

The principal baths of Germany : considered with reference to their remedial efficacy in chronic disease. Vol. I. Nassau Baden and adjacent districts / by Edwin Lee.

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THE

Dracts 1632

PRINCIPAL BATHS

OF

GERMANY

CONSIDERED WITH REFERENCE TO THEIR REMEDIAL EFFICACY IN
CHRONIC DISEASE

BY

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MARSEILLES, TOULOUSE.

Balneum in plerisque morbis confert.



VOLUME I.

N A S S A U B A D E N

AND THE

ADJACENT DISTRICTS.

LONDON. WHITTAKER & CO. PARIS. GALIGNANI & CO.

FRANKFORT AND WISBADEN. CHARLES JUGEL.

1840.

THE SECOND VOLUME

containing the Baths of Central and Southern
Germany is in preparation.

P R E F A C E.

The want of a good practical work on mineral waters in the English language has been too generally experienced to require that I should make any apology for the appearance of the present publication, which may be considered as a pendant to my "Account of the Watering Places and Mineral Springs of the Continent", inasmuch as it contains more detailed information respecting the medicinal application of the principal Baths of Rhenish Germany and its neighbourhood; without repeating what I have already said on mineral springs in general, or on the individual ones in that work, where will be found the analysis of most of them. Some account is also given with the analysis of two or three important springs, which have recently come into more general use, and which I had not previously mentioned.

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Having passed the greater part of the last ten years in travelling and in temporary residences in France, Germany and Italy, it has been my object to call the attention of the profession to such points of continental practice in medicine and surgery, as were but little known, and which I considered might be advantageously adopted in England. Among these there is none more generally important than mineral waters as applied to the treatment of disease: I therefore availed myself of my opportunities of inspecting and enquiring into the medical properties of the greater number of the most frequented ones in the above mentioned countries; and during the periods of my sojourn in the Duchy of Nassau having had occasion to recommend its Baths, as well as those of other parts, to numerous invalids, my opportunities of more justly appreciating the therapeutical value of these agents, as well as the statements made respecting them by the local practitioners in the works published on the individual Baths, have been greatly increased. There is however sometimes great difficulty in deciding upon the selection of a spring in particular cases, even when the choice is made by practitioners of great experience, whose time has been almost

exclusively devoted to this branch of medical practice, especially when the judgment is biassed in favour of particular waters; and patients must sometimes be disappointed of the expected advantage from the obscurity in which the action of mineral waters — as well as of other remedies — is enveloped; from their cases not admitting of being benefitted by these means, or from other causes to which I have alluded.

I have presented the following remarks in as condensed a form as is consistent with perspicuity; and have restricted them to points in which valetudinarians, and members of the medical profession, are likely to be most interested; being desirous in this, as in my other works, of avoiding the *remplissage*, which tends more to increase the size of books, than to add to their utility; and though some of my critics upon former occasions, have considered, that I had erred on the side of too much brevity, yet being of opinion that "tis better to be brief than tedious" I would at any time, after having stated to the best of my ability what I believe likely to be useful, be rather "check'd for silence"; than "tax'd for speech", and I shall be happy if the fol-

lowing pages contribute to the more general diffusion of information of the subject upon which they treat.

I shall have occasion to allude more than once to the only other work on the German Baths which appeared in England subsequent to my own, about two years ago, and which being more adapted for general readers, is calculated to be of service by attracting a greater degree of attention to the subject of mineral waters; and also as a guide-book imparting information to persons visiting the places it describes. The author however professes in his preface to give "a general, full, extended, and practical account of the principal and most celebrated of the mineral waters — an account that shall leave no part of the necessary information respecting them untouched." A work fulfilling this intention would indeed have been of service in the present dearth of practical knowledge of the subject in England, but how far the "Spas of Germany" has kept the word of promise to the hope in this respect, especially as regards the Baths of Nassau, it is for its readers to determine. In fact the author himself appears to be aware of this deficiency, for on coming to treat of the particular springs, he prefaces his remarks

upon several occasions by saying that any detailed account of the medical application of the waters is not to be expected in a work of a similar nature; nor indeed could such reasonably be expected from any one making a hurried tour through the Baths; avowedly but little acquainted with the language of the country; and for the express purpose of writing a book. Had I considered that the expectations held out in the above passage had been answered, I should have regarded the publication of an additional work, as an unnecessary obtrusion upon the public. —

Wiesbaden, July 1839.





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POSTSCRIPT.

I consider it due to myself and to the British visitors at Wisbaden to annex a brief statement of the circumstances connected with some recent transactions relative to their being prohibited from availing themselves of the professional assistance of their own countrymen, but will previously quote a passage from a pamphlet which was published more than two years ago, wherein the writer after stating as one of the inconveniences of Wisbaden the absence of a sufficient supply of good physicians experienced in the use of the waters, says: "The permission to English physicians to write prescriptions without risking arrest by the police, it is hoped will either be granted, or competent persons with a knowledge of their own profession, and of our language be appointed to attend the place: otherwise the English to whom Wisbaden is most indebted will be in a somewhat destitute condition, for their knowledge

of French being much upon a par with that of the local physicians, the dialogue cannot always have a very satisfactory, or indeed be otherwise than of doubtful result.“ *)

The season before last Dr. H. who accompanied the Duke of C. was summoned to appear before the police on the information of Dr. P. one of the physicians of the town whom he had called in to consult upon the case of his distinguished patient, and with whom he believed himself to be upon friendly terms. In reply to the inquiries made Dr. H. stated that he had merely given his professional assistance to some persons of his acquaintance, and that he had no intention of practising at Wisbaden. He was however informed that he was acting contrary to the laws, of which he had previously no idea. The case was thought by the English visitors to be one of great hardship, and several influential persons proposed to represent the matter to the Duke of Nassau; the proposition was however given up, on the representation of Dr. H. that he was about to leave the place in a few days and

*) Wisbaden recommended to the Gouty and Rheumatic, by a Fellow-sufferer. Ridgway, London 1837.

was unwilling to make any stir in the matter. A little before this I was at Schwalbach, having made a tour of inspection of several mineral springs in the Duchy which I had not previously visitid. The Duke was also there to whom I enclosed a copy of my work on the continental watering-places and stated to his chamberlain that I was desirous of having it suggested to his Highness to establish lodging houses at Fachingen, to enable persons to use the water upon the spot, as I considered that it might thus be made more applicable to the treatment of several diseases. I was recommended to wait upon the head of the government Count — upon the subject, which I accordingly did on my arrival in Wisbaden where I found the above interference of the police the theme of conversation, and mentioned it in my interview with the Count who appeared not to have been aware of the circumstance. At the same time I stated that my advice had been requested by several of my countrymen; but that I should decline seeing any one professionally if it were contrary to the laws. The Count replied that the propositions must be submitted to the consideration of the Duke. However I heard nothing more of the matter, but conceiving

I had a tacit permission, I continued to advise and prescribe for such of my countrymen as did me the honor of consulting me during the remainder of the season.

I also practised the whole of last season in Wisbaden, living in the house of the director of the Police with whom I had a conversation on the subject, and understood that although foreign medical men were not allowed to establish themselves in the Duchy for the purpose of practising medicine, generally, yet that no objection would be made against a person of known reputation passing the bathing season at Wisbaden to afford his assistance to such of his countrymen as might require it.

On my return last June I heard that informations had been laid by the same physician, against two English professional gentlemen one being at Wisbaden for his health having given two or three prescriptions to his friends; the other having come from Frankfort to visit some patients; and that both these gentlemen had been summoned before the police, and prohibited from practising; but the first intimation I received respecting myself was from

an apothecary's where I had called to give some directions respecting a prescription I had written for a person seriously ill, and was shewn an order which had just come from the police prohibiting the preparation of my prescriptions as well as those of the physician from Frankfort. Being desirous of doing something for the relief of my patient I called upon Count — whom however I could not see, and consequently addressed a letter to him, to which I received no answer; and a day or two after an employé called upon me to request my attendance at the police, where I was informed that I was not allowed to practise, but on my stating that I had written to the Count, a sort of half permission was granted me to attend the patients under my care till such time as I received an answer. A few days afterwards I was called to a distant watering-place by a person ill, suffering greatly, and unable to make the local physician who could not speak English, understand the peculiar circumstances of the case, and on calling at the police to have my passport signed was informed that my having been previously summoned there was a mistake, the summons having been intended for another person. I accordingly on my return con-

cluded that the restrictions were at an end and continued to prescribe as usual till the 29th July when a police employé again made his appearance at my apartments, and desired me to be at the office at 11 o'clock whither I accordingly repaired; and shortly afterwards the English physician to whom I have alluded came in having also received an order to attend. A paper was then read to us stating that we were not permitted to practice, and must leave the town in two days. On my return home I found an official paper to the effect that permission to practise was refused to me by the authorities on which I addressed the following letter to the Director of the Police.

Sir!

"I have just received a notification which repeats what was already annonced to me this morning at the Police-office, viz; that I was not permitted to practise medicine in Wisbaden. As far as regards myself personally, I should not hesitate to leave the town immediately after the affronts and annoyances to which I have been subjected; but having patients who refuse to see any one else professionally (among whom

are two ladies who have been confided to my care by their relations who were obliged to leave on urgent business) it is inconsistent with my sense of duty and honor to abandon them in the condition in which they are, whatever may be the consequences to myself, unless I am compelled by force.

I beg you to make my resolution known to the authorities."

On the following day I received a letter from the Director of the Police to the effect that in as far as the particular case of the two ladies was concerned I might remain till such time as their health was improved; but requiring me to send in their names, to which I replied by the following note.

Sir!

I have had the honor of receiving an official note from you which informs me that I am allowed to remain in Wisbaden, until such time as the health of the two ladies of whom I spake be re-established; but there are other persons seriously ill at present under my care who re-

quire constant attention. If I particularly mentioned the case of the two ladies, it was in order to let you see that compliance with the peremptory order which had been given me to quit the town in two days, did not depend upon myself; but in the position in which I am placed with respect to them I do not feel myself authorised to give up their names, as I would not risk exposing them to the inquisition of the police; and which moreover I should consider derogatory to my dignity as an English Gentleman, in as much as I regard the request as an offensive doubting of my veracity. I have not visited any new patients since I received the prohibition, (though having restricted myself to practising solely among persons from my own country several of whom were known to me before coming to Wisbaden, I do not conceive that this can be interpreted as being contrary to the law which prohibits foreigners from the general practice of Medecine) and it is for you to judge whether your laws authorise you to force me to quit the town. For my part under existing circumstances I cannot act otherwise than I do; but I declare that if any per-

sonal violence is used towards me, you must be answerable for the consequences which may ensue.^a

I have the honor &c.

Thus the matter rests at present, but as it is felt to be one which materially concerns the British actually at Wisbaden as well as those who may come at any subsequent period, some influential persons have called a meeting to take the circumstances into consideration, and to discuss the inconveniences and danger resulting from the prohibition to English medical men giving their advice to their countrymen; and I have no doubt when the circumstances are represented in the proper quarter, that the English resorting to Wisbaden may reckon on not being deprived of the advantage they are allowed in other parts of the continent frequented by invalids. It is on these grounds that I feel principally interested, having endeavoured to make these waters, as well as others more generally known and appreciated by the British public; for, as far as I am individually concerned it is a matter of little moment, as in all probability I should not have returned to Wisbaden this year, had I not partly engaged with

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some persons to be there; my chief object in passing the last two or three summers in this Duchy being to have a better opportunity of observing the action of a class of remedial agents hitherto much neglected in England, and though it is probable had no impediment been made that I might have returned to pass the summer months during the two or three years I may be on the continent, yet it is just as probable that I might be in some other part.

From what I have heard, my impression is, that the authorities are not averse to English practitioners attending those of their own countrymen who might prefer it, but that upon informations being made against individuals, they conceive they are bound to act according to a law which existed long before this state of things arose, that is to say before the English resorted in any considerable numbers to the Baths of the Duchy; and that the *onus* of the business rests chiefly if not altogether upon the individual to whom I have alluded, who having had during some years the principal share of practice among the English, thus shews his gratitude and care for them, by endeavouring to prevent their falling into any other hands than his own;

though he does not understand English and his French is not very intelligible, while many of those who come from England do not speak any other language than their own *). I could wish to say nothing more of the person in question, though when a medical practitioner can so far lower himself as to turn informer against others, when he is in many cases incompetent to render invalids efficient service, the ordinary rules of professional etiquette, which forbid ones giving an opinion unfavorable to another, might well be dispensed with. Finding that his conduct had created a strong sensation among the English as well as among the towns people I understand he alledges, that the Duke looks upon him as responsible should any accident happen from foreign medical men recommending the waters, to patients on the spot; but the informations which were sent to the police, had no reference to the waters, having been founded upon prescriptions sent to the apothecaries; and who, I should like to know, is to be responsible for the mishaps which

*.) It was proposed by him to a lady subsequently under my care, to bring an interpreter at his following visit. As the case was of a delicate and complicated nature, the Dr. could not be surprised that after making a similar proposition, his further attendance was dispensed with.

have arisen, and must constantly arise from the patients language not being understood, and from the adoption of treatment unsuited to English constitutions; several of which mishaps I have been called upon to rectify. When an invalid has a choice of professional attendants and selects one, he acts upon his own responsibility, when however his choice is restricted to one or two in whom he has no confidence, while he is prevented from calling in another whom he would prefer, the responsibility devolves upon others.

August 5th 1839.



THE BATHS OF NASSAU etc.

FIRST PART.

T h e r m a l S p r i n g s .

Whatever may be the difference of opinion among continental practitioners on other points of medical practice, almost all agree in acknowledging, that natural mineral waters are the remedies best calculated for the cure and relief of a great number of chronic diseases; and even in England, where, from a too prevailing ignorance of the subject, the power of these agents has been questioned by many, the scepticism which still in some degree exists is gradually giving way before the authority of facts too evident to be disputed; as is shewn by the yearly increasing number of invalids, who resort to the continental mineral springs, many of them after having vainly exhausted the other resources of medicine;

and who for the most part leave them, either altogether relieved from their ailments, or in a greatly improved state of health. To give a single illustration of this numerical increase, and of the greater degree of attention which mineral waters have of late years excited, I may mention that when I was at Wisbaden nine seasons ago, in the month of June, at a table d'hôte in the Four Seasons hôtel, of not less than sixty persons of different nations, I was the only representative of Britain at the table, whereas in the same room, in the same month of the present year four fifths of the number who assemble at dinner at 4 o'clock are British. To the publication of the humorous and popular "Bubbles from the Brunnens" may be in great measure ascribed the increased influx of English visitors a few years ago to the Baths of Nassau, some of which, before the appearance of that work, had scarcely been heard of in England, and of those who were induced to use the waters, so many derived advantage in point of health that the reports of their medicinal powers rapidly extended to the most remote parts of the British dominions. The author of the "Bubbles" however could not be expected to say much respecting the medical properties of

the springs, and I considered, that it would be serviceable to those visiting them, to give some additional information on the subject in a little work which I published five years ago *) and also in my more recent work on the "Watering Places and Mineral Springs of the Continent." — Though it was incompatible with the design of those works, to enter into a detailed account of each particular spring.

Having passed the last three summers in the Duchy of Nassau and having had, in numerous instances, occasion to employ its waters, as well as those of the adjacent countries, I am emboldened to speak more decidedly upon their respective merits, and to offer my opinion as to the springs, most likely to be of service in particular conditions of disordered health. It is true, that it may be said of several mineral waters differing in their nature, that they may be advantageously employed in similar diseases abstractedly considered, and thus a sulphurous, a saline or a chalybeate spring may be said

*) Notes on Italy and Rhenish Germany, with professional notices of the Climates of Nice, Pisa, Florence, Rome and Naples, and of the mineral springs of Baden, Wisbaden, Schwalbach, Ems and Aix-la-Chapelle.

with truth to be efficacious in scrofulous, bronchial or rheumatic disease; but each of these classes of diseases varies so much in its nature, in different individuals, and under different circumstances, that it is only by studying the peculiarities in individual cases, that the practitioner can best determine, from which of these kinds of springs most benefit is likely to be derived in a given instance. Hence any work that attempts to specify certain springs as best calculated to relieve certain states of disease, can only lay down general indications, liable to many exceptions from particular circumstances and the idiosyncrasies of patients; hence also the relation of cases, in proof of the efficacy of a particular mineral spring, is not in general much to be depended upon as a test of its medicinal properties; the less so indeed, as the cases in which the waters have had a beneficial action, are usually selected, while rarely is anything said of those who leave the place unrelieved, or in a worse state than before; which circumstance, I have reason to know, is more frequently the case than is supposed; and very often depends upon a suitable mineral spring not having been selected at the commencement, from the adoption of the partial advice of persons whose ideas of the effi-

cacy of mineral springs are almost exclusively restricted to those of their own locality.

Several mineral springs have however for a long period enjoyed a special reputation founded upon experience of their efficacy in certain classes of diseases. Thus Ems and Cauterets have acquired a name for their powers in pulmonary affections; Carlsbad, Vichy etc. for abdominal and liver derangement; Bourbonne les Bains, Wisbaden in rheumatic and paralytic complaints, and so forth; but it must not from this be inferred, that all chest affections to which mineral waters are applicable, are necessarily to be sent to a spring resembling either Ems or Cauterels, nor that Wisbaden, Bourbonne and similar waters are to be preferred in all cases of rheumatism or paralysis; as experience demonstrates that there are certain affections of the lungs and air passages, in which the above mentioned springs would be prejudicial, and in which a water of a very different kind would be likely to be extremely beneficial; as also, that many cases of rheumatism and paralysis would be much more benefitted by other waters differing very greatly in their composition from Bourbonne or Wisbaden though it

must be admitted, that the circumstance of a mineral water disagreeing, where it appeared to be indicated, is not unfrequently dependant upon constitutional peculiarities.

The therapeutical action of a mineral spring is frequently not of the kind which its chemical composition would lead one *a priori* to suppose, of which I have adduced some examples in my other book, shewing that some waters, but very slightly mineralised, are productive of powerful and marked effects. It is well known by those who have paid any attention to the subject, that in a chalybeate spring, for instance, the tonic properties of which are extremely marked, and where the presence of iron is evident to the taste and sight, the chemical analysis does not exhibit in many instances more than half or three quarters of a grain of this metal to the pint, a quantity which, if exhibited in a pharmaceutical form, would be productive of no effect. A standard French author says on this point: "It is evident to us, that the medicinal action of natural mineral waters is not in relation with what we know of their constituent principles; it is not a few grains more or less of mineralising salts which determine

the salutary effect of mineral waters; but that this effect depends rather on the manner in which these salts are combined; of the natural heat of the springs, of the principle in some measure vital which seems to animate them, and which till the present time has been undetected. It is therefore with much justice, that Chaptal said, that *chemists could only analyse the corpse of mineral waters*. Chemistry teaches us to characterise, to class the waters; shews us the analogies which exist between them, enables us to anticipate some of their properties, by shewing us the predominating mineralising substances; but it belongs to clinical observation, to the authority of multiplied facts, to determine their therapeutical action^{*}). Hence we may see the reason of the inferiority of artificial mineral waters, which are also prepared in too small quantities for bathing; whereas it is chiefly by baths that the most marked effects of warm springs are produced, the drinking of these waters having only come into use within about 200 years.

