asthma, Grave's disease, and cardiac affections. Patients and their relatives are also received for convalescence and recreation. Tuberculous patients and insanes, however, are not admitted.

There is at Schierke abundance of promenades on smooth and ascending roads (Oertel-cures). The sanatorium is provided with all kinds of baths (four-cell, mud- and light-baths), a large air- and sun-bath, an open gallery for resting-cures, and the scientifically approved physical curative factors (a radium-emanatorium, an apparatus for thermopenetration, medico-mechanic institute, and a Roentgen-cabinet) are also at disposal.

Chief stress is laid upon a favourable psychical influence by medical treatment aided by a laboratory equipped with modern diagnostic appliances.

The diet is prepared under the supervision of the physicians, special care being devoted to the palatability of the food and to its being adapted to each individual case, on scientific principles. Also vegetarian diet, feeding and receding cures.

Terms. Rooms with one bed including full pension (5 meals), heating, service, and electric light Mks. 10 to 15 per day, larger rooms with one bed correspondingly more. Rooms with 2 beds including full pension etc. for two persons Mks. 16 to 35 per day. Reduction of price during the quiet season, i. e. before and after the winter and summer-season; the minimum-rate, however, amounts to Mks. 7.50 per day and person.

Entrance-fee Mks. 20, for companions being not under treatment Mks. 10.

In this price is included conveyance from and to the station on the arrival and departure. For separate carriage or sledge an additional fee of Mks. 2 is to be paid. For permanent medical treatment up to dismissal from treatment at least Mks. 15 per week are charged. People needing recreation but not constant treatment, are also received. For baths etc. special tariff.

Railway station from May 1st to October 15th at Schierke (Brockenbahn), otherwise Elend (Harzquerbahn Nordhausen-Wernigerode). The sanatorium is open all the year round. Detailed information by prospectus.

Physicians: Leading physician Sanitätsrat Dr. Haug. Superintendent physician Dr. Wichura. House physician.

Schömberg, Oberamt Neuenbürg, near Wildbad, in the Black Forest of Würtemberg.

Schömberg is situated at a slope of the large plateau of the Northern Black Forest of Würtemberg extending between the Enz- and Nagoldtal, at a height of 2190 to 2450 feet. The place itself is in an altitude of 2275 feet. The height of Schömberg can be reached on convenient forest-roads by carriage in 3¹/₄ hours from the railway stations Höfen a. Enz (Enztalbahnhof: Pforzheim—Wildbad) and Liebenzell (Nagoldtalbahnhof: Pforzheim—Horb.). Regular mail and auto service from Höfen. With auto 15 min.

The place embraced by extensive pine-forests offers the pleasant aspect and the characteristic scenery of an alpine Black-Forest village. The houses hidden among orchards are bordering a meadow valley down which a rivulet runs its winding course.

This place offers all the requirements asked for if sanatoria for consumptives are to be established. The soil is porous and dry (variegated sandstone formation). There is no considerable incline; everywhere gently ascending forest-paths in all directions. The place is well-protected against rough winds.

Excellent pure mountain spring-water provided by high-pressure water-system of the community. The climate of Schömberg shows the characteristics of a south-western richly wooded medium mountain. It is a stimulating forest-climate.

According to the registrations of the meteorological station in the "Neue Heilanstalt", the following mean figures have been found for the climatic factors: Atmospheric

pressure 710,5 mm Hg. Temperature $7,4^{\circ}\text{C} = 44,7^{\circ}\text{F}$. Mean daily variation $8,1^{\circ}\text{C} = 46,4^{\circ}\text{F}$. Summer-days (maximum of temperature more than $25^{\circ}\text{C} = 77^{\circ}\text{F}$) 18. Frosty days (Minimum below $0^{\circ}\text{C} = 32,0^{\circ}\text{F}$) 108. Ice-days (Maximum below 32°F) 25. Absolute moisture 6,92, relative 86% . Mean clouding 5,9. Fog in the average on 30 days; 216 clear and 118 cloudy days during the year. Yearly amount of rain 824 mm. in the average. There were counted in the average: 142 rainy days, 38 days with snow-fall, 7 days with hail, 12 days with sleet, 41 days with dew, 35 with hoar-frost, furthermore 11 distant and 17 local thunder-storms. — Duration of sunshine in the average 1297,2 hours per year (i. e. daily 3 to 6 hours). The predominant winds are W. and SW.

Schömberg is situated above the fog border-line. In the winter many sunny days in spite of the long lasting snow.

