Amory's translation runs—"When an artery is opened, especially near its beginning, a jet of blood is seen, which rises to a great height (as much as two *inches*)." M. Küss says "two meters," which is equal to 6½ feet.

In the section on the sense of taste (p. 406), M. Küss says, "Schiff succeeded in dividing the lingual nerve *above* the point where it is joined by the chorda tympani." Dr. Amory translates it "*below*."

Secondly, in regard to the omissions, portions, chiefly in the first part of the work, appear to have been omitted for no obvious reason; for instance, in the original, at the end of M. Küss's account of locomotion, M. Carlet's views on walking and running are rather fully given, but we can find no reference to them in Dr. Amory's translation; nor is there, to make up for this omission, any account of Marey's observations made with his cardiographic apparatus. Again, certain paragraphs in the account of the histology of the nervous system are left out which are correct enough in the original.

Thirdly, in regard to clerical errors in one page (p. 27), we notice two errors in spelling and three or four in grammar.

As a parting word we may, however, observe that, though we have felt it to be our duty to point out the want of careful revision of the translation in many places, we must still do Dr. Amory the justice to say that for the most part the sentences run smoothly, and bear but few marks of being a translation.

We must not pass over without a word of notice the illustrations. These, though often quite diagrammatic, are highly suggestive, and are a noticeable feature of the book. On the whole, M. Küss and Duval's work merits warm commendation, and is a valuable addition to our physiological manuals. It may be safely put into the hands of the student, who, if he masters its contents, will be possessed of all the knowledge he is likely to require in practice, and, at all events, will be in a fitting condition to commence the study of more complete treatises.

IV.—Baths, Waters, and Climate Cures.[1]

In editing this work Dr. Weber has endeavoured to supply what was certainly wanted in England, a general view of the principles of balneology and of the use of mineral waters.

[1] *On the Curative Effects of Baths and Waters; being a Handbook to the Spas of Europe,* by Dr. Julius Braun, *including a chapter on the Treatment of Phthisis by Baths and Climate,* by Dr. Rohden. An abridged edition, edited with notes by Hermann Weber, M.D. 8vo, pp. 635. London, 1875.

We have had treatises of great merit, by Gairdner in 1832 and by Daubeny in 1837, on the chemistry and geology of mineral waters. We have had more or less popular accounts of foreign and domestic spas by the late Drs. Granville, Glover, and Edwin Lee, by Dr. Madden and by Dr. Spencer Thomson. Of more recent and somewhat more scientific works we have in England those of Dr. Althaus, Dr. Sutro, and of the writer; and although some of these, and especially the more recent of them, give a short outline of the principles of balneology, yet none of them profess to give a complete view of the subject. It is rather surprising that none of our spa physicians have come forward to supply the want, and perhaps still more so that, popular as the water-cure and Turkish baths and sea-bathing are in this country, yet no English writer has of late years investigated these subjects. The work of the late Dr. E. Johnson on hydropathy is the best English exponent of it; but we have to look to France for the only two complete works, those of Fleury and of Beni Barde, the last English treatise of importance on the medical effects of water being that of Dr. Currie, now seventy-five years old. We have had no contribution of any great value, founded on original observation—written for many years on, at all events—on the internal use of the mineral waters of England.

Granting, then, that we were in need of a fuller exposition of the principles of balneology, and that we have had to look to foreign sources, there was considerable choice as to the foreign works that might be translated. Confining ourselves to the German literature of the last ten years (for the French have no very good manual on the subject), there was Seegen's excellent work, now ten years old, of which we hope that we may soon see a new edition; there was Helfft's much-used manual, greatly improved in its last edition by Thilenius; there was Kisch's handbook, useful also, but, like Seegen's, perhaps saying more of Austrian baths than was wanted in England; and, latest, there was Valentiners' handbook, a collection of monographs on the various classes of mineral waters, written by men familiar with the use of the particular spas which they describe. Different from these and of more-marked individuality was Braun's book, written in a livelier style, and one that keeps up the attention better, partly owing to the bold onslaught on waters which the author does not himself use. There was still another, in spite of its title not a very practical work, which contains a vast deal of information, but it would require to be condensed, and, indeed, to be remodelled for English readers; we allude to the learned Dr. Lersch's 'Praktische Balneologie.'

Of all these writings probably Valentiners would have given

the fairest and fullest representation of the present state of balneology, and we are glad to hear that a new edition of his treatise will shortly appear in Germany. In the meanwhile we are thankful to have got the translation of Braun now before us, and shall proceed to say a few words about it.

The main work of translation was intrusted to Miss Bunnett, a lady who has produced many excellent translations from the German, and whose recent decease we have been sorry to observe. Laborious as she must have found the work of rendering a technical medical treatise, she has on the whole done it well, although a good many German phrases occur which might very easily have been avoided. For instance, we stumble on "excellence and commendability of arrangements"—on "critical patients turning in waltzes." "Already by Sydenham" means as long ago as the date of that physician. We hear of a "large building for graduation." We are told that "medical establishments are desiderata which would result in a diminution of mortality from phthisis not yet obtained." Usually the meaning of these passages is quite plain, although the Germanisms are quaint, but sometimes it is hard to understand what meaning it is intended to convey. What is "the alternative of either diversion or collectedness?" These and other such blemishes should have been removed from a work of such size and importance. We think that the value of this book is to be found rather in its exposition of principles, than in its account of spas; and the arrangement of the matter is one main cause of this.

Theoretically it is well to discuss bathing and drinking apart, but practically it is inconvenient, when we have to consult a work, to have to refer to an account of a mineral water under the two heads of bathing and of drinking. As mere guide-books many of the works enumerated above, and even smaller ones, are more useful than Braun's. Dr. Weber has done something to supply its deficiencies, and we only wish that he had given us the results of his large experience with a less-sparing hand.