The very free use which the English are in

^{*}) Manuel des Eaux minerales naturelles par Ph. Patissier et Boutron-Charlard. 2^{me} Edition. Paris 1837.

the habit of making in chronic diseases, of active medicines which stimulate particular organs, renders many persons unable to comprehend that the *modus operandi* of mineral waters is different from that of pharmaceutial preparations; the action of the former being general and alterative, and their sensible effects being secondary and frequently not evident till a person has been using a mineral spring for some time; whereas in most pharmaceutical preparations the action is of a local nature, affecting principally a particular part or parts, and is speedily followed by sensible effects; hence many of those who have been accustomed to this mode of medication, are with difficulty induced to go through a regular course or cure, as the Germans call it, and finding no sensible alteration in themselves at the end of a few days, not unfrequently abruptly break off, either to return homewards, or to go to some other place, and report that they used the waters of such or such place without finding themselves a bit the better; others, though they used the waters for a longer period, yet acting upon their own responsibility, without being attended by a professional adviser, to superintend their course and make such alterations as circumstances may require, fre-

quently adopt improper methods of employing it, and are disappointed in the results when it may be that the blame rests entirely with themselves. The same may be said of others, who, though employing the waters in a proper manner, are yet so much under the influence of habit, that they do not make the requisite alteration in their diet and mode of living; but continue to pursue the same system, which perhaps tended to produce and keep up their disorder. A high German authority on the subject has said „whoever comes to a Bath, and will be cured, must will it in earnest“, and it behoves every invalid who wishes to give a mineral spring a fair chance, to have constantly in mind the object that brought him there, without being led to do improper things by the influence of habit or example.

With respect to diet, however, I do not think it so essential to draw a distinct line of demarcation between substances, that may be taken and others that are to be avoided, as some writers on mineral waters have done. Certain articles of diet agree very well with some persons, which would be prejudicial to others; hence a persons' own experience must in some measure guide him in this

respect. It is of great importance that the invalid do not err in point of quantity, as when the stomach is overloaded the system is oppressed, and a state of excitement is induced, which tends strongly to counteract the beneficial effects of the waters; thus when the appetite is satisfied, it is manifestly injurious to go on eating as is often done at desert, things which are in themselves indigestible, as hard fruits, macarons etc. As a general rule, the articles of diet which will be found best adapted to a person using mineral waters, will be: fish plainly dressed, roast or boiled meat, poultry or game, well cooked vegetables, farinaceous puddings, and ripe soft fruits, as strawberries; while on the other hand pickles, cold vegetables, salted or dried meats, and highly seasoned dishes, should be avoided, both on account of their being prejudicial in themselves, and of their overstimulating the appetite to eat more than the stomach can readily digest. The wines which will in general best agree with invalids visiting the baths of Rhenish Germany, are the sounder kinds of Rhine or Moselle wine, as: Geisenheimer, Rüdesheimer, Marcobrunner or Pisporter. The best criterion of a dinner not having disagreed, is that the person feel himself light and comfortable

afterwards; and not flushed and excited for the remainder of the day.

Persons taking baths of mineral water should pay proper attention also to their clothing, which should be light and at the same time sufficiently warm; as the skin being rendered more moist and perspirable by the bathing, is more liable to be affected by atmospheric vicissitudes, and in many places the variations of temperature are, at times great and sudden. The difference in the temperature of the valleys, in which most Baths are situated, and that of the surrounding hills, is also frequently very great, especially at Wisbaden, Schwalbach, Schlangenbad, and Ems. Those, therefore, who are unable or disinclined to walk, and are carried through the air either on horseback or in a carriage, should take with them an extra garment to put on in the event of their feeling chilled. I have known several serious consequences ensue from the want of this precaution, and persons lose the benefit they had previously obtained from the baths.

The mind of an invalid who expects to derive advantage from mineral waters, should be as free as

possible from cares and anxieties. Equanimity of temper should be preserved, and the gaming table, or other occupations which tend to disturb it, should be avoided. He should avail himself of the resources for amusement, and the facilities of associating with others afforded by watering places, by which means the beneficial action of the waters will be materially promoted.

The bather should ascertain, that the bath be of the proper temperature, the attendants being very apt in some establishments to neglect this important point. When the temperature of the bath is too high, head ache, fever and other unpleasant symptoms are liable to be induced. Symptoms from this cause or from a person's being in too excited a state, when he begins the baths, must not however be confounded with those of a similar nature which are evidences of the action of the water, which occur after the baths have been used for some time, and indicate, that the system is becoming saturated. Some persons also experience, at the first, unpleasant symptoms from bathing which often cease after a few baths have been taken.

Patients also must not suppose from the appearance of eruptions, increase of their pains etc., that the water is not suitable to their complaints, these being often favorable circumstances; as mineral waters are for the most part exciting in their operation, and induce a degree of acuteness in several chronic complaints, prior to their removal. Hence it must be left to the judgment of the practitioner, whether or not these circumstances require a partial or total suspension of the course.

Baths of mineral water have a two-fold action: in the first place, from the prolonged or repeated contact of warm water impregnated with saline and gaseous substances, with the skin, its texture is softened; the activity of its capillary circulation is increased, as is also that of its secretions, and consequently the blood is drawn in greater quantity to the surface from internal parts. These effects are also, though in a less degree, produced by baths of common warm water; but with this difference, that a prolonged course of bathing in warm water would greatly relax and debilitate, whereas when baths of mineral water agree, persons feel refreshed and strengthened by their use: secondly by the ab-

sorption of a portion of the water, its mineralising principles become mixed with the blood, and have in many cases a great effect in altering the quality of this fluid and that of the secretions *). The tonic effects which result from baths of a chalybeate spring are manifested in many instances, where persons are unable to take the water internally, and yet this powerful means of attacking chronic disease has been so little attended to in England, as to have been almost entirely neglected, till within the last few years.

*) It has been proved by the experiments of M. D. D'Arcy and others, that a single bath of the Vichy waters will render the urine alkaline.



Wisbaden.

Perhaps no part of the world comprises within so small a space so many valuable and efficacious mineral springs, differing in nature, as the Duchy of Nassau. These lie for the most part at the foot of the Taunus range of hills, and are consequently but a short distance one from the other. Thus within a drive of five or six hours one may pass by the sulphur springs of Weilbach, the cold saline ones of Soden; the acidulous ones of Kronthal, the hot saline ones of Wisbaden, the warm ones of Schlangenbad, the chalybeate ones of Schwalbach, and the alkaline ones of Ems; and there are many others in various parts of the Duchy, from some of which the water is largely exported, as Selters, Eachingen, Geilnau etc. Of these, Wisbaden, both, as being the capital of the Duchy, and as the oldest and most frequented not only of the Nassau baths, but probably of those in the rest of Germany, claims the priority of notice.

The town has a neat, clean and animated appearance, and is yearly increasing in size, by the construction of handsome streets and detached houses; its population (upwards of 10,000) being nearly double what it was twenty years ago, and will in all probability ere long be much more numerous, as the duke is constructing a palace for a winter residence, which will induce many to take up their permanent abode at Wisbaden, which is also beginning to attract attention among strangers, as a more eligible place for sojourning the winter, than several others which have hitherto been resorted to. Placed in a valley with an open and fruitful country in the directions of the Rhine and the Main; and bounded on the north and east by hills covered with apple, cherry and walnut trees, behind which rises the Taunus range of mountains, it is effectually protected from the cold winds from these quarters. On account of its position, it is at times exceedingly hot and oppressive in the summer months, which circumstance, though generally favorable to those using the waters, as seconding their action, is disadvantageous to many persons in health, who however may generally avoid the feelings of languor and indisposition from this cause.

by taking exercise out of the valley, on the hills where the air is mostly fresh and invigorating. The beauty of the country and the numerous objects of interest in the neighbourhood, offer great inducements for making excursions; the roads being good the drives varied, and the rising grounds presenting extensive views of the country, the Rhine with Mayence and other towns on its banks; the pedestrian also will derive great gratification from the variety of delightful walks in the environs; whether, leaving the avenues of acacias and plane trees of the promenade and around the Cursaal, he continue to ascend the valley as far as the picturesque ruin of Sonnenberg, or proceed in an opposite direction from the town to the beautiful and verdant valleys Nerothal, Klarenthal etc.; stroll in the extensive Ducal garden at Biberich; or whether he direct his steps towards the Taunus to enjoy a more secluded walk in the woods behind the Geisberg, — where the silence is unbroken, save by the singing of birds, or by the occasional passage of deer through the underwood, — or to ascend as far as the Platte in order to view the magnificent and extensive prospect from its roof. The numbers of holyday folks, who on stated days come from the country, or from

Frankfort or Mayence, together with the constant arrival of fresh visitors disembarking from the Rhenish steamers etc., tend to impart an air of animation to Wisbaden, which cannot fail to have a beneficial influence on many invalids. By the construction of the railroad now in progress, the above mentioned towns will be approximated to Wisbaden, though this will rather be a disadvantage to many persons using the waters.

The increased facility of communication with England (which may be reached in 72 hours by the Rhine, or quicker by travelling by night from Cologne, by the railroad through Belgium) is an additional inducement to invalids to visit the Rhenish baths, enabling them to avoid a long land journey, so frequently prejudicial to persons in weak health.

As I do not intend to enter into a description of places, but merely to note circumstances in which valetudinarians are most interested, I proceed at once to speak of the chief source of attraction to the numbers who from different parts of the world resort to Wisbaden,—viz., its mineral springs and their efficacy. The springs principally employed are the Kochbrun-

nen, those of the Adler, the Vier Jahrzeiten, and the Schützenhof. The former of these is the one almost exclusively taken internally; it also supplies the hospital, Englischen Hof, Römerbad, Rose, and other bathing houses in its vicinity; the three latter supply the baths of their respective hôtels, which will be found the most convenient for bathing, the cabinets being more roomy, and the baignoires larger and deeper, than in other houses, where there are merely boarded partitions, seven or eight feet high, between the baths, with scarcely room for more than a single chair in each. The douches are not so well managed in Wisbaden as at several other Baths, particularly in France. Though there are two or three establishments that have the *douche descendante*, it is not often used, as the height from which the water must fall, is too great, being from fourteen to sixteen feet; so that the lateral douche is almost generally used; the water being pumped from outside the bath, by means of a flexible tube passed through an aperture in the door, an attendant being in the cabinet to direct it against the part of the body indicated. It results from this arrangement, that the douche is often too powerful and that invalids often have to wait, when several require

to be douched, as only one can be attended to at a time. Another point in which the baths at Wisbaden are deficient, of which I have felt the inconvenience, is the want of screens or boards with apertures, through which a person might put an arm or leg to be douched, without taking off his cloathes and going into a bath. Neither are there at the Nassau Baths *Douches ascendantes*, *Douches ecossaises* or alternating douches of warm and cold water, from which so much advantage is derived in some cases.

The temperature of the Kochbrunnen is 151° Fahrenheit; consequently the water is too hot to be drunk quickly; nor is this advisable, as this, like other mineral waters, is better digested when taken slowly by little at a time, than when a quantity of water is taken at once into the stomach. The Adler-spring is not so hot, and that of the Schützenhof which is farthest off, has a still lower temperature, there being a difference of fifteen degrees between it and the Kochbrunnen. I have little doubt, if the matter came to be investigated, that these springs would be found to have their origin at or near the Kochbrunnen, and that the difference in

their temperature depends upon the water passing some distance underground, before coming to the surface, as has been found to be the case of several other places where the springs were supposed to be different. In a therapeutical point of view, however, the question is not one of much importance, as the water being left to cool in reservoirs, or in the baths, for several hours, before it can be used, till it approach the requisite degree of temperature for bathing, the effects must be the same.

In chemical composition, the springs are the same; the Schützenhof spring has a fraction less of saline substance and gas, than the Kochbrunnen, which probably depends upon the same cause as its lower temperature. The principal ingredient is muriate of soda which exists in large quantity. The only hot springs in Germany which resemble it in this respect, are those of Borcette near Aix-la-Chapelle. Those of Bourbonne-les-Bains in France, have also great analogy with the Wisbaden springs. The water contains other salts in smaller proportions, as I have shewn in the analytical table given in my former work. On account of the large quantity of saline substance, the high temperature of the wa-

ter, and the gas which it contains, the action of the baths is exceedingly exciting, and, under proper management extremely well fitted to procure the removal of long standing and intractable diseases. In most instances the drinking a glass or two of the Kochbrunnen causes a sense of general warmth, with slight perspiration upon the forehead or lip. When its use is continued, it promotes the action of the skin, generally increasing its secretions, as also those from other organs, as the kidneys or the mucous membrane of the alimentary canal, though very frequently no sensible effects are experienced. Occasionally, however, unpleasant consequences ensue upon the taking two or three glasses, as headache, giddiness, flushing, throbbing of the temples etc., and if these should recur upon its repetition, the internal use of the water had better be discontinued, and a cold saline, as Kissingen or Homburg substituted, if circumstances indicate that these are likely to be beneficial. The water is however in general very well borne by the majority of patients to whose cases it is suited.

With respect to the cases in which the Wisbaden water is likely to be attended with benefit, I have enumerated several in general terms in my

former work, without entering into any detailed account of particular diseases, which would have been foreign to its design, and of which at the time of its publication I did not feel myself sufficiently qualified to speak at length. In the only other work which has since appeared in England on the same subject "*The Spas of Germany*"; the chapter on Wisbaden is principally dedicated to the description of the town, hôtels, Cursaal, and to anecdotes; while the part relating to the action of the waters is disposed of in about three pages (of the Paris Edition). Knowing the want of information on the subject in England, I confess I felt disappointed on reading the work, especially, as the author states that his knowledge of these waters is of many years standing and has been personally acquired, and prefaces his remarks by a passage that tends greatly to raise the reader's expectations. Disappointment must therefore necessarily ensue, when it is seen, that the subject of gout and rheumatism, in which the Wisbaden springs are so efficient, is dismissed in six lines, the reader being informed that after bathing, gouty and rheumatic pains increase at first, but afterwards subside; and that the other parts of this cursory account consist principally of a reference to

two or three cases, shewn to the author by Dr. Peez, a few general rules for drinking and bathing which may be found in every work on mineral waters, and a disquisition upon hypochondriasis.

It is becoming evident in England, that the high reputation which the Wisbaden springs have always enjoyed, for the cure and relief of gouty and rheumatic affections, has not been over estimated, from the numbers who annually return home in an improved state, several of whom having for years been subject to repeated attacks of gout, have escaped any recurrence after a course of the baths, during the whole winter and spring, and have returned in subsequent seasons greatly improved in appearance, more for the purpose of more effectually preserving themselves from a relapse, than from any actual necessity. In cases of long standing, of the atonic kind, with or without deposition of calcareous matter in the joints, occurring in persons beyond the middle period of life, the Wisbaden baths are calculated to render the most eminent service; indeed, according to Dr. Peez, the more inveterate the gout is, the more effectually can it be combated by these waters. Though bathing is the essential part of the

treatment, it is advisable in most of these cases to combine with it the internal use of the water. Mild douching will also tend very much to the dispersion of local swellings, puffiness, stiffness of the joints, of the wrist, fingers or foot, and also of chalky concretions, although it should not be used if there be a tendency to inflammatory action, nor until a certain number of baths have been taken. During an attack, the baths will require to be suspended, till the more severe symptoms have subsided; when the patient may again begin, by previously drinking the water, while confined to his room. In general patients who have been accustomed to free living, do not bear a low regimen, and will be the better, after the inflammatory symptoms are allayed, for being allowed some solid food if an inclination be felt for it; care being taken, that the quality be plain and light, and that the quantity be small. In cases of erratic, irregular or repelled gout, these baths will also most probably be productive of great benefit, and not unfrequently cause the morbid action to restrict itself to one spot; a more regular attack being sometimes induced, previous to an amelioration taking place. Persons who have only experienced two or three attacks, but in

whom the predisposition is strong, may generally expect to derive permanent benefit from the baths; provided they are subsequently cautious in their mode of living, and do not indulge too freely in the pleasures of the table; on the other hand, where there is much tendency to acute inflammation, in persons of a plethoric or highly irritable habit, I should consider Wisbaden less likely to suit, than a warm alkaline spring, as Vichy or Teplitz. I should be inclined also to counsel many young persons, in whom the gout developed itself at an early age, in consequence of a strong hereditary tendency, to give the preference to a spring of this kind; though it is probable that they would equally derive advantage from Wisbaden. It cannot be expected however, that a single course of the waters would suffice to eradicate the disease; and, in order to have the chance of a permanent cure, persons afflicted with gout would do well to return, for two or three consecutive seasons, to the springs from which they derived benefit; passing the intervening months in a suitable climate, and paying attention to the regulation of their diet and mode of living.

As the mornings are frequently chilly, and it

is of importance to prevent the action of a cold atmosphere on the surface of the body, while under a course of bathing, I do not in general recommend, to English patients, the very early hours of rising and drinking the water, adopted by the Germans; six, or half past, will be sufficiently early, even for those, who take their bath before breakfast, and for those, who do not, any time between that hour, and half past seven; breakfast being taken an hour after drinking, and consisting of tea or coffee, according as the one or other is found best to agree. Those, who dine at 1 o'clock, should again drink about seven in the evening; while for those persons, who prefer dining at four, or later, from two to three, will be the best time for taking their second dose. The effects of the water are thus better sustained, than when the whole quantity prescribed is taken in the morning, and an interval of four and twenty hours allowed to elapse between the periods of drinking; the water is often thus better digested, and is well borne, when the distension of the stomach by the same quantity if taken before breakfast, would disagree and give rise to unpleasant symptoms, or occasion a too active operation upon the bowels or kid-

neys. — It is also advisable, when a full course of these and other mineral waters is required, to recommend a temporary suspension of the course, and change of air for three or four days, after a certain period of drinking and bathing has elapsed; by this means, the system is not too early saturated, and the patient returns to resume the use of the water, in a more fit state for its absorption, and with a greater probability of more durable benefit.

Most chronic rheumatic affections will be removed or greatly relieved by the Wisbaden baths. In the slighter cases, not of long standing, a short course, for about three weeks, will be frequently sufficient. In the more intractable cases of articular and muscular rheumatism, as also in the pains of a rheumatic nature affecting the face, head, and other parts; a more prolonged course will often be required, combined with the use of the douche. In some cases the hot bath, vapour-bath, or douche, may be advantageously employed, especially in elderly persons whose skin is dry, and seldom perspirable. Where however the complaint has supervened upon, or has been continued from an acute attack, in which any symptoms of the heart or peri-

cardium being affected, were present, — which is more frequently the case than is generally supposed, — it would be well to ascertain, by auscultation and percussion, that none of those symptoms remain, as they would very likely be aggravated by the employment of the water. Those rheumatic affections depending upon long exposure to wet or cold, to which military men on duty are peculiarly subject, are especially relieved by these baths. Two or three bad cases of this kind fell under my observation, last year, in which the most beneficial and unexpected results followed a full course of the waters. One gentleman in particular who returned from India invalided, was scarcely able to get about with the assistance of a stick; who was sceptical of the power of mineral waters, and not over-attentive with respect to his diet, recovered the comparatively free use of his limbs, before he left Wisbaden, and was completely restored, when I met him about a month afterwards, in a steamer on the Mediterranean, being on his way to rejoin his regiment.

Almost all thermal springs are however recommended in cases of rheumatism; and there is no

doubt, that several of those who have derived benefit from the Wisbaden waters, would also have been benefitted by others; and also, that some waters of a different character would succeed, in cases where little or no benefit had ensued from those of Wisbaden. A person might derive advantage from Wildbad, or any other simple thermal spring, after the failure of a sulphurous spring, or a strongly impregnated saline one as Wisbaden. This, however, must be considered as an exception depending upon idiosyncrasy, or other peculiar circumstances, not always apparent; as the reverse would be more frequently the case: and if extensive statistical data could be impartially obtained, respecting the comparative value of different mineral springs in this disease, I have no doubt it would be found, that, though a simple thermal spring and a hot saline one, are both beneficial in rheumatic, and in certain other diseases; yet that the latter would be more generally successful, that the benefit derived from its use would be obtained in a shorter period of time, would be of a more durable kind, and that relapses would less frequently recur, than when the former kind of spring had been employed. It does not, however, ensue from this, that a slightly mineralised

thermal spring is not preferable in some cases, though not in the majority; as for example, where the disease is combined with much nervous irritability; where it is of a subacute form, and calming and sedative remedies are more clearly indicated: as also in young persons of a full or plethoric habit; — in which instances a strong sulphur spring, as Aix-la-Chapelle, or a saline one, like Wisbaden, would be likely to produce a too perturbatory action; — while the simple thermal springs of Plombières, Luxeuil, Wildbad, Schlangenbad or Leuk, where persons may remain for a much longer period in the bath, would in all probability be extremely effectual in allaying the morbid irritability, and in removing the disease. On the other hand, where combined with rheumatic affections there is a state of general relaxation and debility, the internal use of a chalybeate spring would be more likely to procure their removal; joined either with a course of tepid saline baths, or with baths of the chalybeate water, if not counterindicated by the patient's condition. Where fixed pains, local indurations or swellings exist, the use of the douche may be advantageously subjoined, after a few baths have been taken. Certain intractable cases which have

resisted mineral waters, as well as the other remedies employed, may yet frequently be relieved by vapour baths which are established at several places.