The location, the property of the soil, the abundance in forests, the climatic conditions, therefore, offer the most favourable advantages for the climatic treatment of chronic pulmonary diseases, especially of chronic tuberculosis. As Schömberg is in a mean altitude, there is no necessity of special indications, as for alpine regions.

At Schömberg, the principle of a strict sanatorium-treatment of chronic pulmonary tuberculosis at favourable climatic places has found ample application; a principle established in Germany and acknowledged in all cultured countries. Three large private institutes for patients of better classes and a sanatorium of the Württembergian-Association for Sanatoria for the not wealthy and not insured patients have been established on the plateau of Schömberg, during the last 20 years.

Sanatorium Schömberg, Institute for Pulmonary Diseases.

Telephone No. 1. Leading physician Dr. med. A. Koch.

The establishment was founded in 1888 and amplified by large new buildings in 1893, 1899, and 1902. The sanatorium is leaning towards north and north-west to a gently ascending hill offering protection against the predominating winds. In front of the



Sanatorium Schömberg.

establishment is a large park-like garden with a small pond and summer berth-halls, scattered in the park, numerous beautiful places with dense and high groves offering cool shadow in the summer. The patients are therefore able, without leaving the grounds of the establishment, to have short and convenient walks in the quiet and large parks. Along the chief front of the whole establishment high resting halls are put up where patients may have a permanent stay in the open-air, just as in the above mentioned summer berth-halls.

The establishment is furnished in-doors according to all the acquirements of modern comfort: high rooms, broad corridors, several large conversation halls, music-, reading-, billiard-, and ladies' room, large dining room 28 feet high with winter-garden; bath-room on each floor. Electric light in all rooms and berth-halls; central low pressure heating.

Treatment on the lines of the hygienic-dietetic principles of Brehmer and Dettweiler, with most careful consideration of all the other curative factors approved by clinical experience (Tuberculin-, inhalation-cures etc.); special treatment for diseases of the throat and nose. Three physicians; nurses of the Red-Cross, and attendants.

The sanatorium is open all the year round, as the good results obtained in winter fully disprove the still wide-spread prejudice as to the suitability of a winter-cure in the Black-Forest.

Meals are served at 7 $\frac{1}{2}$ to 8 $\frac{1}{2}$ a. m., first breakfast; at 10 a. m. milk with bread; at 10 o'clock dinner (4 to 5 courses); at 4 p. m. milk with bread; at 7 p. m. supper (2 courses); at 9 p. m. milk. Special diet for gastric and other diseases.

Daily price of pension for medical treatment, full pension (milk included, other drinks excluded), and including rubbings, douches, heating, light and service Mks. 6 $\frac{1}{2}$, price for room from Mks. 1 $\frac{1}{2}$ to 6 according to position and furnishing. No Kurtaxe.

Detailed information by prospectus free of charge on application.

Questions of any kind and announcement are to be addressed to

Direction des Sanatorium Schömberg in Schömberg.

Neue Heilanstalt für Lungenkranke.

(New Sanatorium for Pulmonary Diseases). Leading physician Dr. G. Schröder.
Schömberg, Oberamt Neuenbürg near Wildbad.

This establishment is situated at 10—15 minutes' distance from the village of Schömberg, close to the large pine-forests, which are only at disposal of the patients of the sanatorium. In the forest spacious forest berth-halls. The establishment consists of a



New Sanatorium Schömberg.

chief building and dépendances. Above all, light cases are here received. The appliances answer all the requirements of hygiene: Central-heating, central warm-water supply. Electric light, lift, disinfecting-house for laundry, porcelain etc., and sputum. In front of the whole establishment, toward the south, there are halls for open-air cure. Most modern contrivances, such as Roentgen-equipment, incandescent light-bath, electric-medical apparatus. Treatment of diseases of the upper air-passages by specialists. Inhalations. Air-bath. Hydrotherapeutic appliances. Cooking supervised by physicians. Dietetic cooking. 5 meals per day. 3 physicians. 4 Nurses. 2 Attendants.

Prices: Pension Mks. 7 per day, medical treatment included. Prices for rooms varying between 2 to 5½ Mks. per day, according to position. First consultation Mks. 20. Extra charge only for baths, medicine, and drinks. Disinfection of the rooms in case of change or at departure Mks. 7. Carriages of the establishment ready on order at the railway stations of Höfen a. Enz or Liebenzell. Detailed illustrated prospectus by the leading physician Dr. G. Schröder who is to be addressed for any information. Cable-address: **Dr. Schröder, Schömberg-Neuenbürg.**

Telephone for distant calls: Schömberg-Neuenbürg No. 2.

Sanatorium Schönbuch near Böblingen (Württemberg).