The great characteristics of Braun's work, are its critical spirit and the vigour with which it attacks popular beliefs. He is unwilling to admit anything of which he cannot explain the reason, especially the chemical reason. He undervalues the warm, indifferent waters because their mineral contents are so scanty. He does not see why they should do good, and therefore doubts their activity. In like manner he disparages sulphur waters, because he cannot explain the action of minute quantities of sulphur. He regards lime as always heavy and indigestible, which in one sense it undoubtedly is, although in his later editions he has slightly modified his opinion. Iron he is especially averse to, and more particularly to Pyrmont, the

great iron spring of his neighbourhood. Dr. Braun himself practises at Rehme, a salt spring, and naturally,—for we all praise our own favourite remedies,—lauds that class of waters; and as they are chiefly employed for bathing, the greatest share of his commendation is bestowed on that variety of baths, and especially on those of Rehme and Nauheim, which are warm and contain more carbonic acid than others of that class do. Dr. Braun has, of course, a right to speak with confidence of springs with which he is so well acquainted; but our quarrel with him is, that he speaks with equal confidence and often in a depreciatory tone concerning springs of which he has no experience. His specialty is the treatment of incipient tabes dorsalis, for which he states that Rehme possesses great advantages. There is no question that Braun's free criticism has given an impulse to the study of the effects of mineral waters, and that a perusal of his work should be very useful to us in England.

Instead of now entering on the dry task of an analysis of a hand-book, perhaps it will be more interesting to our readers to present them with a slight sketch of the present state of baths, and of the more recent doings in balneology, referring by the way to some points that struck us on a recent visit to the Continent.

We found that the rules laid down respecting the diet of patients are by no means so arbitrary now as they formerly were. Many articles are now allowed which used to be forbidden. There are still a few bath doctors who keep up the crusade against butter. Easy, however, though it is to laugh at some of the injunctions that are still given, there is no question that English patients very often make a mistake in eating and drinking as usual, while taking waters, and in not availing themselves of competent local advice; and this reminds us of the bad effects which we have witnessed in English patients who have thought it wise to act on the instructions that had been given them, we think injudiciously, by their own physicians at home; and who had in consequence not availed themselves of the services of the physicians on the spot, and their long experience of the operation of their waters.

We observed, also, that as a rule waters are now ordered in smaller quantities, and that patients are not drenched now as they used to be at some baths. It is not considered necessary to produce the disagreeable effects of what is called a bath crisis. One use of small doses we particularly remarked, and this was in chronic diarrhœa. Physicians, with their alkaline waters at Vichy, their alkaline sulphated at Carlsbad, their salt-iron waters at Kissingen and Homburg, their pure indifferent waters at Plombières, all professed to be able to cure this obstinate form of disease. By the same rule the hot earthy waters of

Bath ought to be as efficacious. We should like much to have satisfactory evidence on this head.

Then again, waters are now used in diseases in which they were not formerly much employed. Thus the Homburg and Kissingen springs have both been found very useful as alteratives in gouty cases, both before and after bathing in warm waters; and there is difference of opinion as to whether a course of such waters should precede or follow the bathing. Much must depend on the particular case, but under all circumstances the course of the salt waters should be a mild one. The *nach cur*, as it is called, after bathing, should be of a more or less tonic character. We are of course aware that the weak salt waters of Wiesbaden, and the still weaker ones of Baden-Baden, have always been more or less drunk in gout, while they have been employed in baths.

The accounts of the efficacy, at all events temporary, of alkaline waters in diabetes continue to be confirmed. Vichy and Carlsbad are still the places where the best results appear to be gained; but of late years Neuenahr has been put forward, especially by Dr. Schmitz, as producing at least as striking effects; and if it really does produce them, the Apollinaris water, in close proximity to Neuenahr and containing as much carbonate of soda, ought to be equally useful. But there is always, in considering the effects of treatment on diabetes, a difficulty in knowing how much is attributable to dietetic and how much to medicinal treatment; and we find that the practitioners at Ems, where the waters, along with a little common salt, have somewhat more carbonate of soda than at Neuenahr, declare positively that their waters do no good in diabetes. Dr. Seegen, of Carlsbad, continues to work with unabated zeal in the elucidation of this disease, and by his investigations respecting the conversion of albuminates in the system has satisfied himself, that the nitrogen of such substances does not quit the body solely through the urine and the fæces, but partly also in a gaseous form, and that occasionally to a very considerable amount.

Another constitutional affection, which also requires special dietetic treatment—the increased formation of fat—is very satisfactorily treated at many baths, and perhaps most so at Carlsbad and Marienbad. Kissingen or Homburg waters are also used for this purpose, but are not nearly so effective in the dissipation of superfluous fat. The best treatment is found not to be by violent purging, but by the continued use of moderate doses. Such treatment is much safer than the violent sudation of Turkish baths, which indeed are dangerous for the weak fatty hearts that are apt to be present in fat subjects, for whom also violent lowering treatment by the sulphated waters

is by no means suited.—It has long been supposed that, valuable though sulphate of iron is in its medicinal form, yet its solutions in mineral waters are heavy and indigestible. This is probably in reality the case; but Dr. Knauthe, of Meran, has undertaken the defence of the sulphated springs of the Tyrol, and brings forward evidence of their use in small doses having proved very satisfactory, especially in children. The Tyrolese themselves have used these waters chiefly as baths, as they found that they were too strong for drinking. Waters which can only be taken by the spoonful, diluted with common water, are not very convenient ones for use. Still, if these facts are confirmed, the Tyrol waters and those of Levico (which contain arsenic also) may come to be more employed. The spring at Trefriw, in Wales, is said to be efficacious, and the old sulphated springs at Sandrock, in the Isle of Wight, and in one or two Scotch localities, as Hartfell, may deserve to be examined again. The question is also suggested, whether something might not be systematically done to make our simple English chalybeate waters lighter on the stomach by the addition of carbonic acid. We do not learn with what degree of success an experiment of this kind made a few years ago at Harrogate has met.—Another novelty is the recommendation of the use for baths of acidulous waters, which have been hitherto used chiefly for drinking. As it is now admitted, that what are called steel baths, owe their efficacy to the large quantity of carbonic acid they contain, and not to their small amount of iron, the proposal seems to be quite a rational one; and where acidulous springs are copious, and they are largely charged with carbonic acid, we see no reason why they should not be used in this way. A proposition of this nature has been made respecting the waters of Bilin, which contain much soda and a large supply of carbonic acid.

Non-absorption by the skin is still the prevailing doctrine; and the theory of the operation of indifferent waters remains nearly *in statu quo*. That springs, not containing more than the usual quantity of salts present in many drinking waters, but of an elevated temperature, should produce the really wonderful effects which undoubtedly are to be witnessed at Gastein, Wildbad, Ragatz, Plombières, and sometimes in a smaller degree at Schlangenbad, and even at Buxton, is undoubtedly remarkable; and no influence of mere heat and changes of temperature affords a satisfactory explanation. The electrical properties of such waters have been studied a good deal of late, and it seems to be made out that the presence of very minute quantities of salts causes very distinct electrical changes, but in what way this fact bears on such curative action of these waters, we are as far from knowing as ever.

