degeneration of the heart in a large percentage of cases of diabetes.

If we read such statements by the side of the anatomical records which I have mentioned, it will be seen that they have to be taken for what they are worth; for neither fatty metamorphosis nor infiltration of fat has been at all commonly met with *post mortem*. On the other hand, such observations have a clinical value, since, as far as symptoms are concerned, fatty degeneration, infiltration of fat, brown atrophy, dilatation, and other anatomical lesions of the heart may show at times the same clinical aspect, namely, that of cardiac asthenia, which latter appears to me due to the claims made upon the heart by the diabetetic change of metabolism. Compensation under these circumstances must always be temporary, more especially where the nutrition of the system in general suffers at an early period, and where the formation of urea and sugar exceeds that limit within which well-nourished kidneys and a well-nourished heart are able to eliminate these substances.

As far as treatment is concerned, it appears from the foregoing that everything should be avoided that may impair the action of the heart and kidneys; for we know that organs which are in a state of hyperactivity easily become diseased. I may here refer to the frequent occurrence of valvular disease in nephritis, and of nephritis in diabetes. The latter I have found recorded in 30 out of 66 cases contained in the records of the Pathological Institute of Berlin. Stokvis has forcibly drawn attention to the same point in his able paper on diabetes read before the late Medical Congress at Wiesbaden, while I have seen nephritis in 64 out of 380 cases, although not frequently in the form of granular contracted kidney.

The principle of sparing the suffering organs as much as possible has, in my opinion, to be carried out particularly as regards diet. In many cases a rigid nitrogenous diet cannot be enforced. I have, on this account, during the last few years, frequently added milk to the diabetic diet, and can fully corroborate the favourable testimony which Hoffmann gave on this point before the late Medical Congress.

ON THE INDICATIONS FOR THE USE OF THE KREUZNACH WATERS IN STRUMOUS DISEASE.

By DR. HEUSNER,
Kreuznach.

THE motive which leads me to publish this article is the fact that patients are frequently sent from England to Kreuznach suffering from diseases for which the waters of this place are not suitable, while, on the other hand, many persons, for whose successful cure reasonable hopes might be entertained, are not ordered to Kreuznach at all.

General Treatment of Struma.—In the treatment of strumous diseases it is pre-eminently necessary to bring about an improvement in the constitution. The treatment of local affections, though frequently indispensable and very beneficial to the constitution, is seldom in itself sufficient, and will certainly be facilitated and rendered more efficient by the adoption of a suitable general regimen.

Kreuznach Treatment.—The question which I propose to answer is whether a course of the Kreuznach waters is beneficial in all cases of struma, and under what circumstances their use is contra-indicated. I am unable to answer this question by quoting statistical data, partly because a physician practising at a watering-place is apt to lose sight of the majority of the patients after too short a time, and partly because it is extremely difficult to give a decided opinion as to whether the strumous taint is definitely and totally eradicated. In many cases one cannot speak with certainty of a cure, but only of a general improvement. The result of my observations goes to prove that this improvement of the constitution has been attained, with very few exceptions, in nearly all cases after a steady and persevering course of the Kreuznach waters. In many cases the local symptoms so greatly predominate over the constitutional that the improvement of the former directly indicates the degree of constitutional amelioration. The favourable climate, and the possibility of exactly regulating the desired curative action, make a visit to Kreuznach advisable for individuals of the most opposite and varying constitutions. In some

cases, however, the hopes entertained with regard to Kreuznach have been doomed to disappointment, simply because people imagine that a single stay—and that often of very short duration—is sufficient to effect a cure. It is, however, only in very slight cases that a single course of treatment suffices; deep-rooted constitutional affections cannot be so easily eradicated; they necessitate not only repeated and lengthened visits to Kreuznach, but also continuous and careful dietetic treatment; while a subsequent stay at the seaside, or in the mountains, etc., is frequently indispensable.

Contra-indications of the Kreuznach Treatment.—Some complications of strumous disease make a course of Kreuznach waters futile, while others render it objectionable. For instance, I consider it distinctly contra-indicated in decided tubercular disease of the lungs; also in disease of the kidneys at an advanced stage, and in any chronic state of feverishness, from whatever cause. But when slight manifestations of fever are kept up by a strumous affection which, from its very nature, seems to point to Kreuznach as a place where an improvement is to be hoped for, a trial may fairly be made—more especially when it is impossible to attack the disease at its seat, as is the case, for instance, with caries of the vertebræ. Particular care should be exercised with patients suffering from valvular disease of the heart, or from degeneration of the heart-muscle, as the Kreuznach baths often unfavourably influence these complaints. Nor does the warm, dry climate which generally exercises such a beneficial influence on strumous persons, always suit patients suffering from asthma. I have not witnessed any favourable results from the use of the Kreuznach waters in cases of leukaemia or malignant lymphomata (pseudo-leukaemia, Hodgkin's disease, *adénie*), nor in cases of cancer or sarcoma.