1785 feet above sea level.

Sanatorium for Diseases of the Lungs and Larynx
with special department for children.

Leading physician: Dr. med. Th. Brühl.

Summer- and Winter-cures.



Schönbuch bei Böblingen.

Climatically very favourable, situated very sunny and well-protected against cold winds, remote from the dust and noise of much frequented roads; amidst a large park of its own extending for 15 acres, close by the extensive old timber forests of Schönbuch. — Most hygienic and very comfortable. No rooms facing the north. — Linoleum and Terrazzo-flooring in all rooms and corridors, walls easily washable, rounded corners. Separate spring-water supply for the sanatorium. Electric light,

central heating. — Lift. — Roentgen-cabinet. — Excellent isolated berth-hall in communication with the establishment by a covered walk. — Special berth-verandas for bed-ridden patients. — Small entirely separate ward for children with separate berth-halls, and special dining- and playing-rooms.

Only 40 patients are received; thus a permanent supervision and strictly individual treatment are warranted.

Hygienic dietetic treatment (copious and rational food, strict regulation of rest and exercise, inurement by precautionous hydrotherapy, air- and sun-baths); and specific treatment according to the case.

Special (also operative) treatment of the nose, larynx and pharynx.

Prices. Pension (including meals, medical treatment and nursing, heating and light) Mks. 6,50 for adults, Mks. 5,00 for children — Mks. 4,00 for children below 10 years of age. Rooms from Mks. 1,50 to 5,50.

Means of communication: The railway-station is Böblingen, district town, three quarters of an hour distant, on the line Stuttgart—Freudenstadt or Stuttgart—Horb—Zürich.

Intending visitors can be met at the station.

Announcement in advance is urgently asked for.

Illustrated prospectus and any other information by the

Directory of the "Sanatorium Schönbuch".

Sanatorium Schöneck

near Beckenried — Lake of Lucerne — Switzerland.

Situated 2467 feet above sea level, about 945 feet above the southern bank of the lake, with a magnificent view of the lake and the neighbouring mountains. The sanatorium stands in large parks, which in the north, east and west pass over into

forest. The atmosphere is mild, free from dust, moderately moist, slightly stimulating, and calm. The temperature even in mid-summer very moderate. No hot nights.

The establishment has the advantages of a delicious subalpine climate, and offers the most possible variety of therapeutic factors on the scale of a sanatorium for chronic diseases.

Curative Factors: Application of all methods of scientific hydrotherapy (system of Winternitz), pneumatic cabinet, pneumatotherapy, inhalatorium according to Heyer. Electrotherapy, electric-light baths, Roentgen-equipment, carbonic acid and oxygen-baths, galvanic and faradic baths, alternating current baths, hot-air douche, massage, hot-water massage. Thoroughly specialized dietic cures.

Indications: Treatment is indicated, above all, for affections of the nervous system, such as neurasthenia, hysteria, hypochondria, organic diseases of the peripheral nerves and of the central nervous system (tabes). Next to these are treated most of all diseases of the gastro-intestinal canal, and of the respiratory organs (asthma), and cardiac affections. Furthermore, indication is given especially for constitutional diseases, anaemia, general disorders of nutrition, muscular and arthritic rheumatism, neuroses of the uro-genital organs.

Insanes as well as consumptives are not admitted.

Strictly individual treatment.

Leading physician Hofrat Dr. Wunderlich. Two assistants.

Cable-address: Kuranstalt Schöneck, Switzerland.

Season from May 15th to September 30th.

Prospectus and detailed information by the

Directory.

Kurhaus Semmering.

Physico-dietetic Sanatorium, Summer- and Winter-Cures.

Chief Physicians: Dr. Franz Hansy and Dr. Karl Kraus.

The Semmering situated 3500 feet above sea level, two hours' railway-ride from Vienna, combines grandeur of scenery and climatic advantages, amidst the most wonderful forests, with all the comfort of a city. This has established its world-wide repute of an alpine heath resort.

The Kurhaus, built according to the designs of prominent Viennese architects, and the annexed Villa Meran, are located in the climatically most advantageous district, in an absolutely ideal and sunny part, entirely free from winds and fog. The most modern comfort of a refined hotel is associated here with the hygienic advantages of a first-class sanatorium.

The medical treatment is carried out by the leading physicians: kaiserlicher Rat Dr. Franz Hansy, formerly leading hospital physician and Dr. Karl Kraus, formerly assistant to Hofrat Professor Winternitz at Kaltenleutgeben and substitute to the leading physician of the sanatorium of Edlach.