Very great attention has been paid to the local treatment of pharyngeal and laryngeal affections; and the springs of brine, as at Reichenhall in Bavaria, and at Bex in Switzerland, of salt waters, as at Soden, of alkaline, as at Ems, and of sulphur waters in many places, are now systematically applied. Of late years the inhalation of gases and of pulverised waters has become a common practice in the treatment of pulmonary complaints. Patients spend some hours in rooms having their atmosphere impregnated with the waters of the source, thus inhaling a certain amount of its vapour. At Lippspringe and Inselbad, and at Panticosa, patients are supposed to be the better for inhaling the excess of nitrogen with which their waters are charged. At Reichenhall salt waters are pulverised; and at Weilbach and other places sulphuretted vapour is inhaled. This last procedure has been so widely followed of late in France, that a few words may be said about it.

Gargling the throat with sulphur waters, applying the spray to the back of the throat, and inhaling the vapour of sulphuretted hydrogen, have all found especial favour in France, and may be seen as practised at Marlioz, Allevard, Enghien, Amélie-les-Bains, Eaux Bonnes, and at most of the Pyrenean springs. The effects of these inhalations are thus described by the French. First, there is a sedative action along with a general feeling of comfort; then comes a period of discomfort, circulation and respiration both being irregular and accelerated; next comes the stage of tolerance, in which the pulse is slightly slower than in its normal state; and lastly, if the sitting be continued too long, there is the stage of intoxication, with headache and even with vertigo. The process suits lymphatic and nervous better than sanguine temperaments; delicate people bear it quite as well as strong ones; women and children are more readily affected than men. The therapeutic effects attributed to inhalation are, the relieving of congestions of the bronchial mucous surfaces, especially of capillary bronchitis, promoting the absorption of plastic deposits, above all the relieving dyspnœa and bringing into work portions of the lungs that have been inactive. Inhalation sometimes induces neuralgia of the sixth pair.

Such effects of sulphur waters, although they are ascribed to cold as well as to warm ones, have never been known in England; indeed, English sulphur waters were pronounced injurious in phthisis. Yet we have a large body of French physicians who bear testimony to their undoubted utility. But we may remember that the more imaginative of them have detected distinct proof of arsenical action on the system in the waters of Bourboule; and that we in England have gone on attributing the cures often effected at Kreuznach, to the action of iodine.

So much is there in a notion which we have once got hold of.

Dr. Schliep endeavours to carry out with the Baden waters the treatment of gastric catarrh by the stomach pump.

Baths of carbonic acid are everywhere falling into desuetude, we believe deservedly, for we never had any satisfactory account of their use proving permanently beneficial, and it certainly was not unattended with danger. It is remarkable that, while carbonic acid is less employed in its simple state, greater importance is daily attached to the presence of that gas, whether in drinking waters or in those employed for baths. Almost all popular waters used in affections of the digestive organs and of the uterus, are largely charged with it. So also are all the steel baths which are so largely employed, and the presence of this gas in the waters of Rehme and of Nauheim gives these a character different from that of the ordinary *Solen.* We have to lament in England the absence of carbonic acid from our waters.

As to the season for visiting baths, there is some little change. Bath cures are somewhat more frequent during winter than formerly, at such places as Aix-la-Chapelle, Wiesbaden, Baden-Baden, and Amélie-les-Bains. They can only be carried on in comparatively large towns, where the establishments are not closed for the winter.

Bath cures are also attempted somewhat earlier in the season, and no doubt the class of cases that resort, for instance, to Carlsbad, for congested and enlarged livers, may derive more benefit from drinking the waters while the temperature of the air is moderate, than during the intense heat of July and August. The bath physicians have also more spare time in the spring to give to their cases.—If there be still much to find fault with in many of the hygienic arrangements of spas, yet there is no doubt that this is an era of great improvements in them. Some of those that have come under our notice during the last two or three years have been these. New and well-equipped baths have been provided in many of the Wiesbaden hotels. In Schwalbach a new Curhaus is ready to be opened. In Homburg baths are now provided, and the abundant presence of carbonic acid in its waters is thus utilised. A large bathing establishment has been formed at Kissingen, the Curhaus is being extended, and, if all the arrangements are not quite what might be desired, there is a prospect of defects being remedied under the new arrangements that will come into force next year. At Weilbach a new bath house is in course of construction, and on the picturesque height of Falkenstein, to the south of the Taunus, a sanatorium for phthisical cases is rising at an elevation of 1600

feet. At Wildbad the baths have, within the last few years, been completed, and the extent of the gardens has been increased. The railway is at length rendering the kindred waters of Gastein easy of access. At Baden-Baden the great building, which is to supply vapour baths from the natural heat of the waters, is on a magnificent scale, and is approaching completion. The new baths at Cauterets, in the Pyrenees, are quite models of their kind. At Eaux Bonnes, a new spring has been utilised. Ischia has got new and admirable baths. Dax has a large establishment. We have all heard of the new baths at Harrogate and at Bath; it would be tedious to carry this enumeration further.

To turn to a subject of some economic importance, among the improvements of mineral waters may, we think, be fairly reckoned the better methods now adopted for filling bottles with mineral waters and exporting them. The practice of exportation is a very old one (for we have had supplies in London of Seltzer, Spa, Pyrmont, Harrogate, and many other waters for more than a hundred years), but it was never very satisfactory, and especially in the case of iron waters there was almost always a deposit of some of the salts. This has been in a great degree got over by Fresenius's method, and iron waters now keep very well, as do alkaline and saline ones. The use of carbonic acid and the exclusion of atmospheric air are the great secrets of success.

This improvement is particularly valuable in the case of waters called table waters, and which are used more for dietetic than for strictly medicinal purposes, although some are employed abroad for incipient phthisis (indeed Seltzer water was once used in such cases in England), others for the lithic-acid tendency, and all of them for dyspepsia.

These waters may be classed (1) as simple acidulous alkaline waters. They are abundant in the Rhine district, where we have the Heppingen, the Kron-Thal, and the Apollinaris springs close together, with hundreds such in the Eifel. Gieshübel is the chief of the many springs of this kind near Carlsbad; it is largely exported, and, if it were more conveniently situated, would be a formidable rival to the Apollinaris water which has recently obtained, and justly, such extended popularity; the Geilnau water in Nassau is another of this class. The French waters of Chateldon and of Châteauneuf are akin in qualities. (2) Another description of similar waters, but containing a little more chloride of sodium, is represented by the long-popular Seltzer water, to which Roisdorf may be added, and the very admirable Tönistein Heilbronn near the Rhine, which, in addition, has a good deal of carbonate of magnesia and a very fair supply of iron. (3) To these must be added what may be called the French class of acidulous waters, in which a certain proportion of

lime is present, such as St. Galmier, Pougues, Medaques, Soulzmatt, and Soulzbad.