Those nervous pains, recurring in paroxysms, affecting the branches of particular nerves of the face, head, or extremities, to which the term neuralgia or tic is generally applied, and which not unfrequently originate from a rheumatic or gouty diathesis, from the suppression of habitual discharges, or of cutaneous eruptions, — which causes, though perhaps somewhat exaggerated by continental practitioners, are not sufficiently attended to in England, — are more likely to be relieved and cured by a properly directed course of mineral waters, than by pharmaceutical remedies, or local applications. To many of these cases Wisbaden would be exceedingly applicable, especially when the functions of the skin are sluggishly performed, and there exists a congested state of the abdominal or pelvic viscera, with retardation or irregularity of the periodical secretion in females. In those cases which appear to arise from other causes, as moral influences, a high state of nervous excitability etc., I should be more inclined to recommend waters of a different kind, of

which I shall have to speak presently. Water or vapour douches may in general be advantageously combined with the baths and the internal use of the same water, — or of a water of a different nature, as that of Homburg, Marienbad etc., according as circumstances may seem to indicate their employment.

The state of abdominal plethora, with congestion of the liver, and obstruction in the circulation of the vena portæ, termed by the Germans *Unterleibsvollblütigkeit*, with its consequences, as impaired digestion, deficient or vitiated biliary secretion, piles etc., — occurring for the most part in persons about or beyond the middle period of the life, who have been addicted to the pleasures of the table, and marked by more or less protuberance of the abdomen, with diminished muscular and nervous energy, — is one well calculated to be relieved by the use of the Wisbaden waters internally and externally employed. The baths, by exciting the activity of the nervous and vascular systems, and by determining powerfully to the surface, tend most materially to equalise the circulation and remove the internal congestion, while by the internal use of the water the secretions of the mucous membranes, of the alimentary canal, of the

liver and kidneys, are improved in quality, and often perceptibly increased in quantity; — at the same time that the mesenteric glands and absorbent vessels are stimulated to increased activity, and the digestion is consequently improved. Even when, under these circumstances the drinking of the water is not followed by immediate sensible effects, either upon the bowels or kidneys, it is frequently not the less efficient on that account, and unless in some inconvenience be experienced, it should be persisted in, as after a certain time copious critical evacuations will often occur, and be followed by immediate relief; whereas were similar effects produced by artificial means, as the exhibition of drugs, the relief would only be temporary, and the frequent repetition of the same or analogous measures, would be necessary, and would tend but little to the permanent amelioration of the patient. In several of these cases, especially where there exists hardness or tension in the region of the liver, spleen or in other parts of the abdomen, the douche will be of material assistance in the treatment.

The Wisbaden waters are not however the most applicable to all cases of this nature, — as

some would be more benefitted by those of Carlsbad, Marienbad, Vichy or Kissingen, to which I shall have occasion to allude farther on. In hemorrhoidal affections, especially, Dr. Peez and Richter, speak in very high terms of the effects of the Wisbaden springs; indeed the former of these physicians attributes to them a regulating and controlling power in these affections, and says, "The periodical and habitual hemorrhoidal flux, if not too strong nor too weak, if not accompanied with painful symptoms, experiences no change by the action of these baths; especially, if it be necessary to health; if however it be too abundant so as to threaten life, the Wisbaden water, if not used too hot, removes these dangerous phenomena, — a too strong flow is diminished, — one, that is too weak, is increased or ceases altogether, according as the condition of the patients health requires." — The physicians at other baths also speak in very decided terms of the effects of their waters in these complaints; as however they are mostly of a secondary nature, whichever mineral spring is best calculated for the removal of the causes, upon which they depend, should be preferred, though it is seldom, that the bath physicians would be inclined to acknowledge

in other springs an efficacy superior to those to which they are attached.

In many cases of paralysis, baths of mineral waters offer the most efficient, and often the only means of arousing the nervous energy of the system, and of the paralysed parts; and few have a more beneficial influence in this way than those of Wisbaden; but here again it cannot always be determined before hand, that baths of this kind will be more effectual than those of other springs containing but a small proportion of solid and gaseous substance, as the latter occasionally succeed after the failure of the former. In the obscurity which still envelops the mode of action of mineral baths, this cannot be satisfactorily accounted for, except upon the principle of idiosyncrasy, or by the supposition that the disturbing action of a thoroughly impregnated spring is less adapted to certain of these cases, than the more tranquilising and sedative influence of a simple thermal, or slightly alkaline, warm spring. In most instances however, where there does not exist a high degree of nervous excitability, or tendency to fullness in the cerebral vessels, the baths of Wis-

baden may be used with great prospect of advantage; especially, when the complaint is of a rheumatic origin, depending upon the impression of poisonous influences upon the nervous system, as malaria, the abuse of mercury, or the employment of this and some other metals by workmen; as also in those cases, where the disease appears to be of a purely local nature, not connected with cerebral disease, but arising from deficient energy of the nerves of the part, or of the spinal marrow, consequent upon exposure to cold and wet, or other analogous causes. Even in paralysis affecting a limb or one side of the body, remaining after an apoplectic seizure, baths of this and other mineral waters may often be advantageously employed, provided there be no symptoms of cerebral congestion, or organic disease. Plethoric individuals, and those whose digestive organs are disordered, will frequently require some preparatory treatment, previous to using the baths, in paralytic, as well as in other diseases.—These, then, are the principal diseases, which the Wisbaden waters are more especially calculated to relieve, and in which their use in the form of baths and douches is the most essential part of the treatment. There are besides

various other complaints to which the external or internal use of the water, or both combined, is extremely suitable, in common with several other mineral springs; but of which the peculiar circumstances of each case require to be investigated, in order to enable the practitioner to decide upon the springs likely to be most effectual. Of these, many scrofulous affections will be cured or greatly ameliorated by the internal and external application of these waters; particularly enlarged lymphatic glands of various parts, and of the mesentery, occurring in children or young persons of a torpid habit, with tumid upper lip and abdomen, a vitiated state of the intestinal secretions, and a harsh dry condition of the skin. Here the exciting and resolvent powers of the waters are exceedingly effectual, by improving and augmenting the secretions of the alimentary canal, and of the skin; and by stimulating the absorbent and vascular systems, mostly cause the speedy diminution of glandular or bony swellings.

Another case, in which the Wisbaden springs are often eminently serviceable, is, where there is a general disordered state of the health, without the existence of any actual disease, or material derange-

ment of any particular functions, except perhaps impaired digestive powers, — as is very frequently seen in Londoners, and inhabitants of other large cities, closely engaged in trading, mercantile or professional occupations; as also in those who have been resident in a tropical or unhealthy climate: such a state though relieved and palliated for a time, by medicines, not unfrequently terminates in serious functional or structural disease, if allowed to continue for a long period, — and nothing would tend more effectually to its removal than temporary absence from the cares of avocation, change of air and mode of life, and the employment of a mineral spring, like Wisbaden, followed by that of a chalybeate water, in those cases, where it is not counterindicated.

The same may be said of several cases of hypochondriasis, with disordered digestive powers, to which Wisbaden is applicable, both on account of its waters, tending to rectify the deranged state of the digestive organs, and also from the beneficial influence which would be exerted in most instances on the patient's *moral*, by the movement of the place, its cheerful appearance, the beauty of its

environs, and the neighbourhood of so many objects of interest. To some patients of this class, tepid bathing with the internal use of a cold gaseous spring is most applicable. To others again, certain other mineral springs are best adapted.

The suppression or painful performance of periodical functions, peculiar to females, is frequently benefitted by the Wisbaden baths; especially, if the cause be cold, checked perspiration, or a congested state of the abdominal or pelvic viscera. Some syphilitic affections, especially where much mercury has been employed, and certain chronic cutaneous diseases, as psoriasis, impetigo etc. where the skin is generally in a dry state; as also eruptions of the face depending upon derangement of the alimentary canal or liver, will often be removed, by baths of a warm saline water, like Wisbaden; and likewise by sulphurous or alkaline springs, either alone, or combined with the internal use of the same, or some other mineral water. In certain bronchial and laryngeal affections, with cough, and scanty or deficient expectoration, the Wisbaden baths, combined with the internal use of

the water, and the inhalation of its vapour, may be expected to be of material advantage.

On the other hand, these springs, like most others, will generally be prejudicial in organic disease of the lungs, heart or large vessels, in disorganisation of the abdominal or pelvic viscera with fever, profuse hemorrhagy or discharges *per vaginam*, either depending upon relaxation, or upon the presence of hypertrophy, polypus, or other structural disease.

The beneficial effects of the Wisbaden, and other mineral springs, are mostly evident during the time of their use, after the system has been for some time subjected to their action, and are not unfrequently consecutive to discharges, or eruptions of a critical nature, induced by the water, which by its perturbatory action, and exciting the vital energies, frequently brings diseases from the chronic to a more acute state, previous to their removal. — Hence a slight degree of feverishness, with increase of long standing pains etc., are frequently proofs of the beneficial action of the water, and precursors of a favorable change. In other instances, no

perceptible effect, or amelioration takes place during the employment of the waters, but becomes apparent after they have been for some time discontinued. When this is the case, or when a degree of benefit has been derived during the course in long standing and intractable disease, it would be most advisable for the person to return the following season, as it can scarcely be expected, that complaints which have existed for months or years, are to be at once removed by a three or four weeks course of mineral waters. The invalid, under such circumstances, should therefore be contented with the proofs he has already received, that the waters have been of service, and may in most instances look forward with confidence, to a removal of the disease, or to a still greater degree of amelioration, on resuming their use in the following season.

As climate has also great influence on the production and removal of several diseases, — especially gout rheumatism, neuralgia, paralytic, bronchial and scrofulous affections, — patients who have been benefitted by a course of mineral baths, will find the benefit to be of a more lasting nature, and that they will be less liable to relapse, if instead of returning to the more humid and variable atmosphere of Great

Britain or Ireland, they could pass the winter in the south of Europe, as at Pau, Nice, or one or other of the large towns in Italy, south of the Apennines. This is more especially advantageous, when a repetition of the course is advisable in the following summer; as the effects of the waters would be in great measure kept up, and seconded by a warm climate during the winter, and the invalid would return to the springs under more favorable circumstances, for deriving permanent advantage. Those who are unable from various circumstances to undertake a long journey to the south, if they be not under the necessity of returning northwards, could not do better than remain at Wisbaden, which possesses greater advantages as a winter residence for an invalid than any other of the towns along the Rhine, or in Germany, with which I am acquainted. Sheltered from the north and east by the Taunus hills, with a comparatively open country to the south and west, the locality of Wisbaden is warmer than most others in this part of Europe, at the same time, that, being exposed to the full influence of the sun during a great part of the day, it is comparatively free from damp, — the air being light and healthy, — snow seldom lies

upon the ground, and the winter is in general short, as indeed might be surmised from the circumstance, that acacias and various shrubs of more southern climates, thrive exceedingly well at Wisbaden. The accommodation is also good, and the waters may in some cases be continued during part of the winter. Osann in his standard work *) considers Wisbaden as the place best adapted for the use of the waters in the winter months. Dr. Peez and Richter also speak in their works of the advantages of Wisbaden as a winter residence, for the use of the waters.

*) Darstellung der bekannten Heilquellen Europa's.



Baden-Baden.

In point of *agrémens* and resources for recreation, during the summer season, Baden rivals, and in the opinion of many, surpasses Wisbaden. — It is little more than half the size, and the surrounding hills rise more steeply from the valley. Of these the Mercuriusberg, and the hill on which stand the ruins of the old castle, by which the town is sheltered on the north and east, are the highest points, whence an extensive view may be obtained of the pine covered mountains of the Black Forest on the one side, and the plains extending to the Rhine on the other. Among the other objects of interest in the environs, to which excursions are usually made, are the Jagd-Haus, the fine ruin of Ibourg, Eberstein, and the delightful valley of the Murg, to which an alpine-like road has lately been constructed across the intervening mountain. In fact, the whole surrounding country abounds in walks and rides among scenery of the highest order of picturesque beauty.

There is, however, only one eligible carriage road, leading through the valley on the one side towards the Rhine, and on the other to the convent of Lichenthal, near two miles distant from Baden; a fine avenue of oaks extending at the whole distance, and affording shade at all times of the day. The accommodations are of the best kind at Baden, and the mode of living much the same as at Wisbaden. Within the last two or three seasons, several new houses have been erected, and two large and convenient hôtels (d'Angleterre and de Russie). — Among the old hôtels, the Badischer, Zähringer, and Darmstädter Hofs enjoy the highest reputation, and are also bathing houses; the bath cabinets being exceedingly well arranged and convenient. The Conversations-Haus, having been let to a new lessee, for the purpose of conducting play on a more extensive scale than heretofore, has since last season been fitted up with great taste and magnificence. The proprietor however is said to be greatly disappointed at the smallness of the sums staked; being very different to those which he has been accustomed to see in the salons of Paris. This is perhaps on the whole beneficial to the place; as were it to become the rendezvous of players from all parts of

Europe, the list of families and visitors who resort to it for other purposes, would doubtless be much diminished. Baden has been more frequented during the winter months for the last three years, several English families having taken up their abode there. I should consider it, however, much less eligible in this respect, than some other towns in this part of the country, and especially Wisbaden. Being distant from any town of importance provisions are not very plentiful, or varied, except during the season, and there are but few shops where many necessary articles could be obtained; the booths which supply the place of shops, being closed as soon as the season is over; nor does it possess any advantage in point of climate beyond that of being sheltered from winds; from this cause; the valley is less perfectly ventilated, and the evaporation of the dew which falls very heavily in the autumnal evenings, as well as of rain, is prevented by the trees on the promenades and about the hills.

Though the mineral springs of Baden have great analogy with those of Wisbaden, as far as the nature of their constituent principles are concerned, — both belonging to the class of thermal saline springs;—

yet, as their temperature is much lower, while they scarcely contain any gas, and not more than half the amount of saline substance, they must be considered as much weaker, and less efficient in the treatment of most diseases; consequently the number of those who resort to Baden, exclusively for the purpose of using the waters, is comparatively small. One does not see crippled and infirm persons about the promenades, as at Wisbaden; and the number of drinkers, at the Ursprung, in the morning is extremely limited; whereas at Wisbaden, several hundreds drink the water every morning. On account of the less stimulating properties of the Baden baths, they may be used with less risk by persons in health, and many avail themselves of this privilege, though unpleasant symptoms are sometimes induced in particular habits, and a slight eruption on the skin is a not unfrequent consequence.

From the action of the Baden waters being less energetic than those of Wisbaden, they may frequently be applied with advantage in some of the diseases I have already enumerated, where the Wisbaden water would be too exciting. Some rheumatic and paralytic cases in persons of nervous or

highly excitable disposition, or where there is a tendency to inflammatory action, will be better treated by the Baden baths and douches, than by those of Wisbaden. Neuralgic pains accompanied with general irritability, a disordered condition of the skin, or of the alimentary canal, will also be frequently relieved by these baths, combined with the internal use of the water or of a cold spring of a more aperient nature. Thus the artificial Carlsbad water is not unfrequently combined with the baths, when an aperient effect is required. Nervous affections of a convulsive nature, as hysteria, with congestion of internal organs and irregularity in the performance of periodical functions, will often be removed by a course of the baths, combined, or not, with some other mineral water, according as circumstances may seem to require it. The same may be said of dyspeptic complaints, attended with a vitiated state of secretions of the stomach and bowels, as indicated by acidity, heartburn, unusual distention of the stomach after eating. In some of these cases I have recommended, conjointly with the baths, the drinking of the Rippoldsau water, of which I shall have to speak presently, and of which large quantities are annually consumed at Baden.

An irritable state of the skin, and some eruptions, as Lichen, Prurigo etc. which are frequently dependant upon a disordered condition of the digestive organs, will mostly be benefitted by the above treatment. For some scrofulous patients the Baden waters would be advisable, as preparatory to a more tonic medication which frequently cannot be borne, unless it be preceded by remedies which have a more solvent action, and which are more effectual in stimulating the absorbent system, and in the reduction of glandular enlargements. Many patients with deranged general health, and hypochondriasis, will also be materially benefitted by the Baden waters; especially, if they take an interest in the beautiful scenery of the environs, and in the amusements of the place.

Dr. Gugert has related some unfavorable cases of scrofula and diseases of the skin, which were cured by the vapour of the springs, in the "*Jahrbücher für Deutschlands Heilquellen und Seebäder* for 1839."

It will be seen that considering the Baden springs as somewhat analogous to those of Wisbaden though

much weaker in point of saline and gaseous substance, I have not thought it necessary to recapitulate all the disorders, in which they might be applied with advantage. Though in general in the more long standing and intractable cases, Wisbades is infinitely preferable; yet certain peculiarities of diseased condition of parts, or of the patient's constitution, may render the Baden springs the more advisable of the two, especially in very delicate persons or those of nervous and irritable temperament.

There is near Baden a chalybeate spring, to which is attached a bathing establishment, the water not being adapted for drinking.



Ems.

Ems is not a very eligible place for a prolonged summer residence of those who do not require the use of its waters. From the extreme narrowness of the valley and comparative want of free ventilation, the heat and oppressive nature of the atmosphere, in the months of July and August, are at times excessive, producing general relaxation, languor, and lassitude in healthy persons. It is also indifferently provided with shade; and the hills on either side are so steep, as to render their ascent fatiguing to pedestrians. On this account numerous well conditioned donkeys are always in readiness for excursions, and are the best means by which invalids and weakly persons can take exercise on the hills where the air is of a more invigorating nature. The position of Ems is striking and beautiful, and the adjacent country highly interesting, especially along the banks of the Lahn, either following the stream to its junction with the Rhine, or ascending

beyond the pretty village of Nassau, to Arnstein and the other objects of interest in its vicinity. After the extreme heat of the summer is passed, Ems will be found to be an agreeable spot for a few weeks, during September and part of October at which period the waters may still be used with advantage; especially, when taken internally, by persons who purpose passing the winter in a more southern climate.

Several improvements have taken place at Ems; within the last two or three years some new houses have been erected, and a handsome new Cur-saal has been built on the promenade, in place of the former low and irregular edifice. The houses where the best accommodations are to be found, are: the Curhaus, belonging to the Duke; the Russische and Englische Hofs; the new hôtel of the Vier Jahreszeiten, and the Vier Thürme, — a large isolated building surrounded by a garden, at the extremity of the town, and the only private house possessing baths, — which, with its turrets at each angle, forms a striking object in the picture of Ems.