The sanatorium is equipped especially for alpine cures, and is uninterruptedly open all the year round. Indications are given for disorders of metabolism (diabetes, gout, obesity &c.), diseases of the nervous system (neurasthenia, hysteria), of the digestive tract and the air-passages, furthermore for Grave's disease, anaemia, chlorosis, asthmatic disorders, and certain nervous affections of the heart, and particularly for all those needing recreation, invigoration, and inurement.

Insanes, and persons suffering from incurable and infectious diseases, especially consumptives, cannot be admitted.

Advice of the house- and consulting physicians of the visitors is considered as far as possible. Main stress is laid upon a most intimate contact of the patients with the physicians during the stay at the sanatorium.

Special care is devoted to air-, sun- and hydrotherapeutic cures, furthermore to the diet adapted to each individual case. In the ordinary diet, food stuffs are selected most carefully considering particularly the vegetarian diet. There is opportunity for rational occupation-therapy. All appliances are at disposal for the application of physico-therapeutic methods, such as general hydrotherapy, carbonic acid and oxygen-baths, electric two- and four-cell baths, alternating-current baths, contrivances for Arsonvalization, Zander-institution, inhalatorium, complete Roentgen-equipment &c. Roofed colonnade, forest berth-hall, sun-bath and forest air-bath for open-air treatment.

The Kurhaus has 110 rooms, most of them with balconies; electric light, telephone and noiseless telegraph in all rooms. The chief building has a large hall, free from smoke, for the réunion of societies, dining-room, breakfast-room, small dining-room, reading-room, writing-room, smoking- and billiard-room, musik-room, hair-dressing-saloon for ladies and gentlemen, photographic dark-room, auto-garage.

Roads for Oertel-cures, tennis grounds, roads for skiing and sledging near the house. Further information concerning prices and terms is most willingly given at any time by letter or personally.

Starnberg near Munich.

Dr. Plange's Sanatorium

for nervous and internal diseases, for convalescence and recreation. (Neurasthenia, hysteria, nervous dyspepsia, gastro-intestinal diseases.

Feeding and reducing cures. Deprivation cures.

Insanes and patients with infectious diseases are not admitted.

Located 2100 feet above sea level, at the most beautiful of the Bavarian lakes. Subalpine climate. Abundant vegetation. Sea-air, wholly free from dust. Extensive promenades in wonderful leafy and pine forest. Opportunity for any kind of sport. Open in summer and winter. Excellent communication to the Alps and Munich (Festive performances in the Prinzregenten-theatre). Modern appliances, limited number of patients, own bathing-house with all the apparatuses for hydrotherapeutic and physical treatment. Price of pension Mks. 6 to 12 per day. Medical treatment is charged extra.

Detailed informations and prospectus by

Dr. med. V. Plange.

Sanitätsrat Dr. Kremser's Sanatorium for Light Pulmonic Diseases at Sülzhayn in Südharz near Nordhausen.

Open in winter and summer.

The sanatorium is situated 2 km from Sülzhayn, well-protected against east-, north-, and west-winds, closely embraced by the hills of the Südharz rising up to 2257 feet, with magnificent views of the valley open to the south, amidst forests extending for miles in an atmosphere free from dust and rich in ozone. Own mountain spring water supplies productively a refreshing drinking- and washing-water.

The rooms of the patients are furnished most conveniently, linoleum flooring, in part also Torgament, walls with Salubra-hangings, washable paper wall clothing up-to date ventilation, electric light and low-pressure steam and warm-water heating. Nearly all the rooms are facing the south. Well-protected berth-halls for out-door cures.

The strictly individual treatment is carried out on the lines of Brehmer-Dettweiler considering especially gastro-intestinal disorders, affections of the ear, nose, and throat &c., and a variable and acknowledged excellent food; (Hamburg cooking). 2 Physicians.

Most favourable climatic and hygienic conditions. Own park extending for 35 acres, electric light, Roentgen-cabinet, rinsing-canalization, setting-pond for sewage, low-pressure steam heating, warm-water supply, steam disinfecting apparatus &c.; the establishment is, therefore, a modern model institution for lung-diseases, and has been favoured for many years as a summer and winter climatic station.

The sanatorium has only one class for light patients of the educated classes, and admits but a limited number of patients. Intimate family-life in spite of strict observance of the prescribed cure. Absolutely individual treatment of each patient by the leading physician.

Open in summer and winter.

Price of pension including board, meals, medical treatment &c. Mks. 8 to 12 per day according to choice of room. Parlours, billiard-room, winter-garden, forest berth-hall, croquet-ground, concerts &c. Telephone: Ellrich am Süd-Harz Nr. 35. For further details see prospectus.