Waters like these, weak though they be, are of very considerable value in the regimen of patients, and it is very desirable that they should be sold at a price which shall render their use by all who may require them, tolerably easy. The facility with which the more important waters, such as those of Vichy, Vals, Carlsbad, Bilin, Marienbad, and many others, can be procured away from their sources, has rendered the imperfect imitations of them which were at one time welcome in the absence of anything better, now quite unnecessary. Table waters present a drink that is extremely palatable in warm countries. Seltzer water has long been sent to India. And it is difficult to suppose that such waters do not meet a real want, when we hear of Germans in New Zealand ordering a supply of their favourite Gieshübeler.

There is another class of waters which are still less rarely drunk on the spot, but which are largely exported. They are called by the Germans bitter waters, owing to the taste of sulphate of magnesia. They are aperient, and their value has long been appreciated. Thus the true Seidlitz water (what we used to employ under that name bearing no analogy to the natural water) was long known in England as a convenient purgative. It contained chiefly 13·54 parts of sulphate of magnesia in the 1000 parts. Two other waters of the same class were imported from Germany some years ago; they were superior to the Seidlitz and have of late years been very popular, and recently a Hungarian water has been introduced, which bids fair to be the most popular of the three. The following table of the chief constituents will show the relative composition in 1000 parts of these three waters:

	Friedrichshall.	Püllna.	Hunyady.
Sulphate of magnesia	5·1	12·12	16·0
" soda	6·	16·11	15·9
Chloride of sodium	7·9	—	1·3
" magnesia	3·9	—	—
Total with other salts	25·19	32·7	35·
Free and half-combined carbonic acid	166·3	69·	278·5

It is obvious, therefore, that the Püllna and Hunyady contain more of the purging salts, Epsom and Glauber salts, and Friedrichshall more chloride of sodium. It has been presumed that the presence of chloride of sodium would render the Friedrichshall water more tonic and less lowering, but the practical result is that this saline water is a less satisfactory aperient than the other two; its action is less certain, and it must be taken in greater quantity. Still, it is used to a large extent at German

spas to supplement weaker waters. It is much used in Germany, and often in small doses as an alterative.

The Püllna is a very good purgative, and we have known it taken habitually for many years in small doses, without losing much of its laxative effect. Its composition, however, is not always fixed; but the Hunyady is a still better water, acting in smaller quantity as an aperient, and generally very mildly and without any griping. The Hunyady also contains the largest quantity of carbonic acid, which helps to make it more palatable, and has a minute portion, nearly a grain, of carbonate of soda. A half or a wineglassful of the Hunyady taken at bedtime produces a couple of soft motions next morning; one or two wineglassfuls taken in the morning produce four or five motions, at first soft and afterwards watery. The action is pleasant, and there is a wonderful absence of griping. It is obvious that a convenient and sure purgative, the taste of which is mild and scarcely unpleasant, which will act when taken in small doses, is a valuable addition to our remedial measures, available in the treatment of almost any affection where an aperient is called for. A great many of the first German physicians have after ample trial expressed their opinion that it is the most certain and most comfortable in its operation of all the bitter waters, while on an average one half less is required to be taken. The special indications are in costiveness, especially in that of pregnancy, in portal congestion with tendency to hæmorrhoids, and with sluggish action of the liver. There are six wells close to each other near Ofen, of almost identical composition, and their waters are mixed together to supply the Hunyady; it is not surprising to learn that there is already a large exportation of the water.

We shall now say a few words about new baths which are rising in importance. If they are called new, however, it is only in a certain sense, for most of them have been long known, though only of late brought more prominently before the public.

In France perhaps the newest is Bourboule, with warm alkaline waters containing an unusually large amount of arsenic. It is in Auvergne, within a few miles of Mont Dore, and has suddenly been converted from scarcely the dignity of a hamlet, into a place containing perhaps a dozen large hotels. No doubt its waters are remarkable, and deserve to have a fair trial. Since its rupture with Germany, France has been very anxious to supply waters like those of that country, and it has endeavoured to give increased development to the strong salt waters to be found at Salins (Jura), Salins (Savoy), and to Salies (Bearne). There is no reason why she should not succeed in

her efforts. It is also attempted to develop the resources of Challes, close to Chambéry, which possesses a very remarkable spring, strong at once in sulphur and in iodine.

One of the places that have been rising into extended use in Germany is Elster, which, no longer a resort merely for Saxon officials, is becoming a formidable rival to Franzensbad and Marienbad with similar waters. The little salt station of Kösen, prettily situated on the Saal, bids fair to become a popular bath. Hall, in Austria, is rising into notice since attention has been called to the large quantity of iodine contained in its waters. The chalybeate springs of the Black Forest, Petersthal, Griessbach, Rippoldsau, are becoming better known. Badenweiler is now a great resort of northern Germans in affections of the chest; it also is in the Black Forest. In Switzerland, Ragatz (Pfeffers) has regained the repute of ancient days, and St. Moritz and Tarasp are visited, as they never were in early times. A regular *sool* bath too has arisen at Bex.

We need scarcely allude to distant Bohemian or Hungarian waters, which the English are never likely to resort to much; otherwise we might refer to Johannisbad, called the Gastein of the North, and to Luhatschowitz, which has some of the strongest alkaline waters in Europe. More within reach are the strong alkaline waters of Bilin, near that crowded place Teplitz, which are more visited since the erection of the new bath establishments; and the pleasant acidulous springs of Giesshübel near Carlsbad, which have lately been vastly improved by their spirited proprietor. Of the future of these two last, or of an admirable chalybeate watering place, Königswarth, which is close to Marienbad, it is difficult to speak with certainty. If they were at a distance from other spas, no doubt they would become popular, but they are all of them too close to large springs of higher importance. Bocklet has admirable iron waters, but has never had any success as a watering place, owing to its too-close vicinity to Kissingen, while the feebler waters of Brückenau which is further removed, have enjoyed great popularity. They have, however, something more than merely weak chalybeate springs to recommend them.