There are numerous mineral springs arising from the steep mountain, the Baderberg, immediately behind the Curhaus, on both banks of the Lahn, and in the bed of the river, gas bubbles being constantly seen escaping from its surface, near the Cursaal. Eighteen of these have been examined and analysed; their temperature varies from 18° to 44° R. several of them being employed for baths; and two, the Kesselbrunnen and the Kränchenbrunnen, principally for drinking. A new drinking spring has been greatly employed this year. The carbonate of soda is the prevailing ingredient in these waters; the muriate of soda is also a large quantity. According to the latest analysis by Kastner, a pint of the Kränchenbrunnen contains $31\frac{1}{2}$ grains of solid substance; the analysis by Struve, on the other hand, states the amount of saline substance to be about 20 grains, with scarcely half the carbonate of soda yielded by the same quantity of the Kesselbrunnen water; whereas Kastner states the quantity of this salt to be about equal in both, viz. 20 grains to the pint, and this I should conceive to be most correct. The last mentioned spring is much less gaseous, containing according to Kastner 12,45 cubic inches

of carbonic acid gas to the pint, whereas the Kränchenbrunnen contains 17,45; its temperature being lower (24° R.), and the amount of water supplied, being much more limited than the Kesselbrunnen, which has a temperature of 37° .*) Thus, supposing this to be correct, the springs of Ems resemble greatly in point of temperature, and in the nature of their composition, those of Vichy, which also have a range of temperature, varying from 18 to 44° . There is however a great difference in the amount of the principal mineralising ingredient, the carbonate of soda, which is more than double in the Vichy springs, which contain according to Longchamps, 45 grains to the pint. The analogy is still closer, between the springs of Ems and those of St. Nectaire in Auvergne, the temperature of which is from 20° to 31° , — and which contain about 24 grains of carbonate of soda, 18 of muriate of soda, and 13 cubic inches of carbonic acid gas to the pint of water. Teplitz, on the other hand, is a more exclusively alkaline water, containing little else than carbonate

*) Dr. Osann states the temperature of the Kränchenbrunnen to be 23° and that of the Kesselbrunnen 34° ; see *Bemerkungen über mehrere Mineralbäder des Rheins und Schwarzwaldes*, in *Hufelands Journal für praktische Heilkunde*, Mai—August 1837.

of soda which is in less proportion than in the Ems water. The proportion of gas is also very small.

These different proportions of the saline, substance and gas, of the two principal springs of Ems, enables the practitioner the better to adapt their employment to particular conditions and constitutions; the internal exhibition of the Kesselbrunnen being better suited to some individuals, than the Kränchenbrunnen, and vice versa. The action of the water is essentially alterative, improving the secretions of the alimentary canal and of the kidneys, in many instances, without any increase in their quantity. Indeed, as far as the state of the bowels is concerned, the reverse is not unfrequently the case, and it becomes necessary to have recourse to medicine. A slight degree of perspiration is produced in many individuals; especially, when the internal use of the water is combined with bathing. As great part of the gas escapes, prior to the water being used in the form of bath, it has not the stimulating action of some other baths more strongly impregnated with saline substance; hence, though determining to the surface, and producing increased activity in the functions of the

skin, thereby relieving a congested state of the mucous membranes or parenchymatous viscera, it has at the same time a sedative operation on the nervous system, allaying its morbid irritability. In certain individuals however the bath occasionally produces a powerfully exciting effect, and could not be continued without danger.

The Ems waters, like most other warm springs, have been much recommended in gout and rheumatism; but in most cases of the more intractable forms of these complaints, especially in elderly persons, I should prefer a spring of a different kind. In some of the milder forms, in younger subjects, with a tendency to inflammatory action, or coexisting with nervous irritability, the Ems springs would be preferable.

The resident practitioners also speak highly of the effects of these waters in cases of disordered digestive functions, with torpor of the liver; and there is no doubt, that in several of these cases, attended with heartburn, acidity, and other symptoms of a vitiated state of the secretions, they are calculated to be of considerable benefit, — they are

also well adapted to some deranged states of the health, occurring in women and children; without any particular organ appearing to be the seat of disease. Dr. Diel who was bath physician at Ems, for upwards of 30 years, strongly recommends the waters in congested states of the abdominal circulation, with its consequences, hemorrhoidal affections etc.; and also in dysmenorrhœa, and some other diseases peculiar to females. Dr. Döring also, who has lately published a work on the Ems springs *), which, like most others on particular Baths, enumerates a long list of diseases which they are calculated to cure, adds his testimony to their beneficial influence in these complaints, and in some measure compares them with those of Carlsbad, — admitting however the latter to be best suited to torpid habits; — but with the exception of their temperature, there is no other point of resemblance between the Ems and Carlsbad water, both their composition and *modus operandi* being very different. The Carlsbad water is exceedingly energetic and exciting in its action, and is generally productive of sensible effects at the time; the sulphate of soda being

*) Ems mit seinen natürlich-warmen Heilquellen und Umgebungen.

the predominating salt, of which the Ems water scarcely contains a trace. The Carlsbad water also is almost exclusively taken internally, whereas at Ems bathing forms a principal, and in many instances the most essential part of the treatment. In fact, I should say, that, for the cases, to which the Carlsbad waters would be best adapted, those of Ems would be inapplicable, or not productive of benefit; and that, on the other hand, Ems would relieve in several complaints, where Carlsbad would be prejudicial. The same author, speaking of the advantages of Ems, as a winter residence for the use of the waters, cites the example of patients going to Mont d'or and to Bath, to use the waters in the winter. If however he were acquainted with the locality of the former place, he would be aware, that it is deserted, except during the season; and, if people go to Bath in the winter, perhaps not one in a hundred goes there exclusively for the purpose of using the waters. Ems, in fact, offers no inducement, either in point of locality or climate, for any one to pass the winter there. It is however a too prevailing error, among watering-place practitioners, and one not likely to be soon rectified, to exaggerate the advantages of their localities, and

the effects of their waters. On the occasion of a former physician having too universally extolled the Ems waters, Dr. Wetzler who is no inconsiderable authority on mineral waters, says: "Thilenius calls on the unbeliever, and bids him come and see. I did come and have seen, what I have also seen in every other Bath, viz, that part of the sick were cured or relieved, and that another part left the place uncured and unrelieved. I saw some who bathed their eyes during four weeks, and they were no better; others, who still had their gouty and rheumatic pains when they left. I saw some patients arrive with hoarseness who, when they went away, could not speak a loud word; and others who, when they left, coughed and breathed as badly, as when they arrived" *).

The Ems waters would be likely to be of great service in irritation of the urinary passages, with deposit of lithic acid, or other gravel; especially, where there exists a gouty or calculous diathesis, or when combined with a deranged state of stomach. In these cases, the baths will be of essential ser-

*) Ueber Gesundbrunnen und Heilbäder. Mayence 1822.

vice, not only by determining to the skin and increasing its secretion, but also from the absorption of a portion of the alkali, which is known to have a sedative effect on these organs, and to alter the quality of the urine, rendering it less irritating. In some instances the bathing might be advantageously combined with a cold gaseous water containing a larger proportion of alkali. Dysmenorrhœa, and some other states of deranged uterine function, depending upon congestion and irregular circulation, and sterility, arising from the same causes, or upon high nervous irritability, from moral impression or from other causes, are likely to be removed by the Ems springs, which by their tranquilising effect upon the nervous system, and by their general alterative properties, tend to restore the equilibrium between the vital state of the uterus, and that of the system in general. Where the object is to remove sterility, the *douche ascendante* of one of the springs, — which from its supposde power in these cases has been named "*Bubenquelle*" — is frequently employed, and may be of service in assisting the general action of the waters. *Douches ascendantes* are however in much more general use in several of the French Baths, than in those fo

Germany; and there is no doubt, they are very effectual in promoting the removal of some disordered conditions of the uterine system, and of the lower bowels. Of course, where sterility, as well as the states of disordered functions to which I have alluded, depend upon causes of an opposite character, remedies of a different kind will be required for their removal.

But, it is in diseases of the respiratory organs that Ems has acquired the highest reputation; patients with these diseases forming annually a large proportion of its visitors, some of them in such an advanced state of disease, as to be little likely to derive much advantage from any remedial measures. Hufeland, in alluding to the effects of the Ems waters, in these class of diseases, says "we know how few mineral springs there are, that can be used with safety in diseases of the lungs; patients with such affections are commonly prohibited from visiting a mineral spring; here the reverse is the case, and in my opinion, Ems stands alone with Selters in this respect." *) Diel also adds his testimony to

*) *Praktische Uebersicht der vorzüglichsten Heilquellen Deutschlands.*

their efficacy, in these cases, and in certain kinds of asthma. These recommendations from such high authorities induced many patients to flock to Ems, and not a few were doomed to disappointment, in consequence of their disease being in such an advanced stage, as to render the waters inapplicable with advantage, or directly prejudicial. It is, however, acknowledged by all the physicians, that in confirmed phthisis the Ems waters would not be suitable. In the earliest stage of that disease, (or when there merely exists a predisposition to it, without any actual signs of its presense) whilst the tubercles are in a latent state, and limited in number, — which may often be ascertained by auscultation and percussion, — and where the patient has merely slight cough with mucous expectoration, from sympathetic irritation of the bronchial membrane, without hectic fever, great emaciation or debility, — a course of these waters, followed by a proper attention to climate for the ensuing winter, may do much. In some cases also of laryngeal or bronchial disease, which often closely resembles tubercular phthisis, occurring in young persons, or those approaching the middle age, the waters of Ems, or those of Cauterets, or the Eaux Bonnes which are the lighter

kind of sulphurous springs in the Pyrennées, would in all probability be extremely beneficial;— as also, where an attack of acute inflammation has left an obstruction to the free circulation of blood through the lungs, from partial hepatisation of their texture; where however this exists to any extent, the waters would probably be inadmissible; — or if their employment were allowed, the effects would require to be closely watched. In most of the chronic catarrhal affections of old people, with copious expectoration, to which warm mineral waters would be suited, I should be more inclined to recommend Wisbaden, or Aix-la-Chapelle, than Ems. Several of these cases however would be better treated by waters of a different nature, as far as internal exhibition is concerned; though this may often be most advantageously combined with bathing in a thermal water. In many of these affections of the respiratory apparatus, the inhalation of the vapour of the waters is of material service. Dr. Döring recommends the Ems springs in scrofulous diseases; and in many of these affections I should say, they are likely to produce a great amelioration; especially, in delicate children with enlarged mesenteric glands, the water being drank alone, or with milk,

and combined or not with bathing, according to circumstances. In several patients with enlarged glands of the neck, and other local affections, from the same constitutional cause, a course of Ems water would be highly serviceable as a preliminary to the employment of a more tonic medication; tonics being very often indicated in these patients, who however are frequently not able to bear them, without the previous use of remedies of a more solvent nature.

In nervous affections of an hysterical nature, Ems is calculated to be of considerable benefit, particularly if there coexist disorders of the digestive functions, or of the periodical secretion, with irregular distribution of blood, as marked by frequent flushings, cold feet etc.

The other physicians at Ems are Dr. Vogler and Franque. The latter frequently publishes, at the end of the season, a report of the most interesting cases that have fallen under his observation *).

*.) See the „Jahrbücher für Deutschlands Heilquellen und Seebäder“ for 1837, 1838, 1839.



Wildbad.

Though the baths of Wildbad have been used for upwards of three centuries by the inhabitants of the neighbouring countries, they were till lately very little resorted to by foreigners, and had never perhaps been mentioned in any English work, till the brief account which I gave of them in my former publication. From the high encomiums which have been subsequently lavished on them by the author of the "Spas of Germany", the name has become familiar to English ears, and the place, during the last three seasons, overflowing with English visitors, several having been doomed to disappointment, in not finding the relief they sought, from their expectations having been too highly raised, or the water not being adapted to their case. Wildbad offers no inducement for persons not requiring its baths, to select it as a temporary residence, being for the most part a poor-looking, little town, or rather village, placed in one of the most sombre

valleys of the Black Forest, enclosed by steep pine covered mountains, and at a considerable distance from any town of importance; Carlsruhe being nine teagues off, and Baden-Baden seven, across the mountains. At one extremity of the street of which the town consists, is an open space, or square containing the two hôtels, the bath buildings, and public room supported by a colonnade. The place however is greatly improved since my visit two years ago; new houses have been built, and the accommodations improved; — a new Cursaal has also arisen, with a dining room capable of receiving 150 persons at the table d'hôte, which forms the frontispice of a rather voluminous work, translated into English, in which no doubt the great advantages of Wildbad and the miraculous powers of its waters are detailed at length, and duly insisted upon. The rapidly rolling rivulet Ens flows behind the town; the only carriage road through the valley being constructed on its banks, which, beyond the baths, are planted with trees, for near a mile, forming the public promenade. A principal excursion is up the valley, to the village of Kalmbach; there are also some shaded paths in the mountains for pedestrians or donkey riders; and though I ad-

mit having said in my former work, that the environs abound in delightful walks and rides had I then seen the place, this statement would have been very much qualified; there being few watering places, that do not surpass Wildbad in this respect, or in objects of interest in the environs; and Dr. Granville must indeed have seen the place with a favorable eye, when he considers its sombre and triste position superior to the beautiful and *riant* valley of Schlangenbad, and the fruitful country in its neighbourhood. Wetzler states that, during the greater part of the year, the climate is raw and cold; snow not unfrequently remaining on the neighbouring mountains till the middle of May, whilst from the deficiency of free ventilation, to which narrow valleys between wood-covered mountains are subject, the atmosphere must be considerably charged with moisture for some time after the falling of rain or heavy dew.

The water rises, through a layer of sand to a height of from two to three feet into basins or piscinæ, in which several persons bathe at the same time. The Herrenbad contained in a vaulted Gothic-like chamber is the largest and warmest of the

springs. At one extremity is a niche of a semicircular form, above the water, which is termed *Hölle*, the temperature being higher here than elsewhere. A part of the piscina is boarded off, so as to form isolated baths. The other baths, the Fürstenbad, the Frauenbad and the Gemeine-Männerbad for different classes of bathers, are considerably smaller. A spring has also been used for drinking, within the last two or three years.

The temperature of the different springs ranges from 27° to 30° R., being that best adapted for bathing. Their chemical composition is the same, the amount of saline and gaseous substance being exceedingly small; the solid residuum after an analysis of a pint of the water scarcely exceeding three grains, so that the medicinal properties of the water may be considered as principally depending upon its temperature, in which it differs from most of the other German waters, which require to be either warmed, or cooled, down to the proper degree of heat for bathing. At several of the French Baths, however, where the water has great analogy with that of Wildbad, as Luxeuil, Plombières, Neris etc. it is also, used at the natural temperature, though,

as the springs are more numerous at these places, and the range of temperature more extensive, they can be better made to fulfil the different indications of diseased states. Thus, at the two first mentioned places, cases which are unrelieved by baths at from 27° to 29° degrees, are not unfrequently greatly benefitted by the use of one of the hotter springs, or by the vapour, which is in great abundance in *étuves*; whereas at Wildbad these patients would have to return no better than they came.

There can be no doubt, that several natural warm springs which, like those of Wildbad, contain but a small proportion of saline and gaseous constituents, as Gastein, Luxeuil, Pfeffers etc., are yet very efficacious in the removal of some chronic diseases which have resisted other means; and though some have endeavoured to account for their mode of action, by ascribing it to the peculiar vital principle possessed by mineral waters, and to other causes, no satisfactory explanation has been offered. In some of these instances, as at the baths of Leuk in the Valais, there is little doubt, that the prolonged immersion of the body in the water, for a considerable portion of the day, is a principal cause of

the benefit obtained by many patients. This, however, cannot be said of some others, as Gastein, which though not richer in mineralising ingredients, have naturally a much higher temperature, where a prolonged bath, reduced to the same degree of heat, as Leuk or Wildbad, could not be supported by many persons, and which is very often exciting rather than sedative in its operation. We must therefore rest contented with our experience of the fact, that effects sometimes follow the use of waters of this class, which could not be procured by others, or by waters artificially prepared, so, as to resemble them.

Waters of this kind, are tasteless, feel soft and unctuous to the touch, are exceedingly agreeable and refreshing as baths, producing generally a tranquilising and sedative effect upon the nervous system; hence they are highly serviceable in most of those cases, where a high degree of irritability exists, which would render the employment of more exciting springs unsuitable.

Of this kind are some gouty, and particularly rheumatic and paralytic cases, occurring in young

or middle aged persons; or those of a nervous temperament, and unable to bear the action of a powerfully stimulating water. In local paralysis arising from accidents, or from diminished nervous energy of the spinal marrow, or of particular nerves they are also calculated to be of service; though, in the majority of instances, a more strongly mineralised spring would be more likely to be productive of benefit, and in a shorter space of time. Certain cases, however, now and then occur which appear to indicate the use of a strong saline, or sulphurous water; but which are not benefitted by it, and are relieved by the employment of one of the simple thermal springs. The same may be said of neuralgic pains or *tic* in various parts, without our being able to offer any other explanation of the circumstance in the present state of our knowledge, than that of the peculiar idiosyncrasies of individuals, as are frequently seen in the practice of medicine, that remedies which are generally efficacious in certain diseases, are occasionally powerless, though the patient be to all appearance under similar circumstances as others who have been benefitted by these remedies.

In several nervous complaints, and convulsive affections of an hysterical nature, with irregular distribution of blood to particular organs, occurring in delicate females, or those possessed of a high degree of susceptibility, a course of baths of this kind, would be likely to be attended with considerable advantage, both from their tranquilising effects, and by their restoring the equilibrium of the circulation and the nervous energy between different parts. Those painful affections, depending upon morbid sensibility, and often connected with irregular muscular action, which I have described in my work on nervous disorders, and some of those paralyses of a purely functional nature, which I have attributed to a debility of volition, occurring for the most part in young females, would also be very likely to be relieved, by the Wildbad or Schlangenbad baths, combined with, or succeeded by the internal use of tonic remedies, if the patients condition allowed of their employment. Waters of this class would also be applicable with advantage in some dyspeptic cases, with the character of irritation, and attended with painful digestion, or cramp; and in those cutaneous af-

fections marked by increased vascularity and irritability of the skin, as some papular eruptions: Lichen, Prurigo etc.



Schlangenbad.

Few places would be more eligible, as a summer residence, for those who prefer seclusion and tranquility to the crowd and bustle of larger Baths, than Schlangenbad, which possesses most of the advantages sought for by those, whose health requires rather repose than energetic medication. Situated in a beautiful and sequestered valley, enclosed between well wooded hills (on which paths easy of ascent have been constructed to the summit, whence may be obtained fine views of the surrounding country), and near the richest part of the Rheingau; it possesses great facilities of communication with the Rhine, and with the other Baths of the Duchy, especially, Schwalbach and Wisbaden, to which good roads conduct, either over the hills, or by the banks of the river. The numerous ruins and other objets of interest, within an easy distance, will enable visitors to vary their rides and drives, while pedestrians will derive great gratification from

exploring the beauties of the forest scenery; particularly through the valley in the direction of Schwalbach, and from the extensive views of the Rhine, Mayence, and other towns on its banks, — which are obtained by ascending the hills, and directing their course towards Frauenstein or Wisbaden. Those who are unable or disinclined for ascending the hills, or for distant excursions, may take air and exercise at any time of the day in the shaded alcoves formed by the interlacing of the boughs of trees, and extending from the door of the hôtel a considerable distance towards the woods.

Besides the old and new bath-houses, the Nassauer Hof hôtel, and the long antique looking gallery, which served as a promenade room of which Schlangenbad originally consisted, there have been erected, since the place has been more brought into notice by the publication of the "Bubbles", an Englischer, a Russischer, a Hanauer Hof, and one or two other houses, for the accommodation of the increased number of visitors *). At the Nassau hôtel which belongs to the Duke, and also at the bath-houses, the apartments are very clean, neatly fur-

*) In 1832 the number amounted to 308; in 1836 it was 642.

nished, and reasonable, the price of each being inscribed over the door. Most persons content themselves with a bed-room, and dine at the tables d'hôte, where the dishes, if not so varied as at Wisbaden, are sufficiently abundant, and good in quality. A reading room and a circulating library have been recently established in the new bath-house.