Railway stations: 1. Ellrich, line Nordhausen—Nörthheim; 2. Benneckenstein, line Harzquerbahn from Wernigerode; 3. Tanne, line Tanne Blankenburg am Harz.

Sanitätsrat *Dr. med. E. Kremser.*

Sanitätsrat Dr. Haupt and Dr. H. Haupt Tharandt near Dresden.



Sanatorium for Nervous and Internal Diseases, for Disorders of Metabolism and for Recreation.

Feeding and reducing, and dietetic cures. Laboratory for the investigation of Metabolism.

Summer- and Winter-Cures.

Telephone: Amt Tharandt 17.

Val-Mont sur Territet (Switzerland).

2150 feet above sea level — Open all the year.

Medical establishment for special treatment of diseases of the digestive organs (stomach, intestines, liver etc.) and other troubles affected by diet (obesity, diabetes, anæmia), also disorders of the kidneys (albuminuria), and of the heart and circulation. Hydropathy, electropathy, carbonic acid baths, radiopathy. Rest cures. No cases of tuberculosis, hysteria, mental or contagious diseases are admitted.

For further details apply to the Direction

Dr. *Widmer*, Director
3 Assistants.

Sanatorium Wehrawald near Todtmoos.

Most Elevated German Sanatorium for Pulmonary Diseases.

The sanatorium is situated 3013 feet above sea level, in the finest part of the southern Black Forest of Baden, one quarter of an hour from Todtmoos, and 140 feet



above it, sunny and protected against winds, far above the valley of the Wehra-river. It is surrounded, on two sides, by a grand old pine-forest, but entirely free in the south and south-east, allowing abundant insolation, especially in the winter, and an unrestrained view of the picturesque valley of the Wehra. The atmosphere is absolutely pure and free from dust and

smoke, as the establishment is separated from Todtmoos by a forest, and as in a wide circuit there is neither any industrial establishment nor any large community. The sanatorium built upon a rock, stands in a particularly favourable location,

suitable in all respects, according to careful meteorological observations, for the building of a sanatorium for pulmonary diseases.

The Climate is the well-known one of elevated yet well-protected Black Forest valleys, which in winter are mostly above the fog-line. This climate offers the advantages of a forest-place together with the stimulating effect of an alpine station. The establishment consists of a chief building facing south, and two wings facing north, one of them containing rooms for the physicians, the other one rooms for management. Bed-rooms for 100 patients with tent-balconies for bed-ridden patients, to whom thus an out-door cure is possible throughout the day. Elegant and most modern equipment answering all hygienic requirements. Low-pressure steam heating, electric light, lift, baths and douches, Roentgen-cabinet, inhalatorium, own water-supply, drainage; berth-halls, also in the forest, colonnade, fine, extensive, and well-kept promenades, smooth and gently ascending, almost exclusively in the forest. The physicians' house is connected with the chief building by a roofed corridor. The machine-house with turbines, laundry and disinfecting station stands, at a far distance from the Sanatorium, in the valley.

Owing to its elevated location, the sanatorium is particularly suitable as a transitional station to facilitate acclimatization for those going to or coming from the mountains.

The treatment is a hygienic dietetic-climatic one and, at the same time, individualizing according to the principle of Turban.

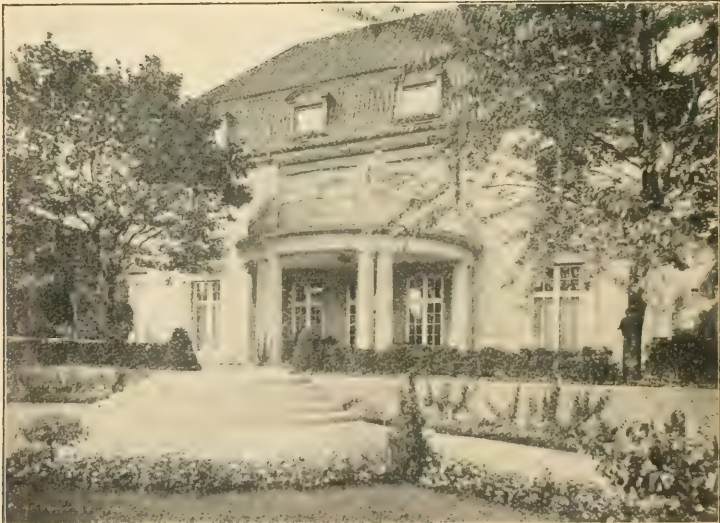
The sanatorium is open all the year round. Cable-address: Wehrwald-Todtmoos. Telephone for neighbourhood and long distance. Details by prospectus.