We believe that nothing very new is to be found in Italy. The waters of Castrocaro, with their unusually large amount of iodine, are perhaps becoming a little better known; and the iron springs of the Tyrol, such as the carbonated ones of Rabbi and Pejo, and the sulphated ones of Levico, Ratzes and Mitterbad, are now known a little beyond the limits of their own neighbourhood.

The French have various mineral waters of importance in Algiers, and a good deal has been done to attract visitors; but we cannot at present extend our view in this direction. We hear

nothing of any changes in Portugal, which contains so many and so valuable sources; and we have long given up sending consumptive patients to Lisbon or to Cintra; the political disquiet of Spain must have interfered with some signs of activity which appeared to be discernible a few years ago at some of the baths in Guipiçoa, within the very province which has been the chief scene of the protracted struggle.

Turning to England, if we cannot point to the discovery of any new spring of importance, there have at least been signs of activity at some of the watering places. A good deal has been done to keep the Woodhall spa before the public, and advertising appears to be a necessity of new spas; and if the latest analysis of its water shows that it contains a moderate amount of iodine, it is undoubtedly unusually rich in bromine, although it is a question whether the quantity of bromine present in any mineral water is therapeutically of very much importance. At Droitwich, with its abundant supply of the strongest salt waters, a company started a bathing establishment, which, though now in other hands, has been carried on successfully; and we hope that the system of the German *soolen* will be worked out satisfactorily there. Up to the present moment the baths have met with a great amount of patronage, and we learn that arrangements are being made to meet the growing resort to them.

Two of the places which have made most rapid progress of late years, are situated in comparatively out-of-the-way districts, and both possess sulphur and chalybeate waters, from the chemical constituents of which one could not predicate a great deal; but they are both steadily rising in popularity, and the growth of Lisdoonvarna in the remote west of Ireland equals that of Bourboule, at least in places of entertainment. We wish we could add that the comfort of Irish hotels equalled that of French ones. If the constituents of their waters be not very powerful, both Lisdoonvarna and Llandridnod, in Central Wales, enjoy the advantages of excellent air, and it is well that we should have baths of our own, and baths in remote districts, which may prove useful when patients do not find it convenient to go to a distance. Let the Irish keep up Lisdoonvarna, the Welsh Llandridnod, and let the Scotch cherish Moffat, Bridge of Allan, and Strathpeffer.

And this brings us to another view of the subject, the nationality of baths. A French bath has a character of its own; even an Austrian one differs considerably from a German one. There is also a nationality of doctors; a French one will usually recommend a bath in France, a German will point out the advantages of some German spring, while a Vienna physician is pretty sure to send his patients to one of the Bohemian watering

places. In many cases these physicians may give sound-enough advice, for each country contains a very great variety of waters. An English physician, however patriotic he may be, can scarcely confine himself to England, for there we have not the variety of waters that is required to meet the indications of many cases of disease. Baths may also acquire a sort of character from those who frequent them; thus at this moment Homburg, St. Moritz, and Cannes are essentially English watering places, while others may almost be called Russian or American. Schlangenbad, for instance, has proved particularly attractive to Russians. Now that they have deserted their favourite Baden-Baden, the French can scarcely be said to have a bath out of their own country, which they specially patronise.

Such matters are practically of importance to attend to, although they may at first sight appear beneath the dignity of grave medicine.

Health resorts may be divided into the gay and the dull: places such as Homburg, Harrogate, Scarborough on the one hand; such as Neris, Weilbach, or Lowestoft on the other. It is always important to know how far what are called life and gaiety, are essential to the enjoyment of the individual; a man with a large family of young children will prefer a dull, small village in Wales as a sea-side place to Margate or Eastbourne, although a London club man would find life intolerable in the former. Then again, baths may almost affect a religious character; Free Church clergymen affect Strathpeffer, the Dissenters are in their element at Llandridnod, while the Irish priest is in his full glory at Lisdoonvarna. We even find a hill station in the Tyrol, Obladis, recommended as particularly suited for Ultramontanes, where Northern Germans need not show themselves, although the society is represented as one happy family quite tolerant of differences. Somewhat different are baths where faith is the professed element of cure, as at the praying baths in the south of Germany, or at the miracle-working well of Lourdes. It is also noteworthy that there is a strong religious element in many English hydropathic establishments.

It is satisfactory to find that the German watering places have borne with little loss the abolition of their gambling tables; and what they may have lost is fully made up for by their increased respectability. Ems, Wiesbaden, Homburg, Baden-Baden, have scarcely fallen off in the number of visitors; and the father of a family need now have no doubts as to the propriety of taking his daughters to Baden, or to Spa. The last place, we believe, has suffered more than others; but baths or spas, of permanent value, will not suffer in the end; and Saxon is, we believe, except a few Spanish ones, the only bath that maintains

the evil pre-eminence of having tables. It is not creditable to Switzerland that it should support the lowest class of gamblers.

We shall next allude to two questions in medical ethics, which remain undecided. In some baths the doctors, or some of them, appear at the well every morning to compare notes with their patients. They say that this is very satisfactory to both themselves and their clients, as it saves them the trouble of unnecessary visits during the day. Others, again, think the practice beneath the dignity of the profession, and regard it as a mode of touting for practice.

Then again, it has been usual until lately to give in medical handbooks the names of the bath physicians. Braun, after giving them in the two first editions of his book, excluded them from the third, but they have been re-introduced into the English translation. It has been argued in favour of this, that English practitioners will be able to write to bath doctors about their patients. But we do not see, if they are not acquainted with them, that merely putting a medical address on a letter increases its value; and many object, to the practice of giving the names of physicians, that an author naturally recommends his own friends, and that to give a list of doctors is to put them on an equality with a list of hotels, or of shops.

The great development in almost every country of Europe of establishments professing to be hydropathic, is remarkable. An airy healthy locality is usually selected, and the regular hours and the mixed society of such establishments, which in one sense may be considered to be hotels or *pensions*, contribute much to their good effects. Connected with them now there usually are vapour and hot-air baths; electricity, too, is often applied in various forms; artificial baths of many kinds are prepared, and among them those of pine extract have become very popular; compressed-air apparatus are also not unusual adjuncts. So that a patient who goes to a hydropathic establishment does not confine himself to a cold-water cure, but has the choice of a number of curative agents at his command, which require only to be judiciously applied to make them of very considerable value.