The bathing-cabinets, notwithstanding the depreciating terms in which Dr. Granville has spoken of them, are exceedingly convenient, more so, indeed, than at most other Baths, and infinitely superior to the closets for undressing adjoining the piscinæ at Wildbad. They are for the most part lofty and well ventilated, and are divided into a dressing room and a large and spacious marble *baignoire* capable of containing five or six persons; though it is only intended for a single person; bathing in common not being the practice at Schlangenbad. The bather consequently is not obliged to lie down in water about two feet deep, but has ample space to play or move about, the water being admitted in large quantity, so as to rise nearly breast-high; the temperature can also be increased by the bather, at pleasure, by admitting more warm

water, though some persons, in the height of summer, prefer bathing in the water at its natural temperature, — about 22° Reaumur. A bath of this water, like others of the same class, imparts softness to the skin, with a pleasurable sensation while it lasts, and a feeling of *bien-être* for the remainder of the day. The worthy Dr. Fenner in his flowery style, says: “Vous sortez des Eaux de Schlangenbad, rajeuni comme un phénix; la jeunesse y devient plus belle, plus brillante, et l’âge y trouve une nouvelle vigueur;” which is not so figurative a language, as many might suppose, as is testified by the improved appearance of many young persons, and the increased activity of older ones who have gone through a course of these baths.

From its chemical composition the water may rank with the alkaline thermal springs; a pint contains about six grains of solid substance, — being double the quantity contained in the same proportion of the Wildbad water, — one half, or three grains being carbonate of soda, and is very analogous to that of Neris. It contains but a small proportion of carbonic acid gas, not more than a cubic inch and a half to the pint, which however is more than in the water of Baden. Medicinally

considered, it may be applied in most of the cases I have enumerated under the former head; though it must be admitted, that from the circumstance of the water requiring to be warmed, to the proper temperature for bathing, its remedial efficacy is somewhat impaired; some rheumatic and neuralgic affections, with the character of irritability, would derive great advantage from a course of these baths.

Baths of common warm water, it is well known, are not suited to rheumatic cases, inasmuch, as they tend to debilitate the system, and diminish the vital energies of the skin, rendering it more susceptible to the influence of atmospheric vicissitudes; whereas baths of thermal waters, containing even less saline substance than Schlangenbad, are found by experience to have a contrary effect. A congestive state of internal organs, with deficient circulation of the capillaries of the skin, in weakly and delicate persons, would be likely to be relieved by these baths, more especially, when the lungs or air passages are implicated, and a gaseous water, more strongly impregnated with saline substance as Ems, could not be borne. In such a case the internal administration of a water of a different kind, as Weilbach or Sel-

ters, might be advantageously combined with the baths. Schlangenbad ranks high as a bath for the relief of nervous affections of a spasmodic nature. Hufeland, who is considered a high authority on the subject of mineral waters, says, in speaking of Schlangenbad: "Its operation is softening, purifying and sedative; allaying irritability. I know no bath so proper for all kinds of nervous affections; especially, in females unable to bear medicines, or mineral waters in general; and where the chief indication is to diminish morbid irritability and convulsion. In such cases is Schlangenbad a true, and often an only means of strengthening the nerves, while Pyrmont and Driburg would often fail." In persons whose general health is disordered, without any marked local disease, as is frequently seen in those whose minds are subject to the anxieties attendant on commercial or professional pursuits, and also in those, who have been during several months engaged in the routine of metropolitan dissipation, the Schlangenbad baths are an excellent restorative, either alone, or combined with the internal use of a chalybeate or other mineral spring, according to circumstances, or as a precursory measure to the employment of more strongly mineralised baths.

Elderly persons, whose skin is dry and rough, and who have to complain of a degree of stiffness of the limbs, with whom a more exciting bath would be likely to disagree, frequently find these inconveniences in great measure removed, and their general state of health improved by a course of these baths. Dr. Fenner, who has had opportunities of witnessing the effects of the Schlangenbad water for many years, says: "I know of no bath, so fitted to preserve the character of youth, and retard that of old age; and this I know from experience, that the yearly use of it gives to an old man, cheerfulness, pliability of the limbs, and increased vigour."



Chaude Fontaine.

This pretty spot lies between Spa and Liège, two leagues distant from the latter place, and though it cannot be considered as one of the baths in the neighbourhood of the Duchy of Nassau, and therefore might not be expected to have a place in a work exclusively treating of the principal ones belonging to that territory, Baden and the adjacent countries; but as I have not given an account of it in my former work, and it very closely resembles Wildbad in its nature and temperature, I have thought that it might be advisable, to say a few words respecting it in this place; this place, as it is in a situation, in every respect preferable, the surrounding country being of the highest order of picturesque beauty.

The road from Spa is carried through valleys rich in pasture-land, corn, and fruit trees between verdant

hills, and following the windings of the little river Vesdre, on the left bank of which, and in the most beautiful part of the valley, stands the village consisting of the Hôtel des Bains, and about twenty houses, in several of which visitors can be accommodated. There are also the large Hôtel de Liège, and the smaller one d'Angleterre. The road along the bank of the river, being skirted with avenues of poplar and other trees, affords a delightful shade at all hours of the day; while on the hills behind the village, and on the opposite side of the river, pleasant and shady paths, easy of ascent, have been constructed, presenting from various points views of pastoral beauty and fertility rarely to be surpassed.

The spring rises in a well, thirty feet deep, which, when uncovered, emits a considerable quantity of vapour, and from which the water is raised by means of a machine into a reservoir, whence it is conducted into the different *baignoires*, the baths being taken at the natural temperature of the water; and as the supply is abundant, each bather may allow the water to continue flowing during the period he remains in the bath. Like those of Schlangenbad, Wildbad, and others of the same class,

the water is tasteless, has a soft and unctuous feel, and is so beautifully clear, that the smallest object may be perceived at the bottom of the bath; the sensation, while bathing, and subsequently, is equally pleasant and refreshing, as at other springs of the same nature.

The bathing establishment adjoins the Hôtel des Bains. At the time of my visit there, were seventeen bathing cabinets, — though it was in contemplation to increase the number, — which are large clean and convenient, several of them containing two *baignoires*, sunk below the level of the ground, each about seven or eight feet long, and four or five deep. There are no public basins for bathing in common, as at Wildbad. The price of each bath is also lower, than at most other watering places, being but fifteen sous.

This water has been employed for bathing, upwards of two hundred years; but, in 1716, came into more general use, as a means for the treatment of disease, at which period also the baths were put into better order. It has been analysed by Mr. Lafontaine, a chemist of Liège, and contains

a small quantity of carbonic acid, with about two and half grains of saline substance, — principally muriate of soda, and carbonate of lime, — to the pint. Its temperature is between 26° and 27° Reaumur, being somewhat lower, than that of Wildbad. A course of these baths may be recommended in several of the cases I have enumerated, when speaking of Wildbad and Schlangenbad. In some cases, the internal use of the Spa water may be advantageously combined with the bathing, Chaudefontaine being with respect to Spa, as Schlangenbad is to Schwalbach *).

*) See remark made at page 70, with respect to the greater number of springs of various temperatures increasing the sphere of their applicability.



The first part of the history of the United States of America is the history of the colonies. The colonies were founded by Englishmen who sought freedom of religion and self-government. They were at first dependent on England for protection and supplies, but as they grew in number and power, they began to assert their independence. The struggle for independence was a long and hard one, but it was finally won in 1776. The new nation was then faced with the task of establishing a government. The first step was to draft a constitution, which was done in 1787. The constitution established a federal government with three branches: the executive, the legislative, and the judicial. The executive branch was headed by the President, the legislative branch by the Congress, and the judicial branch by the Supreme Court. The constitution also provided for the rights of the states and the people. The new government was then put into operation, and the United States of America was born.

The second part of the history of the United States of America is the history of the expansion of the nation. The United States had been founded on the Atlantic coast, but as the population grew, the need for more land became apparent. The nation began to expand westward, and in 1803 it acquired the Louisiana Territory. This was followed by the acquisition of the Florida Territory in 1819 and the Mexican Cession in 1848. The United States then began to settle the western territories, and by 1890 the frontier had reached the Pacific coast. The expansion of the nation was a process of discovery, exploration, and settlement, and it was a process that shaped the character of the United States.

SECOND PART.

COLD SPRINGS.

SECOND PART

SECOND PART

CHAPTER

THE first of the two parts of the work is devoted to the history of the English language, and the second to the history of the English literature. The first part is divided into three sections: the first section deals with the history of the English language from its origin to the present day; the second section deals with the history of the English language from the present day to the future; and the third section deals with the history of the English language from the future to the present day. The second part is divided into two sections: the first section deals with the history of the English literature from its origin to the present day; and the second section deals with the history of the English literature from the present day to the future.

SECOND PART.

C o l d S p r i n g s .

Schwalbach.

Langen-Schwalbach lies in a deep valley on the high road from Frankfort to Coblentz, between Ems and Wisbaden; about four hours drive from the former, and two and a half from the latter Bath; and to a traveller passing through it, would not appear a very attractive spot; yet there are few places where a few weeks in the summer could be more agreeably passed, by those desirous of avoiding the bustle and crowd of larger watering-places. The position is considerably higher than Wisbaden, from which it is separated by one of the highest of the Taunus hills, and though the acclivities on either side of the valley, being denuded of wood, reflect the suns rays powerfully upon the town, so as to render the heat at times inconvenient, yet the air

especially on ascending from the valley, is light, dry and bracing. There is however a deficiency of shaded walks near to the town, the only ones in the immediate neighbourhood being the Allee, an avenue of trees adjoining the principal hotel, and the double row of trees at the Stahlbrunnen; those planted within the last few years on the promenade between the Weinbrunnen and Pauline springs affording as yet but little shelter. Owing to the increased influx of visitors during the last three or four seasons, the town has become much enlarged, and improved in appearance and accommodations; three or four new hotels and several lodging houses have arisen, to compete with the old established ones, the Poste, and golden Chain. The Allee-Saal, the largest of these hotels, contains public rooms, where balls and concerts are occasionally given, games of hazard are played, and some English and French news papers are taken in. Close to the Allee-Saal is the handsome new bath-house erected by the late Duke, which is the first object to attract the visitor's attention on descending the hill on the Wisbaden side. Below is a colonnade with shops for the sale of fancy articles, and on the first floor a promenade room extending the whole length of

the building. The bathing cabinets which are roomy, convenient and neatly furnished, are divided into three compartments on the ground and first floors, for baths of each of the three springs. In the door of each cabinet is an aperture to admit the douche pipe, douches being given here as at the other Nassau baths, by an attendant pumping the water from outside, while another inside directs the douche against the part indicated. — Adjacent to this edifice rises the Weinbrunnen, and a quarter of a mile further up the valley the more recently enclosed Pauline spring; the broad foot-paths on either side of the meadow between these springs, being the usual promenade at the hours of drinking the water, where as almost other Baths a musical band is in attendance. The Stahlbrunnen, of which the visitors are less numerous, is separated from the other springs by a hill. A fourth spring above the Pauline has been recently enclosed, but is not is used.

The walks and rides extending beyond the Pauline in different directions along the valley, and among the hills, through woods of oak, ash and fir trees, are highly beautiful and varied. Those

also which are continuous with the fine poplar avenue leading from the Stahlbrunnen are extremely interesting, while on the opposite side of the town the visitor will be equally gratified by the beauty of the environs, whether he turn to the left and ascend the beautifully wooded valleys to Adolphseck, and the picturesque ruin of Hohenstein, five miles distant; or take the road to the right towards the Eisenhammer, and stroll among the hills and valleys in that direction.

The water has a temperature of 8° R., is pleasant and bracing; most persons after drinking a glass or two experience a degree of increased vigour, imparting as the author of the "Bubbles" expresses it "a desire to face the hill."

When it agrees, it does not produce any unpleasant feelings, or constipation of the bowels, but a sensation of exhilaration and general *bien-être*. In some persons however, especially if plethoric its action is so exciting, that even a small quantity could not be repeatedly taken without risk, neither could it be borne in many cases where there existed a high degree of nervous irritability. The three

springs vary in the amount of solid and gaseous parts. According to Kastner's analysis, the Stahlbrunnen contains but little saline substance (from 3 to 4 grs.) and nearly three quarters of a grain of carbonate of iron to the pint; hence it is termed the steel spring in contradistinction to the others, though it actually contains, a fraction less of iron than the Weinbrunnen, in which the taste of the metal is not so marked, owing to the larger quantity of salts and gas contained in an equal quantity of water. The Pauline spring has less iron than either of the others, and also less gas, which is not so intimately combined with the water, on which account it is more likely to disagree with some people: with others however it agrees better than either the Weinbrunnen or the Stahlbrunnen.

From the different proportions in which the constituent parts are combined, the Schwalbach springs are capable of fulfilling various indications, and are applicable to the majority of cases in which chalybeates are required. — When one spring disagrees, one of the others is frequently found to answer remarkably well, hence Schwalbach has the advantage over other places which possess only one spring,

or where the springs — if there be several — do not vary materially in their composition and effects. One of the first patients I saw at Schwalbach three years ago, was a lady to whom the Pauline had been previously recommended, and had induced a state of feverishness and general irritability, in consequence of which, she considered the Schwalbach waters as not suited to her, though the case was evidently one, in which chalybeates were indicated. On being consulted I dissuaded her from leaving, and urged her to drink and bathe in the water of the Stahlbrunnen, from which she derived so much benefit, that the almost daily improvement in her appearance, was generally remarked by other visitors. On the other hand, the husband of this lady could not take a single glass of the water from the spring of which his wife was drinking several glasses a day, without experiencing flushing of the face, headache, and giddiness, which recurred at each attempt to drink the water. Here then is a direct illustration of the powers of mineral waters, and of the necessity of attending to individual peculiarities in the selection of a proper spring.

I consider the Weinbrunnen to be in general the preferable spring for drinking, its constituent parts being intimately combined with the water, and in the proportion best adapted for producing a tonic effect, without being too astringent or heating. In composition it holds an intermediate position between the Pouhon of Spa — which the Stahlbrunnen more nearly resembles — and the Trinkquelle of Pyrmont *); containing about twice as much salts, gas and iron as the former, and considerably less of the saline and gaseous parts than the latter, though nearly as much iron. The water is well adapted for exportation and may be drank at a distance, combined or not with a course of baths at another spring. I have on several occasions recommended the internal use of the Schwalbach water, to patients using the baths of Wisbaden and Schlangenbad.

These springs are more particularly suited to cases of pure general or local debility, not depending upon the presence of disease of any particular organ, but arising more from general poorness of blood, with a deficiency of its red globules, and as

*) See my "Account of the Watering-Places of the Continent" in which the analyses are given.

a necessary consequence, a laxity of the solids with sluggishness in the performance of the functions of life, as in leucophlegmatic and chlorotic individuals. In debility of the stomach and bowels, with consequent scanty or impaired secretion they are a most efficient remedy, and, by exciting the activity of the glandular apparatus, while at the same time they give tone to the muscular coat tend to remove a torpid or a too relaxed state of the alimentary canal, much better than cathartics or astringents, the action of which is mostly but of a temporary and palliative nature, and is too often followed by an aggravation of the malady.

A constipated state of the bowels not unfrequently arises in indolent habits from a deficiency of their vitality and muscular energy, and would be removed by remedies which best impart increased vigour to the system. On the other hand a degree of relaxation may arise from the same cause, and from preternatural weakness of the mucous membrane — hence these opposite states may originate from the same source, viz debility, and may often be rectified by a similar remedy. In cases of nervousness in either sex, with the tendency of spas-

modic action, so frequently occurring in young females, when there is no manifest visceral congestion or *engorgement*; they are generally highly efficacious in removing the morbid susceptibility of the nervous system. Where however there exists high nervous irritability, especially in persons of a plethoric habit, with irregularity in the distribution of the blood to particular parts, as marked by frequent headaches, flushings, coldness of the extremities, and disordered menstruation, they are not advisable, and cannot be borne, till after the irritability has been allayed, and the circulation of the blood more equalized by sedative and tepid baths as Schlangenbad, or by other means; when this has been effected chalybeate springs may be used with the greatest probability of permanent benefit. — A similar plan of treatment is well calculated to remedy the deranged state of health, with general weakness, so frequently seen in residents of large cities — either when it is a consequence of over anxiety, the pressure of particular avocations etc., or of dissipation. — Nothing would be so likely to restore vigour to the nerves, and colour to the cheeks under these circumstances, as a course of chalybeate baths, or the internal use of a chalybeate spring combined with, or subsequent

to, bathing in a thermal water. — In some elderly persons also, whose nervous energy and digestive power are impaired, the springs of Schwalbach, and the bracing quality of the air would prove excellent restoratives: though in extreme old age, or where there existed great depression of the powers of life they would not be admissible. Cases of the nervous kind of hypochondriasis, without material disorder of the digestive functions, would most likely be benefitted by waters of this class, which would likewise be highly serviceable in some cases of relaxation of the mucous membrane of the air passages, without inflammatory complication, but attended with mucous expectoration, or occasional passive hemoptysis, with muscular debility and mental lassitude.

The Schwalbach waters are not unfrequently recommended to patients who have undergone a course of those of Ems or Wisbaden, and are of great service in removing the lassitude and relaxation sometimes remaining after their use. As however, the beneficial action of the above-mentioned and other springs is frequently not manifested till some time after they have been discontinued, much harm has

resulted in not a few instances, from patients employing chalybeate waters immediately after a course of thermal baths. Dr. Fenner in one of his recent works alludes to the abuse frequently made of chalybeate springs in these terms. "While it is not to be denied that in many cases, an after-cure by means of chalybeate waters cannot be dispensed with, yet it must be admitted that their much too general and vague employment has been the occasion of great harm. Experience but too frequently teaches us, that patients who had become considerably better by their course of thermal waters have got much worse, and lost the advantage they had previously obtained, from being ordered to use a chalybeate spring" *). Hence it would be advisable, when subsequent critical effects are expected, not to employ a chalybeate, by which their occurrence might be prevented: and even when tonics are considered necessary, to allow some interval of time to elapse between the employment of two classes of springs differing so much in their nature.

In most instances the internal use of one of the Schwalbach springs is combined with baths, which

*) Ueber Nachkuren.

are in many cases the principal means of relief. In fact, from the whole surface of the body being exposed to the action of the water in bathing, a considerable quantity of the iron is absorbed, and the tonic effects are frequently experienced by the patient immediately after the bath, which is thus a valuable means of obtaining advantage from these waters, when their internal use produces constipation, headache, and other unpleasant symptoms, as not unfrequently occurs in weakly and scrofulous children, and persons of a full, though flabby habit. Where also there exists some local affection, as rheumatic pains, weakness of parts, relaxation of the ligaments of joints, neuralgic complaints &c., the baths will be the most essential part of the treatment, and the douche may in most of these cases be advantageously employed.

In cases of dysmenorrhea, menorrhagia and leucorrhea, arising from general debility, or local relaxation, and not depending upon a state of irritation or vascular congestion, from fifteen to twenty-five baths would be likely to render effectual service. Dr. Fenner recommends the baths to be taken at rather a low temperature as 25° or 26° R.

as the object of them is to strengthen, and not to relax which a hotter bath might do. At first a slight shuddering is generally experienced, which does not last more than a minute or two, and is succeeded by a comfortable sensation of warmth. The Doctor also recommends the Weinbrunnen baths in preference, where the object is to obtain the absorption of a large quantity of the iron, as in chlorosis, torpidity of particular functions, stomach and bowel debility, uterine relaxation, the weakness remaining after acute disease or profuse discharges: the Stahlbrunnen in atony or laxity of the skin and muscles, or paralysis, or passive hemorrhage: and the Pauline where a milder tonic effect is required, as in children and old people. He likewise observes, what requires to be noted, that passive hemorrhages, and the discharge of leucorrhea become much increased at the commencement of the treatment, but on continuing the baths, they gradually become less and ultimately cease. It is a bad sign when a copious discharge is suddenly stopped by the too powerful contraction of the vessels induced by the baths, as it returns shortly after and a greater degree of weakness succeeds. When speaking of sterility Dr. F. remarks, "All Baths have been praised for

their power in this respect, all have their Bubenquelle. Whether one goes to Carlsbad, Marienbad, Franzensbad, Pyrmont, Spa, Bareges, Ems or elsewhere, one will equally hear wonderful histories, and at no place will it be admitted that the individual spring fails" *). A spring like Ems would be more likely to remedy this condition, in cases where there existed a high degree of irritability, either general or local; with painful menstruation, tendency to cramp; or nervous weakness combined with an extreme susceptibility originating from irregular distribution of blood, and undue determination to the uterine system. On the other hand, where sterility is connected with an apathetic or atonic habit, coldness of temperament, torpidity in the performance of the vital functions, nervous debility depending upon diminished vitality; depressing moral impressions, or serious illness, general poorness of blood or chlorosis; or with local debility of the uterine system, either from chronic leucorrhea or copious hemorrhage; there would be more probability of its being remedied by the employment of chalybeate springs, or by other tonic means calculated to remove its causes.