Leading physician: Dr. med. Fr. Lips.

Means of communication: Via Säckingen or Basle (Badischer Bahnhof) to Wehr or Brennet (Rhine).

Westend near Berlin. Dr. Weiler's Sanatoria

for Persons suffering from Nervous and Psychological Complaints,
from Disorders of Metabolism, and for persons requiring Rest.



W'imen Allee 35.

Nussbaumallee 30 and 38.

Telephone: Charlottenburg 506 and 9394.

1. Kurhaus Westend, Ulmenallee 35. New establishment with finest comfort. Bed-rooms with bath, small apartments (sitting room, bed-room, bath). Most elegant drawing-rooms. — Conservatory. Most up-to-date appliances for hydro-, photo- and electro-therapy. High-frequency therapy. — Zander-hall. Winter and summer gymnastic halls. Dietetic cures.

2. Villa Sibylle, Nussbaumallee 30. Small refined home for convalescents.

3. Home for Psychical Affections, Nussbaumallee 38. 4 Physicians, Trained hospital nurses. Magnificent Park. Berth-halls, large sporting ground; skating rink.

The centre of Berlin can be reached in 20 minutes by convenient means of communication.

For further details see prospectus.

Leading physician: Sanitätsrat Dr. Weiler.

Sanatorium for Gastro-Intestinal Diseases at Wiesbaden. Parkstrasse 30.

The sanatorium — villa with garden — is located in the finest and most quiet country-house quarter of Wiesbaden, close to the Kurpark, near the Kurhaus, and the royal theatre. It is furnished according to all requirements of modern comfort, and is open in summer and winter.

Treatment in the sanatorium is indicated for all cases of organic, functional, and nervous affections of the gastro-intestinal canal, and chronic nutritional disorders in general, the treatment of these affections being absolutely individual.

Infectious and incurable cases are not admitted.

Greatest care is devoted to dietetic cures which are indispensable for restoring health and can only difficultly be carried out at home, as experience teaches. Special stress is laid upon scientifically adapting the diet to the gastro-intestinal disorders, which is an essential requirement for the cure.

In order to devote medical attendance to the patients, in the most profitable way, only 18 patients are admitted; and it is, therefore, desirable that arrival as well as departure are noticed some days in advance.

The medical assistant is residing in the clinic.

The daily price for patients is Mks. 40, 35, 30, 25 and 20 on the first or second floor, Mks. 25, 20 and 15 on the third floor.

These rates include medical treatment twice a day, full pension, and service, all the prescribed mineral waters, light and heating.

Excluded are: the first consultation, chemical and microscopical examinations, the first irrigation of the stomach (if necessary for diagnosis), medicine and wine. (Wine is only allowed on medical prescription, and may be carried along by the patient or purchased from local firms at ordinary price.)

Any further information is given by

Dr. Ludwig Abend,

formerly assistant, for many years, to

His Excellency Geheimrat Professor Dr. v. Leube, at Würzburg.

Office-hours 10—12 and 2—4 o'clock, Grosse Burgstrasse 16 (private residence)

Sanatorium of Dr. Lubowski Wiesbaden, Gartenstrasse 20. for Internal, Metabolic and Nervous Diseases and especialley for persons requiring rest.

Entirely new building, high class in every particular, located in the most quiet refined part of Wiesbaden. All modern curative factors, thermal-baths, dietetic treatment, psychotherapy.

Open all year.

Prospectus free of charge on application to the leading physician

Dr. Lubowski.

Wiesbaden.

Dr. med. Amson's Institute for Orthopaedics, Gymnastics, and Massage,
Tanusstrasse 6.

Department for Orthopaedics: Treatment of malformations of the vertebral column (scoliosis, kyphosis, lordosis), malformations of the extremities, of bow-legs and knock-knee, club-foot and flat-foot, wry-neck, tuberculous inflammation of the vertebrae, congenital luxations (especially of the hip-joint), paralysis and contractions, infantile paralysis, congenital stiffness of joints, inflammation of the joints.

Manufacture of splint-apparatus and supporting-corsets.

Department for medico-gymnastics and massage: Treatment of disorders of metabolism, affections of the respiratory, circulatory, and digestive organs, functional and organic affections of the nervous system, diseases and traumatism of the organs of motility treated by mechanical gymnastics (Docent Dr. Herz' system Vienna) and manual massage given exclusively by the physician himself.

A complete set of electric hot air apparatus (Tyrnauer's system) are supplied for local treatment of all parts of the body.