We do not think that the water cure, in its literal sense at least, has made much progress. We should rather say that cold-water treatment is less thoroughly carried out now than it once was, and that the treatment at hydropathic establishments is far more varied than it at one time was, being by no means exclusively hydropathic. But the great development of the cold-water cure has been in the treatment of the more-acute forms of disease, partly in hospitals and partly in private houses. Every one has read of the share which cold

water has in the treatment of phthisis at Görbersdorf and at Davos, of the successful treatment of typhoid with cold baths. Moreover, acute rheumatism and pneumonia have been subjected to the same agent, certainly with quite as much success as by the ordinary modes of treatment. The ideas thrown out long ago by Currie are at last bearing fruit.

As to the whey cure, we decidedly hear less of it; on the contrary, the milk cure has been making progress. The results of koumiss treatment, which was first made known in England about ninety years ago, may be noticed here; apparently the remedy has not gained in general popularity, though there is not wanting evidence of its possessing remarkable restorative properties, when used in sufficiently large quantities. We learnt at Wiesbaden that the koumiss establishment, the advent of which at that place is hailed by Dr. Weber, did not answer, and has been removed; nor do establishments of the kind appear to be really succeeding elsewhere. Milk is found, as a general rule, far more useful in threatened phthisis than whey is. The French have used it extensively in the cure of chronic diarrhœa and dysentery the consequences of tropical disease, and declare a complete milk diet to be a very valuable remedy in these intractable diseases. But the great movement has been in the employment of milk diet in albuminuria and nephritis. In some hospitals all cases of these affections are treated solely by it, and it has been lately said to be useful in dropsy. Skimmed milk has been recommended in diabetes, and buttermilk retains its reputation. Both milk and buttermilk continue to be used with advantage in chronic gastritis and ulceration of the stomach, and milk contributes a favourite article of diet in typhoid fever. It is better to commence the use of the milk gradually, and after a time to make it the sole diet. There are some people who cannot digest milk, for whom the cure is of course inapplicable. But in the case of many who are at first disordered by it, who, for instance, get diarrhœa, the milk diet may after a time answer.

It is hard to say whether the grape cure has made any progress of late. We are inclined to think that it has not; however, the list of diseases said to be amenable to it includes nearly every known malady, although it is doubtful whether we know much more of the therapeutic action of grapes than the contemporaries of Pliny did. The old grape cure, when the diet was exclusively of grapes, has now quite gone out, and it is not surprising that it should have done so, as it induced disagreeable purging and great debility, with more or less stomatitis and irritation of the gums and teeth. On the other hand, the proper use of the grape is better understood, and it is found that a small grape cure, of about a pound and a half of

grapes daily, with nourishing diet, is tonic and invigorating, and even fattening; whereas the use of the full quantity, that is, of seven or eight pounds daily, even along with full diet, is distinctly lowering, and causes a good deal of irritation in the intestinal canal. When fully employed the grape cure is useful in some abdominal congestions, and is said to be so even in chronic diarrhœa. It is only in its milder application that this special treatment can be considered to be useful in threatened phthisis, and it must be remembered that it is usually assisted by pure country air, and it can scarcely be doubted that the climate of Meran contributes as much as the excellency of the Tyrol grapes to making the cure popular at that place. On the lake of Geneva, on the Rhine, and at Dürkheim, we fancy that less is heard of the grape cure now than formerly. Sweet fleshy grapes are the ones that should be selected, and are most efficacious. It is found that the grapes, if eaten off the vine, are too cold; it is therefore better to have them gathered before. It need scarcely be said that the skins and seeds are not eaten. But as it is no very easy matter to most people to extract the juice of eight pounds of grapes, to make the process easier squeezing machines are used by some, so that the patient need only swallow the expressed juice; nay, it has been proposed to bottle it for use, notwithstanding the risk of fermentation. It may be remembered that the great characteristic of grape diet is the immense quantity of grape sugar present, and its extreme poverty in protein compounds. It has been calculated that it requires at least a pound and a half of grapes to supply the amount of protein comprised in an egg. It has been said in a general way that a grape cure without a nutritious diet may be considered to resemble a course of Carlsbad or Marienbad, and one with full diet a course of a carbonated chalybeate to which sugar has been added. But such analogies are somewhat vague. The milk and whey and the grape cures are so intimately connected with the influence of the climate of the place where they are practised, probably an elevated one, that we come naturally to the subject of climate.

A large division of Braun's work is devoted to an examination of climatic health resorts. It is prefaced by an account of phthisis and of its modern treatment, by Dr. Rohden of Lippspringe, a northern bath much resorted to for chest complaints. He has completed his task satisfactorily; and although the one subject of phthisis occupies a disproportionate space in the volume, much of what is said of the bath treatment of phthisis will, owing to its novelty to them, be welcome to English readers. A consideration of the effects of climate reminds one that the English, who have done so much to create

the foreign winter resorts, such as Pau and Cannes, Mentone, and St. Remo, and have set a fashion in this respect to the Continent, figure better in climatology than in other subjects. Of general works we have Sir James Clarke's volume, which was so long the only standard authority; and of a later date Scoresby Jackson's book, which was not appreciated as it deserved, besides many such works as those of Madden, Edwin Lee, Bennett, Williams, and Thorowgood. The Germans have lately come forward; Sigmund's and Reimer's books are very judicious. The French have not written very much on their own health resorts, except in detached pamphlets, although Armand has produced a book of some value on general climatology. Still, we want a work which will give a connected view of the whole subject. The nearest approach to this is Biermann's volume which was published three years ago.

The war with France made a residence in that country unpleasant to Germans, and led to a good many stations within the Italian frontier coming into notice. For instance, Bordighera, near San Remo, which boasts of little dust and of the facilities it offers for getting at once into the woods. Then various places along the coast towards Genoa and beyond it, as far as Sestri and Spezia, have been recommended, each having some little specialty of climate; and in the south, if Amalfi has been little more than suggested (and it has a very sheltered, if rather confined, situation to recommend it), yet Catania has risen into considerable notice. A great many spots about the Italian lakes, as Lugano, Pallanza, Streza, Cadinabbia, Arco, all lying southward of Meran, are new winter stations, and their merits are discussed with much fairness by Sigmund, although he has perhaps something of an Austrian's natural partiality for Meran. The Germans, too, inland people though they are, now that the idea of a navy of their own is a favourite one, are constantly discussing the advantages of sea voyages and of arranging ships for invalids, which are to move about in the winter season from one favoured climatic spot to another.