The Kreuznach Treatment in Glandular Enlargements.—The obstinacy with which glandular affections resist any treatment is well known, and the question arises whether it is not advisable to extirpate the diseased glands at once before seeking other remedies. A source of tuberculosis is thus removed that might endanger the general health. My opinion is that, as long as the glands do not show decided signs of suppuration, weighty reasons may be urged against their extirpation, one frequent obstacle being the impossibility of removing all the diseased glands. Besides which, the scars of the operation are permanent. A still weightier reason against the operation is, that an outbreak of general tuberculosis has been known, in some cases, to follow immediately on the extirpation of the glands. Even glands that are already softened are capable of reabsorption, as well as the hard tumours mentioned in the preceding sentence. When suppuration has commenced, however—especially if accompanied by feverish symptoms of a more serious kind—surgical treatment undoubtedly affords better prospects of a rapid cure with small cicatrices than any other treatment. But, among the non-surgical curative methods, the treatment pursued at Kreuznach is certainly that most adapted to cause indolent glandular swellings to decrease in size, and even to be entirely reabsorbed. In order to put a stop quickly to suppuration, when it has become established, and to promote cicatrization, a course of Kreuznach waters is frequently a most valuable addition to the surgical treatment. The above remark also applies to cold abscesses, not originating from glandular disease, from which scrofulous people often suffer.

In Skin Disease.—As to eczema and other superficial skin diseases of a strumous nature, they are cured with surprising rapidity by a course of Kreuznach waters. In lupus vulgaris success is more doubtful, though I am of opinion that a relapse may be considerably retarded by a course of Kreuznach. But as, in this insidious disease, no one is secure from the danger of a relapse even after several years, I do not venture to assert that the cure is definitive and permanent.

In Catarrh.—Chronic catarrhs of the various mucous membranes, the obstinate nature of which is well known, are, without exception, favourably influenced by the Kreuznach waters, though of course deeply degenerated mucous membranes cannot be restored to their normal state. This has special reference to the almost unavoidable coryza of strumous patients. In the various catarrhs of the pharynx and fauces, the effects of Kreuznach treatment are most favourable. Adenoid vegetations of any considerable size are not, it is true, diminished by its use to any noticeable degree; but small lymphatic follicles may disappear from the back wall of the fauces. Hypertrophy of the tonsils, it may as well be mentioned here, is but seldom cured or even notably decreased.

In Ophthalmia.—The success attending the treatment of stru-

mous affections of the eyes is particularly striking when the object is to prevent the endless relapses of keratitis. Although the opinion of a considerable part of the medical profession is opposed to the use of Kreuznach waters in florid inflammations and ulcerations, nothing in my experience justifies the laying down of such a contra-indication.

In Ear Disease.—The effects obtained in diseases of the ear are less striking. Catarrh of the middle ear often leads to deep degeneration, shrivelling, adhesions of the mucous membrane, etc., which render all hope of a cure futile. Nevertheless some of the dangerous suppurations of the middle ear, whether connected with an affection of the bone or not, have actually been cured at Kreuznach.

In Bone and Joint Disease.—In speaking of affections of the joints and bones the difficulty is to define the limit beyond which a surgical operation becomes necessary. We have certainly seen several cases cured at Kreuznach in which most surgeons of the present day would have advised an operation. In other cases the removal of the bone, whether desirable or not, is impossible. On the whole I incline to the belief that it is safer, especially when the joints are involved, to operate a little too soon rather than to delay too long. This particularly applies to adults. Among the advantages of such a course we may mention that the transfer of the invalid to Kreuznach, in order to have his strumous ailments attended to after an operation, is generally attended by less difficulty. Besides, should an operation become necessary during the course of treatment, it causes a very unpleasant interruption of the cure. For the definitive and final healing of wounds and ulcerations, the waters of Kreuznach have always proved excellent. Kidney diseases, such as are associated with suppuration of the bones, I have also seen cured when attacked in the beginning, but not after having been allowed to develop fully. Though I have by no means exhausted the list of strumous diseases, nevertheless I think that the foregoing considerations will suffice to determine in each particular case the desirability of a course of the Kreuznach waters.

THE MINERAL WATERS OF BRIDES-LES-BAINS AND SALINS-MOUTIERS.

By P. DELASTRE, M.D.,

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BRIDES is a charming little village, situated in one of the most picturesque parts of Savoy, five kilometres and a half from Moutiers, the chief town in the prefecture. The village stands at an altitude of 1,800 feet above the level of the sea. Situated in a valley, it is sheltered particularly from the east, west, and north winds; yet the pure air of surrounding mountains and glaciers of the Tarantaise is invigorating and refreshing to the most delicate constitutions. The country around is remarkable for its picturesque beauty and the variety of its scenery. Brides is accessible from Paris, in about fourteen hours, by the Lyons and Mediterranean Railway. The season is from the middle of May to October. The hotel, lodging, and bath accommodation is excellent.