Roentgen-equipment in the institute.

There is no accommodation for resident-patients in the institute itself, but there is a good and modern sanatorium in close proximity where all orthopaedic operations are performed. Patients who are not bed-ridden can reside in the hotels and pensions in the vicinity. The fact that the baths and springs are close to the institute will be a great consideration to patients desirous of combining the two treatments.

Prospectus are sent on application to the Director.

Dr. L. Badt's Institute for the Treatment of Disorders of Locomotion.

Wiesbaden, Tanusstrasse 4.

The institute is located on the groundfloor of the house, close to the Kochbrunnen. The purpose of this institute is to be helpful to patients suffering from any kind of disorders of locomotion, caused either by ataxia or palsy, or by nervous, arthritic or muscular diseases. As to the treatment, we mention above all the compensation or exercise-therapy for spinal affections according to Frenkel-Leyden. The exercise-treatment in a broader sense is applied successfully in hemiplegia, in motor-neurosis &c. In such cases the treatment is combined with manual and instrumental gymnastics. The institute has furthermore provisions for the following therapeutic factors: electric, sinusoidal (alternating current-) baths, electric-light baths (local and full light-baths), gymnastic appliances for active and passive motions and for resistance — Prospectus free of charge.

Wiesbaden. Sanatorium Dr. Schütz.

Villa Panorama, (at the corner of Fichtestrasse and Panoramaweg), for Internal Diseases, especially Digestive and Metabolic Diseases, and Nervous Affections.

Open all the year round. Quiet, beautiful, and free situation, somewhat elevated, close by the municipal Kurpark. Garden with fine old groves. Most comfortably furnished. Large drawing-rooms, verandas and berth-hall, central-heating, electric light, lift. Complete equipment for hydrotherapy, electric tub-baths, four-cell and light-baths etc. Thermal-waters of Wiesbaden. Laboratory for the examination of metabolism etc. (Reducing cures under control of metabolism, investigation of uric acid tolerance in gout etc.) — Cooking under careful superintendence.

Treatment for patients with disorders of digestion, metabolism and nutrition, likewise for all kinds of internal diseases — also nervous patients.

Not admitted, however, are insanes, tuberculous patients, and persons suffering from other infectious diseases.

Dr. R. Schütz,
Specialist for internal diseases.

Wiesbaden, Sanatorium Dr. Paul Guradze.

Mainzer Strasse 3.

Surgical-Orthopaedic Private Clinic.

The sanatorium stands amidst a garden in the country-house district of the health-resort, the location being absolutely quiet in spite of the vicinity of the Kurhaus and other points of attraction of the health-resort.

The patients' rooms are on the first and second floor, and are furnished according to the most up-to-date requirements of comfort, special attention being paid to patients unable to walk.

Telephones all over the house, enabling patients to phone to distant places from each floor.

Abundance of sunny balconies and berth-halls; the garden is at the patients' disposal, also a roof for berths and sun-baths.

The clinic is in connection with an institute for medico-mechanic treatment, gymnastics and massage.

The appliances for active and passive mechano-therapy (worked by electricity) are in two large halls of the groundfloor. There are also the private apartment of the physicians, the waiting and consulting rooms, and the rooms for treatment.

The clinic itself has an operation-room equipped according to the most modern principles, a room for preparation, rooms for Paris-plaster dressings, and a Roentgen-cabinet.

In the basement of the house, in a separate wing, are orthopaedic workshops with electric contrivances. All the required portable apparatus, such as splints for the arm, foot and leg, supporting-corsets, artificial limbs, bandages etc., are manufactured here under the direct supervision of the physician.

There is also in the institute a department for baths and physical therapy.

Thermal waters of Wiesbaden, and other medicinal baths and douches, electric baths, electric-light baths, four-cell baths, hot-air treatment, contrivances for Bier's hyperaemia and suction are applied here.

Newly arranged: Radium-emanatorium for the treatment of gout, rheumatism, sciatica, and neuralgia.

Treatment of difformities and malformations, as wry-neck, curvatures of the spine, congenital luxations of the hip-joint. — Knock-knee and bow-legs, club-foot, flat-foot etc. Recent or inveterate fractures and luxations, affections of the bones and joints (coxitis and gonitis). All disorders of locomotion and gait, paralysis, gout, rheumatism, and all the stiffenings resulting from these.

Furthermore, patients needing physico-dietetic treatment, such as medico-mechanic therapy, general medico-gymnastics, massage, baths or one of the above mentioned physical methods.

Price of room Mks. 10 to 25 including full pension, but without medical treatment, Prospectus by the leading physician.