But the great novelty of modern times has been the attention paid to mountain climates, not only as *nach curs*, but also in the treatment of phthisis. The movement, commencing at Görbersdorf in the north of Germany, has spread to the Alpine climates of Davos and St. Moritz, and it has been a fashion to send chest cases to these heights. It therefore may be worth while to consider at some little length the mode of life and the medical treatment of patients at these elevations, but we shall first say a few words on the grounds on which these Alpine residences have been recommended.

It is scarcely necessary to enter into the theoretical reason

on which great elevations have been recommended in phthisis, as after all it is a question of experience how far phthisical patients really benefit by the treatment they receive at those places. Broadly stated, the two chief reasons for sending patients to them have been, that they may inhale rarified air (which is supposed to contribute greatly to the immunity of the natives from phthisis), and enjoy a climate in which phthisis is said to be unknown. Dr. Rohden has some very sensible remarks on this subject, although defects in the translation render his meaning somewhat obscure. He says that though natives of some Alpine districts, and natives also of certain districts scarcely above the level of the sea, appear both to enjoy an immunity from phthisis while at home (which circumstance obviously cannot depend on amount of atmospheric pressure), this immunity does not accompany individuals when they change their localities; it is therefore at best but a very partial immunity. Then, too, the immunity, such as it is, probably mainly depends on the populations being sparse and their occupation healthy; for, under certain circumstances, natives of mountains, for instance the watchmakers of the Jura, suffer much from consumption. Even if the immunity were made out to be a real one, it would only convey the presumption that the climate of such a district might help to ward off phthisis, scarcely to influence the disease materially when once declared. It by no means follows that, because there is little phthisis among the natives of a place, its climate must be favorable to persons born elsewhere; or, because there may be a good deal of phthisis in the natives of a place, that such a climate may not under certain circumstances be advantageous as a temporary resort to the phthisical. Besides, it is doubtful *à priori* whether Alpine climates, in which acute pulmonary attacks, emphysematous condition of the lungs, and diseases of the heart are not infrequent, should necessarily be favorable to phthisical patients.

In our sketch of Davos, as we have not absolutely visited it, we shall mainly follow the account of Dr. Vacher, a French physician, who saw it in mid-winter, and formed a favorable opinion of it.

The village of Davos lies at a height of about 6500 feet, in a valley running north-east to south-west, open at each end, enclosed on the north and south by high mountains. In winter a cold north-east wind frequently begins to blow along the valley at 1 p.m. The sun does not shine in the valley till 9 a.m., and disappears by 3 p.m. The soil is covered with a layer of snow from six to nine feet deep, which lasts from November to April. December and January are the coldest months. The mean temperature of the four months is 23·15°. The nights are often very cold—their

temperature sometimes as low as —13°. How do patients live under such circumstances?

As before sunrise the temperature is very low—occasionally 5° to 4°—there would be danger for the patients if they showed themselves before that hour in the open air. They therefore keep themselves shut up in their rooms, where, by the aid of double windows and doors and of stoves, a constant temperature is kept up of from 59° to 68°. But when the sun begins to illuminate the valley, the patients leave their homes, and walk in the sunshine. They do so sometimes even in light clothing. The solar radiation is so powerful, that patients have to protect their faces from it; and one of the most curious sights of the valley is, with the snow six feet deep and the temperature in the shade 5° to 4°, to see ladies walking about with umbrellas, and men with their hats covered with ample folds of cloth, to guard against the *coups de soleil* which are so dangerous at this elevation. When the sun begins to descend under the horizon—*i. e.* about three o'clock—the patients hurry to re-enter their hotels, for the change of temperature is as rapid at sunset as at sunrise, and the thermometer often falls 30° to 50° in a few minutes.

As to the regimen of the patients, their diet is substantial, and what may be called fattening; they have plenty of meat and butter and milk, and are allowed wine. They generally gain in weight, and much importance is attached to this increase of weight, as it is regarded as a sure sign that tubercularization is not making further progress. All the patients who are strong enough are douched with cold water for a few minutes, and the more delicate ones are only sponged with cold water. They have daily what is called respiratory exercise or gymnastics, which is intended to bring every portion of the lungs into use. It consists in taking very full inspirations.

We shall not enter here into an examination of what is common to all mountain resorts of sufficient altitude—the purity and comparative rarity of the air, which, therefore, requires increased action in the lungs to procure for their function the requisite amount of oxygen; nor need we remark that, at all events in the first instance, high elevations cause increased rapidity of pulse, and a notable acceleration of respiration. But it must be observed, of Davos specially, that patients who visit it are exposed to great changes of temperature. The thermometer may stand at over 104° in the sun, while in the shade it is only 0°. The characteristics of the climate are, great heat of the sun during the day and intense cold at night. The great heat of the sun is probably owing to the intensity of solar radiation caused by the small amount of moisture in the air; for though

there is difference of opinion on the subject, the dryness of the air is practically proved by the length of time that meat will keep fresh. During the dry season patients do best at Davos; they suffer most when moisture comes with the melting snow in March.

Those who think most favorably of Davos maintain that phthisis with tendency to hæmoptysis is treated there successfully, that patients with laryngeal affections do not get on particularly well, and that the class which does best, is that of patients who suffer from excessive bronchial secretion; they mend rapidly.

For ourselves, although the experiment is said to have been more successful than could have been expected, yet we cannot but think that it is one not lightly to be made. Life may be endurable there in a fine winter, and when there are ample supplies of food; but it often happens that, instead of there being a constant clear sky, there is a succession of snow-storms; the weather is admitted to be most disagreeable when the fall of snow takes place in November, and very much worse in March, when the melting commences. Last winter we believe the patients were, owing to communication being stopped, nearly starved at Davos, and they had extreme difficulty in getting away, for it is a seven hours' drive, even in fine weather, from thence to the nearest railway station; and even if the weather is fine, this is a most serious inconvenience to patients when Davos does not suit, and who may be obliged to change their quarters in the midst of the winter season.

On the whole, pleasant and useful though such heights are in summer, we believe that their use in winter is only a passing fashion, chiefly with Germans, which will soon disappear. Patients will in the main do better by resorting to the southern stations at moderate elevations, or at the level of the sea. In these they, and especially Germans, will find a milder winter temperature than they have at home, and an earlier spring. They will find the houses more sunny, the days longer and much oftener fine, with little snow or ice, and a great many inducements to be in the open air, which they have not at home. Germans will seldom have to complain, like the English, of the inferiority of the butcher meat.