*) Die Bäder in Schwalbach. 1839.

I cannot close this section without adverting to the manner in which the Author of the "Spas of Germany" has thought fit to speak of one from whom he acknowledges having received attentions, and obtained information respecting the waters. That an author when writing a book of travels should seek to amuse his readers with pleasantries upon the individual peculiarities and personal defects of some of those with whom he may come into contact, is perhaps not so much to be wondered at, though it is questionable whether it would tend to raise him in their estimation; but at all events, it might be expected, that any statement, likely to prejudice individuals, should be in every respect correct, and not such as would give rise to misapprehension. Thus any one on reading the criticism on a little book published for the use of visitors by Dr. Fennner — who, says Dr. Granville "after forty years residence in Schwalbach, has produced at last a 24^{mo} pocket volume of 60 pages descriptive of the Spa and its efficacy" — would suppose that the Doctor had never published any thing else, whereas if Dr. Granville had been even moderately acquainted with the literature of the subject upon which he professes fully to treat, he would have known that

Dr. F. is the author of several esteemed works on mineral waters, and that he is not unfrequently quoted by other German writers as a good authority. That Dr. F. should have restricted his little manual to 60 pages is a circumstance greatly to his credit, and forms a striking contrast with many of the voluminous works so frequently published at the present day, and filled in great part with irrelevant matter. Dr. Granville also lays great stress upon an error, most probably of the press, in Dr. F's work, relating to the Stahlbrunnen, and some of the fractional parts in the table of analysis, of no material importance in a practical point of view; and after saying, "it is thus that errors are perpetuated until somebody takes the trouble to inquire into them", terminates his critique with the words, "indeed I fear that medically speaking I must close his little book, not only as an imperfect but as an unsafe guide, and have entered into the preceding technical details, purposely to warn such of my readers, as may set off for Schwalbach, impelled by the lively account of it from the pen of Sir Francis, not to rely too much on the printed pages of the baronets monocular physician." — Again, in another part Dr. G. says "my experience distinctly autho-

risers me to declare that the worthy *inspecteur des eaux* has carried the list of ailments, which the Schwalbach waters are said to cure beyond the limits of credulity. That list reminds one of the printed envelopes" etc. Now, any one who will take the trouble to refer to Dr. Fenner's brochure, will find that, so far from indiscriminately recommending the waters, as is too often the case with physicians at watering-places, he restricts their use to complaints arising from pure debility and relaxation, or poorness of blood; in which opinion most well-informed practitioners would concur; and that on the other hand he has enumerated a greater number of cases in which the use of the waters would be prejudicial. — I should not have made this long digression, but that I consider it due to Dr. Fenner, — who being a foreigner has no means of replying to the remarks made in the above mentioned work, even were he to condescend so to do — to set the matter in its proper light, as otherwise many persons ignorant of the circumstances, might receive their impressions of that estimable and honorable individual from Dr. Granville's book.



Bruckenuau and Bocklet.

These two Bavarian springs, though belonging to the same class of mineral waters as Schwalbach yet differ materially from them, and from each other in composition; hence one or the other might be advantageously employed in some cases where chalybeates are indicated, but where circumstances might render the Schwalbach springs less applicable. The usual route for visitors reaching either of these places from Frankfort or the Rhine, is by Wurzburg and Kissingen, or by Fulda, which though a considerable detour, would be preferable for an invalid, than taking the cross road, from Aschaffenburg, or Schluchtern, which latter especially is in many parts scarcely passable for a carriage, though it leads directly down to Bruckenuau. This Bath is situate in a verdant and extremely picturesque valley, through which flows the little river Sinn, about two miles distant from the small town of the same name, and consists of a few lodging houses, the

residence of the King who generally passes here some weeks of the summer, a large bath-house containing seventeen cabinets and the elegant Kur-saal, second only to that of Wisbaden, and built in the same style as the modern public edifices at Munich, the interior being richly decorated with fresco paintings. Some of the lodging-houses as the Saalbau and Kellerbau can accommodate a great many visitors; altogether I should think about 300 might be lodged in the place.

There are three springs, the Bruckenauer, the Sinnberger and the Wernarz, within a few paces of each other. The latter is a purely acidulous spring, containing a considerable quantity of gas, but a very minute portion of solid ingredients. The Bruckenauer might indeed likewise be classed among the acidulous springs, as according to Kastner's recent analysis a pint contains as much as 36 cubic inches of carbonic acid gas, and scarcely more than a quarter of a grain of iron; notwithstanding which, however has a ferruginous taste, — though less strongly marked than in the Schwalbach springs — owing to the deficiency of saline substance, which if present in any quantity would completely cover

the taste of the iron. The composition of this spring as above stated is very different from that given by Lieblein, whose analysis I quoted in my other work, it having been adopted by a standard German authority, and I had not till last year visited the place. The whole proportion of solid substance is stated in that analysis to be $6\frac{3}{4}$ grains to the pint, of which $2\frac{1}{4}$ oxide of iron, with only six cubic inches of carbonic acid gas. This shews the discrepancy of chemical analyses.

Most patients at Bruckenuau bathe, many both drink and bathe. A course of the water would be most applicable to these cases in which a tonic and vivifying action is required, in persons of a torpid habit to whom the stimulus of the gas would be beneficial. In those of an opposite temperament, or where the object is to procure the absorption of a larger quantity of iron, the springs of Schwalbach would be preferable.



Bocklet.

A drive of from three to four hours from Bruckenuau, through beautiful and varied scenery, will bring the visitor to Bocklet, which lies a little way from the road to Kissingen, from which it is distant a German mile. At one end of the avenues of poplars and other trees forming the promenade, are two buildings, the Badbau, or Bath-house, and the Saalbau, or Pump-room, the upper part of both is disposed in apartments for strangers. Between these two buildings are a portico and terrace whence there is a descent by a flight of steps to the springs. The best accommodation, however, is in the buildings at the other end of the avenue the Furstenbau, and Neubau. The bathing-cabinets in the Badbau are sixteen in number and not the most convenient. There are also separate cabinets for the douche. Most persons however drink the water of which a large quantity is sent to Kissingen, between which place and Bocklet there is a constant interchange of visitors.

The principal spring the Ludwigsquelle, has a sharp, piquant, and chalybeate taste. It contains a very large quantity of carbonic acid; according to Kastner's analysis in 1837 as much as 42 cubic inches to the pint, which differs materially from Vogel's former analysis. In the same quantity of water is contained about the following amount of solid substance. Muriate of soda $6\frac{1}{2}$ grs: mur: magnesia $4\frac{1}{2}$: carbonates of magnesia & lime $3\frac{1}{2}$: sulphate of soda $2\frac{1}{2}$: sulphate of magnesia $3\frac{1}{2}$: iron nearly $\frac{3}{4}$ grs. The Friedrich's and Carl's-quelle are less rich in carbonic acid, muriate and sulphate of magnesia. The Schwefelquelle or Stahl-quelle contains very little saline substance, about half a grain of carbonate of iron and 20 cubic inches carbonic acid gas to the pint. Its temperature is 12° R.

Compared with other springs of the same class, the Ludwigsquelle most resembles the Trinkquelle of Kronthal. The Carolinenbrunnen at Marienbad contains less salts and iron, and scarcely half the quantity of gas; the Schwalbach springs also contain less salt and gas, though nearly the same proportion of iron, and hence would have a more decided tonic

action; the Pouhon at Spa has still less gas, saline substance, and iron; while the Bruckenauer which very nearly approaches the Ludwigsquelle in amount of gas, scarcely contains half the quantity of iron; though from the comparative absence of salts its action would in many cases be more evidently tonic. — Dr. Kirchgessner whose work is the most recent one on these waters *), speaks highly of their effect, in cases of general and local debility, especially of the digestive organs, and the uterine system; as also in the purely nervous kind of hypochondriasis and hysteria, not dependant upon visceral congestion. As however I have already enumerated most of the cases to which waters of this class are applicable, I need not recapitulate them; but would premise that the Ludwigsquelle, from the large quantity of salts and gas which it contains, would be best suited to those cases where a more solvent and aperient action is required; and that where a purely tonic effect is sought, the Stahlquelle, or the Schwalbach waters would best answer the purpose.

*) Der Kurort Bocklet mit seinen Heilquellen und Bädern.



Kissingen.

Few Baths have come into such general repute within so short a period, as Kissingen, as may be seen from the yearly increasing number of visitors, among whom there have been many English of late years; and there are perhaps none about which so much has lately been written. Besides the works of Drs. Maas, and Balling the resident practitioners, Dr. Wendt of Breslau, Dr. Eisenmann, and two or three other physicians have published works on the Kissingen waters within the last three or four years. Nor is their increasing reputation unmerited, as the nature and variety of the springs admits of their being adapted to the treatment of so many different diseased conditions. The position of the place is elevated and cheerful, in an open part of the valley of the Saal, surrounded by meadows and cornfields, and sheltered from cold winds by high hills. The heat in summer is not oppressive; but rain more frequently falls than at many other Baths. The town

is clean, and contains about 1400 inhabitants; the two principal streets being wide, the houses large and well built. The Baierischer, Sachsischer and Wittelsbacher Hofs are somewhat primitive in their accommodations; the proprietors are obliged by law to keep a certain number of apartments vacant in order that persons newly arrived should not experience difficulty in lodging themselves, till such time as they can engage apartments. Among the lodging-houses those belonging to the physicians are the largest and best. In Dr. Maas's house there are several baths. Many of the visitors however lodge at the Kurhaus, a large establishment opposite the promenade containing several bath cabinets, and a saloon where upwards of 200 people sit down daily to the table d'hôte. The dinners here, and in the hotels are extremely plain; those sent to private houses, are often very indifferent, so that the *bon-vivant* would have little inducement to remain at Kissingen, unless for his health. In fact as there are but few visitors for pleasure, the tables d'hôte are under surveillance of the authorities, and nothing is allowed to be served up, that is likely to disagree or to interfere with the beneficial action of the waters.

On the promenade opposite the Kurhaus are the three springs, the Ragozzi, Pandur, and Maxbrunnen, and on the bank of the river are the new and elegant Kursaal and Colonnade erected by the taste of the present King, for occasional balls and reunions and exercise in wet weather. There is however but little amusement of this kind at Kissingen, owing to the comparative absence of young people, the greater number of the visitors being middle aged invalids. Gaming is in full activity within the Kursaal, being both here and at Bruckenau tolerated by the government.

The Maxbrunnen is a saline acidulous spring very analogous to that of Selters, though it contains less salt, especially muriate of soda, and is much more gaseous (31 cubic inches to the pint). It differs from the Sinnberg and Wernarz springs at Bruckenau, inasmuch as these are purely gaseous, and scarcely contain any saline substance. It is not unfrequently used as a cooling drink in summer, or mixed with wine at dinner, and may be used medicinally in similar cases as the Seltzer water, of which I shall have to speak presently.

The Ragozzi is the spring generally employed for drinking. Its taste is saline, sometimes more piquant than at others, and is not disagreeable after the first glass or two. It contains a large quantity of muriate of soda and other salts, nearly three quarters of a grain of iron, and 26 cubic inches of carbonic acid gas to the pint. Dr. Balling says "a glass of the water taken fasting causes a sensation of warmth in the stomach, with distension, and eructation of gas shortly afterwards, and at times a slight headache, or oppression over the forehead. — On the first days of drinking there is increased appetite, and activity in the functions of the alimentary canal, with elasticity of spirits. In the second week a degree of reaction mostly takes place, the patient becomes capricious and irritable, the tongue is furred, the bowels more irregular and the appetite rather diminished" *). — Most persons are recommended to drink the prescribed quantity of water in the morning fasting, and not to take any in the after part of the day. In some robust and plethoric persons, owing to the quantity of gas and iron, the water would be likely to disagree without some preparatory treatment; and it is often

*) Kissingen et ses eaux minérales.

not well borne by those of an irritable habit, or who have naturally a quick pulse. In some cases where a more active effect on the bowels is desired, Dr. Balling recommends drinking the Pandur, though this spring is principally employed for baths.

The combination of stimulating, solvent and tonic powers of the Ragozzi, renders it most suited to relieve those states of disease, connected with, or dependant on abdominal plethora, liver congestion, and obstruction of the circulation of the vena portae, which chiefly occurs in persons of middle age. A deranged state of stomach and bowels with difficult digestion, or feeling of unusual distension after eating; constipation; piles; a disordered state of the skin with eruptions, especially about the face; painful and irregular menstruation; hypochondriasis; gout when recent and not occurring in old people; and scrofulous affections of the glands, are among the complaints most likely to be cured or relieved by a course of the Ragozzi water, combined with baths of the Pandur. The same means would be very efficacious in many cases of dyspepsia, arising from excess in the pleasures of the table, or the abuse of ardent spirits, and attended with heartburn, acrid

eructations or pyrosis. — With respect to gout Dr. Wendt observes “as long as the gout in its various forms is combined with increased sensibility or susceptibility to exterior impressions, Wisbaden is calculated to render more service; but when it arises from obstruction in the abdominal viscera, and torpidity in the circulation of the vena portae, and the skin, the Pandur baths are preferable” *). I do not however consider Wisbaden to be so applicable to cases of gout in persons of high nervous susceptibility, or of an inflammatory habit, as it is to those of long standing and hereditary, in individuals somewhat advanced in life.

The Pandur spring contains less salts and iron than the Ragozzi, but more gas; its action when drunk is very similar, though rather more solvent and exciting than the Ragozzi, on which account it is better adapted to some torpid habits, where the object is to affect more promptly and surely the intestinal canal. Used in the form of bath, it not unfrequently produces increase of pains, and other critical symptoms, or eruption on the skin, and is very serviceable in some states of disordered health in young females, dependant upon irregular circu-

*) Die Heilquellen zu Kissingen. Breslau 1837.

lation of blood, or vascular fullness of the uterine system — as hysteria, and sterility, in which the internal use of the Ragozzi may be advantageously added to the baths. Where these complaints, as well as hypochondriasis are dependant upon nervous irritability, without visceral obstruction or undue determination of blood to particular organs a spring of a different kind is indicated.

The water of the Ragozzi is exported in large quantities; but it loses somewhat of its properties by exportation, the taste of the water from the bottles being very different from what it is at the springs. In most of the cases in which I have prescribed it at Wisbaden, I have found that it acts more upon the kidneys, and comparatively seldom upon the bowels. The waters made artificially at some Establishments are not of course to be compared in their effects with the natural waters, as their action approaches to that of pharmaceutical preparations, and is seldom followed by the subsequent permanent benefit which so generally ensues upon a well directed course of a proper mineral spring. Dr. Wendt says, in speaking of the artificial Kissingen water, “the time when it was believed

that these products of art might supersede natural mineral waters is already past: and even admitting that under certain circumstances artificial mineral waters may be advantageous, it could not give rise to a question of their identity with natural ones. As, with fibrine, serum, osmazone, oxide of iron etc. it would be impossible to form blood; or, with water, sugar, tartaric acid, and vegetable mucilage to make Steinberg or Hock wine; so is it equally impossible for any one to make the water of the Ragozzi or of the Sprudel with the substances of which the analyses shew us these waters are composed." Again, the same author observes "the principle which the ancients termed the life of mineral springs, (*Brunnengeist*) is that specific imponderable Essence which imparts to natural springs their activity and importance, which is not discoverable by chemical means, but which is evidenced by their repeated successful operation. It is true we may mix iron and salts together, and saturate the mixture with carbonic acid gas; but, organically to impregnate the fixed substances with the gas, that we cannot do. Who does not know that in tedious diseases, when many and various means have been employed in vain, that the thoughts of both physician and

patient are turned towards mineral springs, and that their hopes are frequently not deceived. Other circumstances may assist, but the active and predominating influence of the mineral spring is not to be mistaken." *).

Besides the above mentioned, there are also saline springs about a mile distant from the town, from which a considerable quantity of salt is obtained, and which are also employed medicinally, chiefly as baths. One of these springs the Soolen-sprudel presents the curious phenomenon of ebbing and flowing at stated intervals. After the water has occupied the same level for some hours, a deep rumbling noise is heard, and it descends in the well twelve or sixteen feet, whence it gradually remounts to its former level. Of late years the water rises, and falls six or eight times in the space of twenty-four hours, nearly an hour being required for its rise, and as much for its descent. **). The temperature of the spring is 16° R. — According to Kastner a pint of the water contains 107grs of muriate

*) Op. cit.

**) An interesting memoir on this phenomenon was read last year, by Professor Forbes, before the Royal Society of Edinburg.

of soda: 24 muriate of magnesia: 25 sulphate of soda: 6 carbonate of magnesia: 3 muriate of lime, with smaller portions of potash, iron etc., and $30\frac{1}{2}$ inches of carbonic and gas. The mother water (*Mutterlauge*) or strong brine which remains in the reservoir after the crystallisation of the salt, is sometimes added to the baths; from which an idea may be entertained of their exciting property. They are strongly recommended in glandular enlargements of a scrofulous nature, in obstinate rheumatic affections, and long standing cutaneous disease.

From the richness of the springs in carbonic acid, baths and douches of this gas have been established. They excite powerfully the nervous and vascular systems, — the part in contact with the gas experiencing a sensation of heat and tingling, — and are highly efficacious in certain cases of nervous torpidity, paralysis or neuralgia, and especially when the organs of sense are affected, without vascular erethism, as in some kinds of amaurosis and deafness. — A surgeon attends at the establishment to superintend the employment of these baths.



Homburg

Belonging to the Landgrave of Hesse-Homburg stands on elevated ground, near the base of the Feldberg, the highest mountain of the Taunus range, and is about two hours drive from Frankfort and three from Wisbaden. The houses are for the most part, low and ordinary looking, nor is there any public edifice of interest, except the residence of the Landgrave, with its lofty white circular tower, supposed to have been erected by the Romans, and which forms a conspicuous object from a considerable distance. The streets are clean, and the accommodations for visitors good. The population amounts to about 5000 souls. — Homburg has been a good deal resorted to within the last three or four years*, its air is pure, clear, and bracing, the environs beautiful and varied; the garden of the castle is laid

* In 1836 the number of visitors was 294, in 1838 it was 805. Only those are inscribed, who use the waters.

out in the English style, by the taste of the late Landgravine, who contributed greatly to render the place agreeable to strangers. There is also another public garden with rows of chesnut trees and parterres of flowers, whence a good road, two miles long, bordered by avenues of lofty trees, extends to the lower hills, among which several shady paths have been made. — At my last visit I found that some new buildings had arisen for the accommodation of the increased number of visitors. Among these is the new Hotel, the Englische Hof, and a neat bathing establishment containing seventeen cabinets for baths of mineral or of common water, as also a douche cabinet and vapour bath.