*Dr. Paul Guradze, Specialist for orthopaedics and Surgery,
(formerly Assistant to late Geheimrat Professor Albert Hoffa).*

Sanitätsrat Dr. R. Friedländer's Sanatorium Friedrichshöhe (formerly Dr. Gierlich's Kurhaus)

for Nervous and Internal Diseases and for Recreation.

Leberberg 14 Wiesbaden Schöne Aussicht 30

Open and frequented all the year round.

The establishment is located in the finest and most hygienic quarter of Wiesbaden, on an elevation conveniently to be reached, 5 minutes distant from the Kurhaus, 12 minutes from the forest, free on all sides. As it stands in a large park-like garden, with a wonderful panorama, rural solitude and idyllic silence may be enjoyed. But, at the same time, the location allows convenient partaking in all the enjoyments of the cosmopolitan health-resort.

The Kurhaus established in April 1897, is built most solidly and rationally, and furnished most conveniently. Electric light. Central heating. Lift. Reading-, billiard-, ladies-, sitting-rooms. On each floor bathing and massage-rooms.

The treatment considers, above all, psychical influence and modern physico-dietetic methods, such as complete hydrotherapy, thermotherapy, pine-needle-, brine-, mother-lye-, carbonic-acid baths, thermal-baths of Wiesbaden. Electrotherapy: faradic and galvanic electricity, Franklinization, electric baths, sinusoidal alternating-current baths. Massage and medico-gymnastics.

Exercise therapy for ataxia and palsy. — Dietetic cures.

Indications: Nervousness, neurasthenia, hysteria, hypochondria, melancholia, agoraphobia (dread of open places), sciatica, migraine, impotence etc. Grave's disease, chorea, peripheral and central paralysis, tabes, neuritis, muscular atrophy, habituation to morphine, digestive disorders, anaemia, chlorosis, gout, rheumatism, scrofula, obesity, diabetes.

Also pleasant stay for recreation. Insanes are not admitted at all.

Average number of patients 15 to 20, the highest number are 30.

Prices for room, full pension, service, electric light, and heating from Mks. 8 daily upwards, according to location and size of room.

Excellent food.

Proprietor and leading physician: Sanitätsrat Dr. R. Friedlaender; formerly physician to the Sanatorium Dietenmühle and leading physician of the Augusta-Viktoriabad. Prospectus sent free of charge.

Sanatorium Dr. Otto Dornblüth, Wiesbaden.

Small refined institute for individual clinical treatment of internal and nervous diseases. Price from Mks. 15 per day upwards, including medical treatment, baths, and medicine.

Detailed information is most willingly given.

Kurhaus Bad Nerotal, Wiesbaden.

Sanatorium for Internal and Nervous Diseases, and Recreation.

Founded in 1851, newly erected in 1906.

Location: The sanatorium, surrounded by a park of its own, is located at the entrance of the Nerotal, amidst extensive municipal parks, thus enjoying the purest air. As the establishment is close to the foot of the Taunus-mountains, and near the forest, it is protected against rough winds. The centre of the town is within 10 minutes' distance from the sanatorium. Electric tram in all directions.

Equipment: The sanatorium has high, light, and well-ventilated rooms for about 80 persons. Most modern comfort in all rooms and splendid view of all sides. Many drawing-rooms, large dining room, breakfast room, music-, reading-, smoking-, billiard-rooms, winter-garden, fine veranda and terrace &c. Electric light and lift, warm-water heating. Berth-hall.

Curative factors: Application of all therapeutic methods. Complete equipment for hydrotherapy, massage, gymnastics, electro-therapy in all forms, electric-light baths, four-cell bath, vibration-massage, and all forms of dietetic treatment.

Hall for gymnastics. — Thermal springs of Wiesbaden. — Medicinal baths of all kinds. Arsonvalization and Roentgen-cabinet. New: Air- and sun-baths on the flat roof of the house.

Indications: The establishment is a sanatorium in the broadest sense of the word, receiving patients with internal nervous diseases.

Prices: Full pension according to location and size of room, from Mks. 10 upwards per day. Reduced rates for physicians and their families.

The institute is open in summer and winter. Insanes are not admitted. For further details see the illustrated prospectus. Two physicians.

Dr. Fr. J. Hindelang, Dr. O. Wappenschmitt,
leading physicians.

Cure-Establishments, Sanatoria etc.

arranged according to their character.

I. General Sanatoria

for the entire physico-dietetic and other clinically approved therapeutic methods without limitation to a definite group of diseases, excluding, however, infectious and mental diseases.

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