We think that the Germans are making more of a move in the right direction, when they endeavour to attract patients to a town with moderate winter temperature and many local advantages, especially in the superior comfort of its houses, such as Wiesbaden, than in sending patients to fresh settlements like Davos. Canstadt and Baden-Baden also put in their claims as comfortable residences, with comparatively mild winter tempera-

ture; we say comparatively, because all these places have a continental winter, and a degree of cold which we in England should reckon as severe.

At the present moment, what we believe to be the greatest practical difficulty with reference to the search for health resorts for patients is, not to select a place for them to winter in, but to tide over the spring. It is not only that you must hurry away before April from Davos, but a general exodus sets in from all the places on the shores of the Mediterranean before the end of April, when it is too early for delicate patients to return to the north of Europe. There are some spots in the mountains behind Cannes and Nice where summer quarters may be had, but they are not, on the whole, comfortable places, or well suited for invalids. At this season the various places on the southern slope of the Alps or about the Italian lakes, many of which we have enumerated, may be available as transition stations; but they may be at an inconvenient distance for those who have spent the winter on the Riviera and wish to return to England in the summer. For them perhaps some of the Swiss stations are more convenient, being less out of the way, and some of the lower hill stations, or *sommer frische*, as the Germans call them, may be visited as early as May, which is a good season for a whey cure, or what suits phthisical patients usually much better, for a milk one. For patients for whom it is expedient that they should not visit their homes even in summer, a number of comfortable establishments have sprung up of late years, at moderate heights, both in Switzerland and in Germany, and many of the Pyrenean baths are good summer residences for such patients, as are likely to benefit by the use of sulphur waters.

We shall now express our general views respecting the present and future of health resorts of all kinds, whether valued for climatic merits or for the character of their mineral waters.

Braun's work, and others of a similar character, have undoubtedly led to a more critical study of the effects of health resorts of all kinds. The influence of the heat and cold of baths, the comparative value of the different constituents of mineral waters, the purity of the air, the amount of ozone present, the altitude of the place and its hygienic condition, have all been more carefully studied; and the English have given a considerable impetus to the hygienic improvement of such places.

The arrangements of English watering places are, as a rule, superior in a hygienic point of view to those usually to be found abroad. Much has to be done in almost every foreign watering place to improve the drainage, and to remove smells—amidst

which, by the way, the population seems to thrive, and, indeed, these strong palpable odours seem to be less injurious than more disguised gases. We have often been struck with the fact of medical men occupying quarters, in which it was at once palpable that there was something defective in the drainage. Nothing appears to have been done to improve the unsightly and odorous retreats in the neighbourhood of some baths, although their offensiveness has been pointed out by the medical officers on the spot, notably in the woods at Carlsbad and Marienbad. Besides local improvements, and also meteorological observations, we are in want of fresh clinical reports of the effects both of water and of air cures. We hear much of wonderful cures, little of failures, and in either case we are seldom favoured with the particulars of cases. Of course there are a few exceptions to this which we might quote. The French give tolerably full reports of the cases treated in the Pyrenean baths, but there is a great want of clinical histories of pulmonic cases sent to the Riviera.

If we look forward to the future of balneology, we think that the prospect is encouraging. As places are brought into closer communication with each other by improved facilities of travelling, physicians begin to have a better comparative knowledge of the value and of the properties of other waters besides their own. District meetings of those who practise at spas, have become pretty frequent, and have led to a discussion of the practice of different establishments, which must help to give larger views than those likely to be held by the specialist of any one. There are several weekly and at least one half-yearly journal of balneology in Germany, and the German medical journals readily admit contributions having reference to mineral waters. The case is very much the same in France, and there they have a general centre in the Société d'Hydrologie and in its journal. The evil in the way of propagating zymotic disease at our watering places by means of convalescents who ought to be kept in a state of isolation, was discussed fully at the late Social Science Meeting at Brighton, and the best remedial measures were considered.

If we turn to England specially, the future is not quite so promising. Nevertheless, a commencement has been made in the right direction. Great improvements have been made at Bath, at Harrogate, at Buxton and elsewhere, but the profession generally does not take much interest in climatology or balneology, and bath physicians are very sparing in communicating accounts of their practice. The chemistry of our waters has been neglected, and we have no good analyses except of a few of the chief ones. A general fresh analysis of the mineral waters of

England is much wanted, and it might be very fitly undertaken by Government by the agency of the School of Mines or otherwise.

Our physicians are rarely well informed concerning climates or waters. We have recently observed a writer who has paid attention for a long time to such subjects, group together "saline chalybeate waters, such as Ems, Schwalbach, and Spa," which shows how loosely we all talk of different waters.

Regular courses of lectures are delivered in German and French medical schools on balneology and climatology, and a knowledge of these matters is considered to be a necessary part of the equipment of an accomplished physician. We have no instruction about them given in England; we believe that Dr. Sutro delivered a course of lectures on mineral waters at one of our schools, but this was some years ago. We observe that Dr. Th. Williams is about to deliver the three Lettsomian Lectures before the Medical Society of London, on the influence of climate on consumption. This is a move in the right direction; but we shall not be satisfied until courses of lectures on such subjects are delivered in at least several of our medical schools. At present the virtues of mineral waters are but partially understood, and are undervalued. JOHN MACPHERSON.

V.—Imbecility and Idiocy.[1]

THE census of the population for 1871 represents that at that period England and Wales contained 39,567 lunatics and 29,452 idiots and imbeciles, Scotland 6792 lunatics and 4621 idiots and imbeciles, and Ireland 16,505 of the former and 6704 of the latter class. The latter quotation has been taken from vol. i, 'Vital Statistics.' It is obvious that these figures cannot be relied upon as accurate, because, with the exception of returns from public establishments, they have been supplied by unscientific and, in many instances, uneducated enumerators.

Considering the important and specific objects in view, it was

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[1] 1. *Séguin. Opera Omnia.* 1846, 1866, 1873.
2. *On the Imbecile and Idiot.* By Dr. DUNCAN and Mr. MILLARD. 1866.
3. *Annual Reports, Idiot Schools, Massachusetts, down to* 1874.
4. *Annual Reports, School for Idiots, Pennsylvania.*
5. *Annual Reports, School for Idiots, Kentucky.*
6. *Annual Reports, School for Idiots, New York, down to* 1875.
7. *Annual Reports, Earlswood Asylum for Idiots, down to* 1875.
8. *Reports, Schools—Lancaster, Larbert, Gayfield Square, various years.*
9. *"Education of the Imbecile."* By DORA GREENWELL. 1869.
10. *Some Cases of Microcephalic Idiocy and Cretinism.* By Dr. IRELAND. 1875. Reprint.