The springs rise in a meadow about half a mile from the town; one of them being encircled by poplar trees. The Elizabeth or Kurbrunnen is most used; the others are the Badequelle and the Ludwigsquelle; all very rich in saline substance, — of which the muriate of soda is the principal, — and in carbonic and gas. Indeed, Liebig professor of chemistry of Giessen, considers these springs more gaseous than any others; though when seen in the well, the water does not bubble much, owing to

the intimate mixture of the gas with it. The Kurbrunnen water is largely exported, and keeps long, but the exported water is less efficacious than that at the spring. Like that of Kissingen, in most cases where I have prescribed it, its action affects as often the kidneys as the bowels. The Badequelle contains the most salt (143 grs. to the pint, of which 108 are muriate of soda) and as its name implies is mostly used for baths, which have a very exciting action on the skin, and the system generally, not unfrequently producing eruptions. In plethoric individuals, or those liable to determination of blood towards particular organs, it is necessary to prescribe them at a lower temperature than ordinary baths, and sometimes to dilute them with common water. — They are mostly recommended in chronic eruptions of the skin without tendency to inflammation; in chronic rheumatism; scrofulous affections; and in visceral *engorgement*, where the object is to determine the blood to the surface, and increase the activity of the functions of the skin.

Few of the visitors however use the baths; but the majority drink the Kurbrunnen, which has

a temperature of from 8 to 9° R., a piquant, salt and bitterish taste, rather unpleasant at first, but not disliked by those accustomed to it. — The first effect experienced, on swallowing some of the water, is a sensation of warmth, and exhilaration: its action is solvent, laxative or purgative according to the constitution of the person, and the quantity taken; but owing to the gas and iron its use is not followed by debility. When it does not affect the bowels it generally acts upon the kidneys. This spring contains a much larger quantity of salts and more gas, but less iron than the Ragozzi, hence its action is more decidedly, aperient, though at the same time exciting. — Dr. Trapp says “the large quantity of gas and iron singularly modifies the action of the Kurbrunnen. Most waters which contain purgative salts, have little more iron and gas, than serves for the proper mixture of the different ingredients, but in the Homburg water the gas has a distinct operation, and strongly excites the nervous and vascular systems *). Most persons after drinking for a few days, feel themselves lighter and more cheerful; the appetite is increased, and acidity in the prima via removed. The stimulating

*) Homburg und seine Heilquellen.

action of the water on the alimentary canal and circulation, produces a corresponding increase in the activity of the absorbent system, and has a powerful effect in removing visceral or glandular obstructions.

Thus, it will be perceived, that the Homburg water is eminently calculated to be of great service in several disordered states of the alimentary canal, and associated viscera; especially — deficient appetite, acidity, laborious or painful digestion, a torpid action of the liver and bowels, and the indigestion which affects those who have been accustomed to the use of ardent spirits, and is attended with heartburn, eructations, tendency to vomiting, and pyrosis; though in some of these cases where a more tonic action, is required the Kissingen or Rippoldsau water would be preferable. — Dr. Muller speaks highly of its effects in the more severe forms of hypochondriasis, and melancholy, accompanied with material derangement of the digestive apparatus, and a torpid state of the bowels *); as also in the removal of glandular enlargements, of a scrofulous nature; in cases where a stimulating and purgative operating

*) Erfahrungen über den Gebrauch und die Wirksamkeit der Heilquellen zu Homburg vor der Höhe. Frankfurt 1838.

is required; of chronic affections of the skin, connected with obstruction of the circulation of the liver, or disordered digestion.

The following are the contents of a pint of the Kurbrunnen according to Liebig

Muriate of soda . . . 79,1548

Sulphate of soda . . . 0,3815

Muriate of lime . . . 7,7590

Muriate of magnesia . . 7,7919

Silex 0,3158

Carbonate of lime . . 10,9905

Carbonate of magnesia . 2,0136

Oxide of iron 0,4623

108,8815 grains.

Carbonid acid gas . . 48,64 cubic inches.



Rippoldsau.

This secluded Bath, hitherto but little known to English travellers, lies in a pleasant valley enclosed by steep hills, and separated from the Renththal by the Kniebis mountain which has an elevation of 3000 feet above the level of the sea. It belongs to the Grand Duchy of Baden, and is about six German miles distant from Strasburg, and eight from Baden Baden, with which there is communication during the season, by a public carriage, which passes through the beautiful Murgthal. The village consists of about twenty houses, mostly occupied by labourers and woodcutters, and has a neat and cheerful appearance. From the bath-houses a promenade sheltered by avenues of lime trees, extends some distance along the bank of the rapidly rolling Wolf, a tributary stream of the Rhine: among the lower hills several paths have been cut which enable the pedestrian to ascend without fatigue, from the valley. Although from the position of Rip-

poldsau among the mountains, the weather is variable, yet the air is pure and bracing, and the inhabitants, for the most part long lived. — The great majority of the visitors is composed of inhabitants of the Grand Duchy: the Kingdom of Wurtemberg: of Strasburg and the adjacent country. The exported water is however a good deal used among the visitors at Baden Baden; I have in several instances recommended it to patients, under a course of the Baden baths. The bath house contains a public saloon for dining; neatly furnished rooms for lodging, with about thirty bathing cabinets and a Douche.

The principal spring (Josephsquelle) rises in a large square room, around which are galleries raised some feet above the pavement; the water is agreeably saline and piquant; its operation is cooling; mostly aperient, and at the same time tonic, the presence of iron being manifestly perceptible to the taste. It contains no muriate of soda, of which the Ragozzi possesses so large a quantity, but a not inconsiderable portion of the sulphate of soda and of carbonate of lime, and is very rich in carbonic acid gas as will be seen in the annexed table. Its temperature is 8° R. — The Leopolds-

quelle and the Wenzelsquelle which rise at a little distance from the Josepsquelle contain less salts, iron and gas. In the same building as the Leopoldsquelle and close to the spring, a cabinet for carbonic and gas baths and douches, has been constructed, with which the gas is directly conducted by means of leather pipes.

Kolreuter considers the Rippoldsau as one of the most efficient chalybeate waters, and I have placed it in this class in my former work, though from the quantity of aperient salts, its operation is of a mixed nature, consequently it cannot be regarded as a directly chalybeate water, as Schwalbach or Spa. In composition it approaches nearest to the Franzquelle at Franzensbad, to which Osann compares it. In the latter however there is a much larger proportion of saline constituents, especially of aperient salt, and less iron: it also contains muriate and carbonate of soda which the Rippoldsau water does not possess, so that its action would be more solvent, and less tonic. In debility of the system generally, or of the digestive organs in particular, with inactivity of the liver and bowels the Josephsquelle would in the majority of instances be

highly efficacious, as also where a depurative action is required, from a vitiated state of the blood and secretions, as evidenced by a dry itchy state of the skin, with eruptions, especially about the face, as acne etc. From its exciting action, and its effects on the mucous membranes, it is well calculated to relieve an obstructed state of the abdominal circulation, attended with sense of fullness in the region of the liver or spleen, piles etc.; sympathetic bronchial affections with cough from derangement of the digestive organs; chlorosis, especially when connected with evident visceral congestion: glandular obstructions in individuals of a torpid habit, with weak digestive powers and a disposition to the formation of worms; nervous irritability, hypochondriasis, and hysteria, where a laxative and tonic operation is indicated, and where direct chalybeates would not be well borne: and in some cases of deficient or irregular menstruation.

The course is usually commenced with three or four glasses of the water, this quantity being gradually increased to eight or ten for men, and to six or eight for females. Dr. Rehman says that in some cases much larger doses are required, and

when this is the case recommends that towards the end of the course the quantity of water be gradually diminished. For persons on the spot baths may often be advantageously combined with the internal use of the water.

The Leopoldsquelle is more particularly recommended in chronic ailments arising from suppressed eruptions or discharges: long standing piles: gouty, rheumatic and scrofulous affections, and where the Leopoldsquelle produces a too active operation. Both these springs however, contain a large quantity of iron and gas, and are sometimes found to be too exciting, especially in states of plethora, nervous irritability, tendency to hemoptisis &c. In such cases where a more solvent than tonic effect is required, patients are generally recommended the Natroine, which is artificially prepared from the natural springs, by precipitating the greater part of the iron, and earthy salts, and by the addition of soda, so as to combine with the excess of carbonic acid gas. — The Josepqsquelle Natroine contains 20 grs. bi-carbonate of soda; sulphate of soda 15: carbonate of lime 4 grs., one third of a grain of iron, and 15 cubic inches carbonic acid gas to the pint.

Its action is considered very analogous to that of the Kreutzbrunnen at Marienbad. The other or Schwefel-Natroine, is in addition, impregnated with a portion of sulphuretted hydrogen gas. Its operation resembles that of the lighter sulphurous springs. The use of these preparations is sometimes made to precede that of the natural springs.

A pint of the Josephsquelle contains according to Kolreuter's analysis made in 1831

	grains.
Carbonate of lime	9,48
Carbonate of iron	0,76
Oxide of manganese	0,57
Sulphate of soda	15,60
with minute portions of sulphate of lime, magnesia, silex &c.	
Carbonic and gas	32,40 cubic inches.



Griesbach and Petersthal.

These Baths are situate in the Renchthal, not far from each other. Griesbach lies at the head of the valley at the foot of the Kniebis, and is about three hours drive from Rippoldsau. It consists of five or six houses, and two Bath-houses in which about 150 visitors could be accommodated. In a low building adjoining, where the spring rises, are sixteen bathing cabinets, not very convenient. The water does not sparkle much, but is pleasant to the taste, and contains less aperient salt than that of Rippoldsau, but more iron, and as much as 24 cubic inches of carbonic acid gas to the pint. Kolreuter regards it as one of the most efficacious gaseous chalybeates. The water is exported, and used at Baden Baden.

Petersthal lies about a league from Griesbach lower down, and in a more open part of the valley. There are no other houses than a large lodging house on the side of the road containing about 100

apartments, and the building on the opposite side, close to the Rench where the springs arise, in which are a large room for taking exercise in wet weather, and twenty four bath cabinets. There are three springs the Trinkquelle, the Sophia, and the Laxirquelle. A pint of the water contains 33 cubic inches of carbonic acid, 9 grs. of carbonate of lime, 10 grs. of sulphurate of soda, and half a grain of iron, so that it is not unlike the Josephsquelle, though less strongly mineralised. The Laxirquelle contains less iron and as its name implies is more aperient than the others. — The valley of the Rench is extremely picturesque presenting a succession of beautiful scenery, till it widens out into the plain of the Rhine beyond Oppenau. As however neither of these places would be a very eligible residence for English visitors, unless desirous of living in perfect seclusion while any advantage to be derived from their mineral springs may equally be obtained from those of Rippoldsau and others, I do not consider it necessary to give any more lengthened notice respecting them.



Soden

is a village in the Duchy of Nassau, containing about 700 inhabitants, and is situate in a beautiful part of the country at the base of the Taunus hills, by which it is sheltered from the north and east-winds. It is about two hours drive from Homburg, Frankfurt and Wisbaden, and a German mile distant from Kronthal. The accommodations are tolerable at the Nassauer and Frankfurter Hofs where tables d'hôte are established in the season. On account of the increased number of visitors several new lodging houses have been erected within the last three or four years, and some of the springs which had been previously neglected, have been enclosed and applied to medicinal purposes. The baths in the hotels are indifferent, but a new bath house is in progress. Among the objects of interest in the neighbourhood may be mentioned the Feldberg and Altkoenig, the highest of the Taunus hills, from whose summit a magnificent panorama of the Rhine and Maine countries, the Bergstrasse &c. is dis-

played, with the ruins of Falkenstein, Koenigstein, Kronberg &c.

The springs of Soden have been used from an early period for the extraction of salt, but have only been resorted to by invalids, within the last ten or twelve years, though from their efficacious nature, and great variety, there is little doubt that they will speedily rise into importance. They not only vary materially in the amount of salts and gas, as will be seen by the annexed table, but the different springs have different temperatures, the range being, from 13° to 21° R. Some of them are exceedingly rich in muriate of soda. No: 1 or the Milchbrunnen, which is one of the springs chiefly employed for drinking, contains the smallest quantity of this salt (17 grs. to the pint), Nos: 2. and 4. are mostly used for baths. No: 6. approaches somewhat in composition to the Ragozzi, though it has more salt, and less iron and gas. The two new springs 18. and 19. bubble and sparkle very much, being more rich in gas than the rest. These, with No. 1. and 7. are chiefly for internal use. Several thousand flasks of the water are annually exported.

The action of the baths is exceedingly powerful and stimulating, sometimes causing determination of blood to the head or chest, — on which account they should not be taken at a higher temperature than 25° R., — and not unfrequently giving rise to an eruption on the skin. When drank, the primary action of the stronger springs 6. and 7. is aperient or purgative, that of No. 1. is mostly diuretic. Compared with other springs of the same class those of Soden are less energetic than the salt springs of Kissingen, which contain more muriate of soda, and gas; and also the sulphate of soda which is absent in the Soden water. On the other hand the Kreuznach springs, though containing more muriate of soda than the weaker Soden ones, have a very small proportion of carbonic acid gas, on which account their action would be less powerful, were it not that the Mutterlauge or lees of the water is generally added to the baths. They are all however applicable to the same class of cases, though the difference in amount of the component parts of the Soden springs, would enlarge the sphere of their applicability — as, in cases where No. 6. or 7. would have too exciting an operation No. 1. or 3. might be employed with advantage.

The diseases which waters of this class are most likely to remove, are various kinds of scrofulous affections, particularly swellings of the mesenteric glands, or those of the neck, in indolent habits, with torpor of the digestive organs and a deranged state of the secretions: obstinate rheumatic complaints of long standing; a cachectic or scorbutic condition of the system: relaxation of the mucous membrane of the air passages, with cough and mucous expectoration, and some inveterate diseases of the skin, without inflammatory complication. Those cases of scrofula combined with much constitutional irritability or tendency to inflammation, would be best treated by a course of the waters at Baden, Wisbaden or Ems. The following table will exhibit the amount of solid and gaseous parts in a pint of water from the different springs. Dr. Stiebel of Frankfort has recently published a small work on Soden in which Liebig's analysis of the two new springs No. 18 and 19 is given *).

*) Soden und seine Heilquellen.

	No. 1.	2.	3.	4.	5.	6.
Muriate of soda	17,687	40,611	25,589	109,909	51,939	91,448
Muriate of potash	0,168	0,407	0,238	1,075	0,506	0,844
Carbonate of lime	2,739	5,068	3,862	6,397	3,770	7,549
Carbonate of magnesia	1,374	3,847	1,843	1,359	0,683	1,052
Sulphate of lime	0,199	0,322	0,268	0,653	0,207	0,586
Carbonate of iron	0,161	0,253	0,199	0,215	0,153	0,322
Silex	0,168	0,629	0,153	0,184	0,138	0,192
Argillaceous earth	0,017	0,029	0,023	0,026	0,020	0,036
Grains.	22,665	51,171	32,279	119,843	57,328	105,003
Carbonic acid gas, cubic Inches	13,624	18,569	14,929	5,783	15,185	14,016
Temperature (Reaumur)	19°	16°	18°	17°	12°	16°

No. 7. is very analogous in composition to No. 6. —

The table is taken from the work of Dr. Schweinsberg "Soden und seine Heilquellen." Gotha 1831.

Kronthal.

This beautiful and fertile valley is thickly planted with chesnut and other fruit trees, and is enclosed between gently rising hills which join themselves on the north and east with the Taunus range. The Bath lies at the foot of a hill on which stands the old town of Kronberg, the picturesque ruins of the castle seen from a distance form a striking object in the landscape; and though it has hitherto been principally resorted to by visitors from Frankfort and other places in this part of the country, yet, as its mineral springs may be ranked among the best of their class, there is little doubt that when the access is rendered more easy by improving the road between them and Soden, many persons will be induced to give them a trial, in preference to undertaking a long journey to more distant springs of an analogous character. — Two large houses have been erected within the last few years for the better accommodation of the visitors, several of whom

reside in the town which is not more than half a mile distant. The Curhaus contains a large saloon, where the table d'hôte is held; some very commodious bathing cabinets, and about fifty neatly furnished apartments. The resident physician Dr. Kuster has also a large house with baths, in which visitors can be lodged.

Two springs are chiefly used, the Trinkquelle or Stahlquelle, and the Wilhelms- or Salzquelle enclosed in 1820. The temperature of the former is 11° , that of the latter 13° . The water tastes agreeably cool, acidulous and chalybeate. Both springs contain a large quantity of gas which forms bubbles on the surface so as to resemble water in a state of ebullition. The Wilhelmsquelle contains more salts, but less iron and gas than the Trinkquelle, as will be seen on comparing the latest analyses of the two springs by Jung.

	16 of water contain	
	Trinkquelle.	Wilhelmsquelle.
Sulphate of soda	0,638	0,867
Muriate of soda	17,574	27,303
Muriate of magnesia . . .	1,921	3,833
Carbonate of lime	3,640	5,400
Carbonate of magnesia . .	0,606	0,945
Carbonate of iron	0,613	0,215
Argillaceous earth	0,100	0,050
Silex	0,640	0,625
Grains	25,732	39,238
Carbonic acid gas in 100		
cubic inches of water		
Cubic inches	125	111

Thus judging from the above composition, and from a comparison with other mineral springs, I consider that those of Kronthal may rank with the most valuable alterative and tonic waters of Germany. In the amount of muriate of soda the Trinkquelle approaches the Cannstadt spring, which however contains but a very minute proportion of iron. It contains about the same quantity of iron as the Ludwigsquelle at Bocklet, from which it differs in having a few grains less muriate and sulphate of

soda, on which account its action would be less aperient and more tonic. The astringent effect of the iron is in great measure neutralized by the large quantity of salts, which predominating to a great extent in the Ragozzi and Pandur springs at Kissingen renders their primary action purgative. On this account the Wilhelmsquelle would be more laxative than the Trinkquelle, which also would be more so, and consequently in some cases better borne, than a chalybeate water containing but little salt as Schwalbach; though where the object is to impregnate the system with iron it would of course be more speedily effected by the use of the latter. The sensible action of the Kronthal springs however, seldom affects the bowels, but most usually the kidneys, though not so as to produce inconvenience. They are generally well borne and after using them for a few days most patients feel themselves refreshed and invigorated. A course of these waters would be most applicable in cases where a tonic and at the same time a solvent effect is required as in general debility combined with nervous and vascular irritability, frequent palpitations &c.; in weakness of the stomach and bowels with deficient or unhealthy secretions; relaxation of mucous

membranes and of their capillary vessels — producing when those of the air-passages are affected, cough, mucous expectoration and passive bleeding from the surface: — when the uterine system is implicated, too profuse periodical discharges, leucorrhea &c.; some nervous disorders, as hysterical and hypochondriacal affections, where a tonic medication is required, but where the direct chalybeates would prove too heating. — Dr. Kuster has availed himself of the richness of the springs in carbonic acid, to erect a small building where baths, and douches of this gas may be taken, and he speaks highly of their efficiency in cases where a powerfully stimulating effect is required, as in torpor of the system or of the functions of particular parts, some kinds of general and local paralysis or defective power in the organs of sense.



Kreutznach

in Rhenish Prussia, is distant about three German miles from Bingen on the Rhine. The drive from Bingen up the valley of the Nahe presents a continued succession of scenery of the highest order of picturesque beauty: the river placidly winding through orchards, vineyards or rich meadows in which numerous cattle are grazing, is ever and anon narrowed by the approximating hills cultivated and cloathed with verdure; on by steep rocks whose dark and greyish masses form a strong contrast with the bright green of the valley, and the deeper hue of the brushwood which grows from their sides. The town of Kreutznach containing 8000 inhabitants lies in one of the most beautiful parts of the valley, is built on the left bank of the river and connected by a stone bridge with the new part on the opposite bank. The hill of Kautzenberg rises behind the town; and from the ruined castle on its summit an extensive and beautiful view up and

down the valley may be obtained. The accommodations at the hotels though not first-rate are tolerable, and are improving each year; many of the visitors however reside at the bathing houses near the salt-works about a mile and a half higher up the valley. — The air at Kreutznach is salubrious. The inhabitants are for the most part cheerful and obliging; provisions are plentiful, the wines good, the living reasonable; and though, as a watering-place, Kreutznach has but recently come into notice, yet perhaps at no other Bath has the increase of visitors been so rapid. According to Dr. Prieger's statement, the number of baths taken in the season of 1826 did not exceed 320, in 1834 it amounted to 7970, and in 1836 to 17426 *).