The springs supply abundant water, at a temperature of 95° F.; they are alkaline, and powerfully diuretic and slightly aperient, containing, as the chief ingredients, sodium chloride, sodium sulphate, magnesium sulphate, with smaller proportions of the alkalis, carbonates, and free carbonic acid, which imparts to them a limpid and slightly sparkling character. The water presents many of the qualities of the famous Carlsbad springs, and, besides possessing valuable diuretic and aperient action, is also tonic and invigorating in debilitated constitutions. Its effects will be found to be especially serviceable in the various forms of functional derangement of the gastro-intestinal tract, especially when associated with abdominal plethora depending on chronic gastro-intestinal catarrh, and congestion of the liver or spleen with constipation. Cases of biliary colic, lithiasis, and functional derangement of the liver, the result of prolonged residence in India and other tropical countries, are almost invariably benefited by their use. In a brochure which I lately published, termed *Etudes sur les Eaux Minérales de Brides-les-Bains et Salins-Moutiers*, I have treated specially of the physiological and therapeutic properties of the various springs. Their action is remarkable in assisting to restore healthy nutrition, and particularly in favouring the elaboration of cholesterine in the liver, and also the elimination of the

products of urea and of phosphatic salts by the kidneys. Their use would seem also to favour oxygenation of the blood and the formation of hæmoglobin, at the same time diminishing the tendency to obesity in those so disposed. In gout generally, and specially in atonic cases, the effects are often remarkable. I have found diabetic patients also improve very much under treatment.

The springs of Salins-Moutiers, the natural temperature of which is about 96° F., are rich in sodium chloride, and also contain iron and arsenic. Their properties are even more marked than those of many other waters which possess a similar action, such as Kreuznach, Homburg, Mannheim, and Kissingen. The springs are less than two miles distant from those of Brides. Their use is of great value in children of rachitic or scrofulous constitution, in anæmia, chlorosis, and other debilitating conditions in women. In affections of the uterus and appendages, they are of much service. In disordered menstruation, amenorrhœa, dysmenorrhœa, and leucorrhœa, and in fibroid tumours of the uterus, with uterine engorgement, their use is attended with marked benefit. These waters are often of service in conjunction with the use of those of the neighbouring springs of Brides. Dr. Hermann Weber, in his chapter on Climate and Health-resort in the *Book of Health*, refers to Brides and Salins-Moutiers as "among the best summer health-resorts, not only for its springs, but for its delightfully salubrious air."

Were the valuable properties of these springs more widely known, as well as the natural charms of the district in which they are situated, I feel sure they would be largely taken advantage of.

OBSERVATIONS ON THE USE OF THE EFFERVESCING CHALYBEATE WATER OF STRATHPEFFER SPA.

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Strathpeffer.

STRATHPEFFER in Scotland and Harrogate in England are so commonly associated with sulphur treatment, that it may not be out of place to recall the fact that iron waters, of greater or less value, are almost invariably found in the neighbourhood of sulphuretted springs. At the first-named spa there is, for example, a chalybeate spring to which attention has been lately directed on account of its unusual character. It has been conveyed to the pump-room, where it issues as a water, richly carbonated or aerated in the summer months. Here it is drunk, hot or cold, in a state of cloudy effervescence.

Thus it is usually possible at sulphur spas not only by the use of iron to supplement with advantage the alterative effects of sulphur, but also in an entirely different class of cases to provide a treatment founded on the tonic waters alone. The object of the present observations is to illustrate this latter or primary use of the effervescing chalybeate at Strathpeffer. The cases which appear to have benefited the most by its use tend to fall, on the review of four years, into the following groups, examples of which are appended.

Group I.—Debilitated men of advancing age, with (probably or certainly) renal and vascular lesions, with or without gout.

CASE I.—A gentleman, aged 71, had lost health rapidly during the past twelve months. There was no obvious disease in any organ. The pulse was small and weak; urine normal. He was very anæmic and rather sallow, showing some œdema of the face and hands. The chalybeate was commenced in small doses, and afterwards increased to 60 ounces daily. Under this treatment, with judicious dieting, strength and colour returned in a very remarkable manner. This gentleman died in the following year.

CASE II.—A lawyer, aged 54, suffered from overwork and worry, under which he completely broke down. He had two passing attacks of aphasia, which led to the discovery of albuminuria, after which he was laid by and put upon a milk diet. He arrived at Strathpeffer a few weeks later, complaining much of headache, poor sleep, and great nervousness and lassitude. The chalybeate was persevered in for five weeks, given always in small doses, at short intervals, before breakfast and again at noon, and altogether with the best results. The only remaining symptom was a urine faintly albuminous, but the specific gravity had increased from 1013 to 1018 (or, on the average of 58 ounces in twenty-four hours, 1017).

CASE III.—A gentleman, aged 57, stated (in 1885) that he had