The walk along the banks of the Nahe to the Salines or salt springs is highly interesting: here as at Kissingen, there are immense wooden sheds about fifty feet high open to the action of the air, and filled with thorn bushes. The water is pumped up by machinery into troughs running the whole length of the top of the shed, and as it passes

*) Kreutznach und seine Brom- und Jode-haltigen Heilquellen. 1837.

along, falls through the bushes; so that from the evaporation which takes place, when it is received in the reservoirs at the bottom, it has acquired an increase of between seventeen and twenty four per cent of salt. The brine is then conveyed to large iron vats and boiled till the salt separates and falls to the bottom.

The scenery beyond the Salines is of a singularly bold and romantic character. Bare rocks from 300 to 500 feet in height rise perpendicularly from the river, which winding round their base is diverted from its direct course so as almost to form a circle. The most remarkable and loftiest of these rocks termed Rheingrafenstein, has a ruined castle on its summit, commanding a magnificent view of the surrounding country. The fine ruin of Ebenburg stands on an elevated point and forms also a striking feature in the scene. At some distance farther on in the direction of Sobernheim, are some quicksilver mines generally visited by strangers.

Some of the springs of Kreutznach rise on the island, and in the river near the town. The principal are the Elisen, and Carlshaller brunnens; the

basin of the former being placed at the extremity of the promenade on the island, between two flights of stone steps which lead up to a platform overlooking the river. The baths are near the springs but at the time of my visit (1837) were not very convenient, a new bath-house was however about to be erected, and is since completed.

The water is clear and emits a few gas bubbles. It has a saltish rather astringent and disagreeable taste, and on standing, deposits a brownish coloured sediment — consisting of carbonate of lime and iron — which is sometimes used as a local application to stiffness of joints, strumous swellings &c. The temperature of the springs differs, that of the Elisenbrunnen being 7°, the Carls-haller 13°, the former contains the largest quantity of gas, of which the latter has very little, as will be seen by the annexed table of analysis.

The other springs, principally used for bathing are the Theodorshaller, and the Munster-am-Stein at the salines. It is customary in some cases to add to each bath, some of the strongly impregnated lees remaining after the evaporation of the water;

which has the consistence of oil. The following is the amount of grains of mineralising substance contained in a pint of the *Mutterlauge* of the Theodors-hallerquelle.

Muriate of potass	17,30
" " soda	60,34
" " magnesia	38,44
" " lime	15,77
Bromate of potass	92,80
" " soda	154,10
" " lime	338,72
Earthy matter and iron	35,66
Other salts with traces of iodine	216,15

The Mutterlauge of the Munster-am-Stein spring is said to contain nearly fourteen grains of iodine to the pint *).

Hence, as may be supposed, the Kreutznach baths are exceedingly stimulating and exciting, requiring more than ordinary precautions in their administration, and causing a powerful reaction and irritation of the skin not unfrequently fol-

*) Prieger Op. cit.

lowed by eruptions of a papular, pustular, or furuncular nature. Two kinds of eruption are particularly mentioned by Dr. Prieger; one kind comes on after a few baths, in blueish spots as large as a Prussian dollar, which after a short time assume a yellowish hue, and disappear: the other occurs chiefly about the joints and parts covered with hair, in the form of small pustules with a dark red base, usually comes on after the twentieth bath, and lasts ten or twelve days, but having once disappeared does not return, even in the baths be continued. This kind however seldom appears except in diseases of the skin or lymphatic glands, and is of a critical nature, being usually the precursor of a favorable change.

The Kreutznach springs differ from others of the same class in containing a larger quantity of bromine and iodine, which are known to be so efficacious in the treatment of glandular diseases; and though the amount of these substances in the quantity of water taken during a course would be too small to have any positive effect, yet it materially assists when in combination with the saline ingredients; and when the Mutterlauge is used in the

baths the quantity absorbed would not be inconsiderable. Hence no other mineral spring has acquired in so short a time a special reputation in scrofulous cases, and in the tendency to scrofula in young subjects: the water internally taken being alterative and laxative, while the baths act powerfully upon the absorbent system, diminishing glandular enlargements and other swellings. Where however there is a disposition to inflammatory action these springs are not so applicable as others. Dr. Vetter in his recently published standard work says "the cases in which Kreutznach is less to be preferred to other springs are in the more erethetic and irritative forms of tubercular and glandular enlargement, with a tendency to the formation of coagulable albuminous products. In such cases occurring in delicate and irritable subjects, though the action of saline springs cannot be denied, yet the alkaline springs, internally and externally employed, on account of their mildly solvent and penetrating operation are much preferable." *).

The waters of Kreutznach, like several others, are also calculated to be of service in a relaxed

*) Handbuch der Heilquellenlehre. Berlin 1838.

state of the mucous membranes of the air passages digestive organs, or reproductive apparatus — and in long standing cutaneous diseases without inflammatory action, as psoriasis, some syphilitic eruptions &c, though it is only after enquiring into the peculiarities in individual cases, that the practitioner can determine upon the kind of mineral spring to which the preference should be given.

Analysis of 16 oz of water from the Carlshaller spring made by Osann in 1837.

Jodate of soda	0,0440
Bromate of lime	6,6025
" " magnesia	1,3672
Muriate of soda	59,6651
" " magnesia	0,6786
" " lime	2,5612
" " potass	0,4017
" " lithia	0,0566
" " alumina	0,4321
" " manganese	0,6538
Carbonate of lime	0,6133
" " magnesia	0,4730
" " iron	0,3645

Silex	0,0313
Resinous matter	1,4717
Grains	<u>75,4220</u>
Carbonic acid gas	3,98
Azote and oxygen	<u>93</u>
Cubic inches	4,91



Weilbach.

This Bath lies in an open country about half a mile from the village of the same name, on the high road from Mayence to Frankfort, and has been a good deal resorted to within the last three or four seasons. Two years ago persons using the waters were obliged to lodge in the village where the accommodation was but indifferent: since that period however, a large bath and lodging house has been erected at the spring, containing a saloon for dining and reunions, about 100 apartments, and commodious baths; the water being heated by a steam apparatus by which its efficiency is not impaired, and which serves at the same time to warm the linen. The vapour is collected in a superior cabinet and is used for vapour baths. From the public garden adjoining the spring, a good view may be obtained of the mountains of the Taunus and Bergstrasse, their intervening plains, and the Rhine with Mayence and other towns. Wisbaden, Soden, Kron-

thal &c. are within a short distance of Weilbach, and these places will be still more approximated to each other by the railroad between Mayence Wisbaden and Frankfort, which will be opened this season.

The Weilbach water feels soft and unctuous to the touch, emits near the spring an odour of sulphuretted hydrogen, and has not an unpleasant taste. Its temperature is 15° R. It is exported to other parts of the Duchy, and to the neighbouring large towns, though by exportation it loses somewhat of its properties, I have recommended it with advantage to patients under a course of the Wisbaden and Schlangenbad baths.

There are few cold springs in other countries which can be compared, with respect to the amount of solid and gaseous constituents, and also in their medicinal properties, with those which I have hitherto been considering. France, which is so rich in warm sulphurous, saline and alkaline springs, possesses but few efficient chalybeate, acidulous, or cold saline ones compared with Germany, which on the other hand scarcely contains any sulphurous

springs of note, except those of Aix-la-Chapelle. Warmbrunn and Baden near Vienna; for though the cool springs of Weilbach, Nenndorf and Eilsen may be very useful in some cases, they cannot be compared with the others, which have a more energetic action, but approach nearer in their effects to the weaker warm springs of the Pyrennees, as St. Sauveur, the Eaux Bonnes and Chaudes; or still more to those of Harrowgate, or Moffat in the north of Britain, which the Weilbach water resembles in temperature, amount of saline and sulphurous impregnation, though the former springs possess as the predominating salt the muriate of soda; while that of the Weilbach water is chiefly the carbonate *).

A course of the Weilbach water may then be considered applicable with great prospect of advantage in those cases where sulphurous waters are indicated, but where the more exciting ones would not be well borne, and is well adapted to delicate and irritable habits. When taken internally it affects more especially the mucous membranes of the alimentary canal, air passages, urinary and uterine

*) See the Analysis of these springs in my "Account of the Watering-Places of the Continent."

apparatus, improving the secretions, without causing in most instances a sensible increase in their quantity, though in some cases the bowels or kidneys are slightly acted upon, and the sensible perspiration is increased; the latter especially when bathing is combined with the internal use of the water, a miliary eruption being occasionally produced on the surface of the body. Hence the baths are calculated to procure the removal of some chronic skin diseases of the papular, pustular or dry scaly varieties, of ulcers and other complaints of a syphilitic origin: though to many cases of this kind a more strongly impregnated water as Aix-la-Chapelle, or a warm saline one as Wisbaden would be better suited. The water may be also used with advantage in stomach and liver derangement, with the character of irritability and altered secretion; in uterine congestion, with dysmenorrhœa: in hemorrhoids from languid abdominal circulation, when not combined with a torpid state of the bowels; in enlarged glands of the neck and mesentery in delicate children: in gravel, and irritation of the urinary organs with catarrhus vesicæ &c., though in some of the above mentioned states other mineral waters might be equally applicable or even preferable,

which could only be decided by an enquiry into their individual peculiarities. It is however in diseases of the lungs and air passages that Weilbach enjoys a greater degree of reputation; more than one half of the patients who resort thither being affected with these complaints; and I should consider from what I have known of its effects, and from its analogy with the Eaux Bonnes which have an especial reputation for the cure of thoracic diseases, that the Weilbach water would render great service in many cases of chronic bronchitis, laryngitis, and incipient tubercular consumption, as it allays irritability, facilitates expectoration, and might often be used when other springs would be too exciting; though many invalids have recourse to it as a last resource and when the disease is too far advanced to admit hope of permanent relief. In some cases the water is drank mixed with milk. — According to Dr. Creve a pint of water contains $4\frac{1}{2}$ grains carbonate of soda: $2\frac{1}{8}$ carbonate of lime: $1\frac{1}{8}$ sulphate of soda; smaller portions of the muriates of soda and magnesia, with 9 cubic inches of sulphuretted hydrogen: and 4 of carbonic acid gas. M. Jung however states the quantity of gas in the pint to be $1\frac{3}{4}$ sulphuretted hydrogen and two cubic

inches carbonic acid which I should conceive to be the most correct; as judging from the physical properties there is no evidence of the former proportion of gas being contained in a pint of the water. The most recent work on Weilbach is a pamphlet by Dr. Fabricius and Thilenius, entitled. *Memoire medical abregé sur les eaux sulphureuses de Weilbach*. Mayence 1839. Wetzlar and others have also spoken favorably of this spring.

Selters.

The spring of Nieder-Selters though not resorted to by invalids, supplies many parts of the globe with the highly agreeable beverage known by the name of Seltzer water, of which about a million and a half bottles, are annually used in the Duchy and exported to other countries. The water is also very efficacious in several diseases, and an artificial Seltzer is often used as a substitute, though this would be of little use in a medical point of view. Hufeland in alluding to it observes: "Artificial Seltzer water is a highly useful carbonated water, but it is not Seltzer water. Even so with the Carlsbad water artificially prepared according to the analysis of the natural spring, which is a very useful aperient water but still it is not Carlsbad water. If any one were to drink the former during a few weeks he would find that a degree of atony of the general system, and of the digestive

apparatus would be the consequence, whereas the Carlsbad water may often be drank for several weeks together not only without these effects, but even with an increase of appetite and vigour resulting therefrom. *)”

The water contains as much as 36 grs. of saline substance to the pint, of which 16 are muriate, and 15 carbonate of soda; and 15 cubic inches of carbonic acid gas, with which it is intimately combined; in this respect it has the advantage over the Geilnau spring which possesses a larger quantity of gas, but no muriate of soda and less of the carbonate. There is but a very minute portion of iron, and even this is precipitated in the bottled water, which is decomposed by the smallest quantity of vegetable substance as a piece of straw getting into the bottle, sulphuretted hydrogen being thereby produced. It is easily digested, and seldom occasions congestion or determination of blood to particular organs like the majority of strongly impregnated mineral waters, on which account it is often advantageously employed in some febrile and inflam-

*) Practische Uebersicht der vorzüglichsten Heilquellen Deutschlands.

matory affections. Its action is in general cooling exhilarating and alterative, improving vitiated secretions of the mucous membranes, giving tone to their glands, and promoting absorption. It may generally be taken without risk by robust and plethoric individuals, and is of great service in cases of torpor of the vascular and glandular systems; stomach derangement with acidity and constipation, tendency to gout in full habits; and scrofulous complaints. But, says Hufeland, "it is in chronic diseases of the lungs, and especially in pulmonary phthisis that the water is of the greatest efficacy. In this disease when other powerful remedies produce no good effect, Seltzer water has often an extraordinary efficiency. Where there exists relaxation of the mucous membrane, by the exciting property peculiar to it the energy of the relaxed vessels and mucous glands becomes re-established; in the tubercular kind it resolves obstructions without exciting inflammatory irritation; and where inflammatory complication exists, it regulates the anormal secretion, and often prevents suppuration. I say all this after great experience, and could quote many cases of success. Seltzer water seems to contain the due admixture of principles required in this disease; viz,

a slightly stimulating action, and the faculty of producing an increase in the power of the lungs and glands without causing determination of blood to them or accelerating the circulation through the body. It produces the best effects in this disease when mixed with a third part of warm milk especially asses milk." Notwithstanding this high eulogium, patients labouring under phthisis, and their friends must not expect when the disease is fully developed that Seltzer water, any more than other remedies, can be productive of permanent benefit; though in the early stage its use may check the disposition to the formation of tubercle, and thus arrest the progress of the disease.

Vetter speaks highly of the advantage of Seltzer water given in small and frequently repeated doses, after proper evacuations, in the fevers usually prevalent in summer, and complicated with erethism of the upper part of the alimentary canal, or what are commonly called gastric fevers, in which vomiting is so often a distressing symptom *); though when acute inflammation is present it would not be advisable to give it without being diluted with water.

*) Op. cit.

The Seltzer water would also be serviceable in many cases of irritation of the urinary organs, or tendency to the formation of stone and gravel, chronic inflammation of the mucous membrane of the bladder with ropy mucous secretion. It is frequently added to the Rhenish wines at dinner to destroy their acidity; and mixed with sugar forms a very refreshing drink in summer.



Fachingen.

This long known and much esteemed mineral spring rises on the left bank of the Lahn, in a romantic and picturesque part of the valley, and close to the village of the same name; but notwithstanding the beauty of the environs — which equals that of Ems while the valley is more airy and less hemmed in by steep hills — and the medicinal efficacy of the spring there are no lodging houses on the spot, the only building being the residence of the Verwalter, who superintends the bottling, and packing of the water; so that those persons who are desirous of employing the water at its source, are obliged to reside at Dietz a small town a mile and half distant; though there is little doubt that if there were proper accommodation, the place would be much resorted to. The spring yields 200 quarts of water per hour, a sufficient supply for the establishment of baths, which might be used with great advantage in some diseases. Around the house

are avenues of poplar and lime trees which by a little labour might be converted into an agreeable promenade.

The water taken into a glass is clear, sparkling, and emits small bubbles of carbonic acid. Its taste is agreeably cool and refreshing, piquant and alkaline. Many prefer it as a summer beverage mixed with sugar or wine to Seltzer water, from which however its composition materially differs inasmuch as a pint contains nearly a grain of iron, as much as 43 grains of bi-carbonate of soda, and 20 cubic inches of free carbonic acid, while there are only four grains of muriate of soda. Hence it stands foremost among the alkaline springs, none of those of Germany except Bilin containing so large a quantity of alkaline salt. In this respect it approaches very nearly to Vichy; the most frequented of the French Baths, from which however it differs in temperature, and in containing a larger quantity of iron, as will be seen on comparing the analyses in my other work. It also contains nearly twice as much gas as the Vichy springs, on which account, as also from its low temperature it is much pleasanter to drink than even the Celestins at

Vichy, which is the coolest spring (18 R.) and one of those most generally used for drinking.

The Fachingen water may therefore be considered applicable to many of the cases in which the Vichy springs would be recommended; though these latter are a great deal employed in the form of baths, are more solvent and hence better calculated to procure the dispersion of swellings or *engorgement* of the abdominal viscera, as the liver, spleen &c, while Fachingen having a more tonic property, and not being as yet used for bathing, would be better adapted to rectify a faulty state of the mucous membrane of the alimentary canal with acidity, weak or painful digestion &c. It is also well suited to the treatment of chronic bronchial and tracheal affections, asthma with copious expectoration, when there is not much constitutional irritability or tendency to inflammation, in which case a spring of a different nature as Selters, or Weilbach would be preferable.

Several writers on mineral waters, as Thilenius, Ritter, Diel, Hufeland &c. have spoken highly of the efficacy of the Fachingen water; the last named

nd one physician terms it "a powerful and highly efficient mineral water, in many cases unique in its way." And further says "Its peculiarities consist in its richness in carbonate of soda, and carbonic acid, and their combination with a not inconsiderable quantity of iron; hence it is a solvent remedy without being astringent and constipating; and is highly serviceable to many hypochondriacal patients, who labour under obstructions of the digestive organs, with debility and acidity; a case which so frequently occurs and in which neither the purely aperient, nor strengthening chalybeate waters can be borne." — Gouty people may also drink the Fachingen water habitually with advantage; the good effects of alkalis in this disease being well known. It is more adapted to render service in the erratic gout in nervous individuals, than in that kind which recurs habitually at intervals, of a more fixed nature, and combined with deposition of chalky concretions in the joints; in which cases the Wisbaden baths would be more likely to relieve. These baths may sometimes be advantageously combined with the drinking of the Fachingen water, which may also be administered with benefit to children with enlarged glands, tumid abdomen, debility of digestion, and of the

muscular system where a strong saline or a chalybeate spring would produce too much excitement.

But there is another class of cases in which the Fachingen water is calculated to be of great service, viz gravel and stone in the bladder. Some cases of stone, there is every reason to believe, might be altogether cured by mineral waters strongly impregnated with alkali and carbonic acid gas, if reliance may be placed upon the accounts received and the experiments made within the last few years of the action of the Vichy waters upon these foreign bodies, and of which the commission appointed by the Academie Royale de Medicine to investigate the subject, made last year a very favorable report. Dr. Petit of Vichy, by whom several of these cases are reported observes. "What above all tended to the discontinuance of the employment of alkalis (in cases of stone) is, that they were formerly administered in a state of purity or only slightly carbonated, and were thus frequently very irritating and even dangerous; they could consequently only be given in too feeble doses to impart to the urine the degree of alkalinity necessary to produce the desired effect; but by their combination with car-

bonic acid they are rendered innocuous when perfectly saturated, without losing any of their solvent property; hence they may be employed in much larger doses". *)

As in these cases, the principle of the treatment is to maintain the urine and secretions for some time in a state of alkalinity, the object would be materially facilitated by baths of the water, which would obviate the necessity of taking such large doses internally, and I have little doubt that much more might be done by these means in cases of stone than has hitherto been supposed possible by the profession. I have stated in another work **), that one of the consequences most to be apprehended after the operation of lithotritry is, that fragments of calculi may escape detection, and occasion a recurrence of the disease; hence when there is reason to believe that the foreign body has not been en-

*) *Observations de guerisons de calculs urinaires, au moyen des eaux thermales de Vichy. Paris 1837. Suite des observations etc. 1838. See also M. Chevallier's Essay on the Dissolution of stone in the bladder.*

**) *On the comparative advantages of Lithotomy and Lithotritry being the Essay to which the Jacksonian Prize of 1838 was adjudged.*

tirely removed from the bladder, a course of alkaline waters, or of the alkaline bi-carbonates, would be likely to procure its complete destruction. This plan of treatment might also be adopted as the most probable means of preventing a return of the disease in cases where there exists a strong tendency to the formation of calculous concretions.

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