tions, require to be carefully washed with clean water before use. Only spring-water, well-water, filtered water, boiled water, and distilled water, can be pronounced as absolutely safe. Springs near human habitations are liable to become contaminated.

I believe that the observance of these rules is sufficient to ensure protection; but, since others (whose opinions are also entitled to consideration) take a different view of the mode of infection, it is desirable to state the grounds on which an additional precaution has been recommended.

It is supposed by some writers that the young Bilharziæ gain access to their victims by perforating the skin; consequently, they would forbid bathing in rivers, canals, and open fresh waters of any kind. Sea-bathing, on the other hand, is very properly encouraged.

There is some ground for the objection raised as to bathing in fresh waters, inasmuch as the larvæ of the common fluke have been known to penetrate the skin and to develop in such situations. These instances, however, are rare, and they merely afford examples of parasitic "straying" from the usual path.

The memorandum above quoted was printed and privately issued to the Company's stations on the 29th of last March. With the managing director's approval, these recommendations are now made public.

Lastly, as regards dangers that may arise from external attacks by water-parasites, little need be said. Many still hold, and until lately I myself was of the same opinion, that the Guinea-worm or *Dracunculus* enters the human body from without. We owe it to the lamented Russian traveller, Fedtschenko, to be able to state that dracunculus requires a change of hosts, and that a species of cyclops is the intermediary crustacean bearer. There is little danger in Egypt from this source. Troops in foreign lands are now uncommonly well protected by clothing; still there are points worth mentioning, especially as, in the heat of a campaign, distress from thirst often compels the brave soldier to drink the filthiest of waters. One remark will suffice. During the invasion of Egypt by Napoleon, the French soldiers were so distressed that many of them threw themselves flat on the ground to drink at the margin of the canals. In this way, their mouths and nostrils were attacked by leeches; the species specially held responsible for these bloodthirsty assaults being that known as the *Hæmopsis Sanguisorba* of Savigny. These free parasites not only attacked the men, but also their horses, camels, and cattle. It has recently been re-stated that in the expedition of 1799, the French soldiers also suffered from hæmaturia. That such was the fact there can be no doubt, and it is almost equally certain that the disorder was occasioned by the now well known Bilharzia. At that time, however, the parasite was entirely unknown. Thus it is both interesting and instructive to observe how modern discoveries and researches throw light upon events that have long become historic, and upon endemic diseases whose essential character was completely misunderstood at the time of their occurrence.

DREAMS.—M. G. Delaunay recently made a communication to the Paris *Société de Biologie* on our new methods of physiological investigation. Physiologists who have studied cerebral thermometry have found a relation between the temperature of the brain and that of the cranium, which is not physical but physiological. M. Delaunay, by making experiments on himself during sleep, discovered that similarly a rise in the cranial temperature induces cerebral action. According to psychologists, dreams are generally illogical and absurd; M. Delaunay, however, by covering his forehead with a layer of cotton-wool, rendered at will his dreams healthy and intelligent. The second method is based on decubitus, which, by favouring the afflux of blood into the dependent part, increases nutrition and induces action in that part. According to M. Delaunay, the dreams which people have when lying on the back are sensuous, agitated, and erotic. Those which occur when the dreamer is lying on the right side are changeable, full of exaggeration, absurd, and relate to old recollections. Those which occur when lying on the left side are intelligent, reasonable, and relate to recent occurrences. Finally, people often talk during the last-mentioned kind of dreams. The writer sums up to the effect that dreams are a legitimate subject for psychological investigation, since dreams, intelligent or otherwise, erotic or sober, can be induced by causing variations in the cerebral circulation and the nutrition of the various regions of the brain, either by the elevation of the cranial temperature or by decubitus.

ABORTION.—A case involving some medico-legal points was recently tried in Chicago. A girl died from metro-peritonitis. A midwife was tried of causing her death by attempt to produce abortion. The necropsy showed that there had been apparently an attempt to produce abortion, but that the girl had never been pregnant.

REMARKS ON HOLIDAY-MAKING AND HEALTH- RESORTS OF NORWAY.

By T. SPENCER WELLS,

President of the Royal College of Surgeons; Surgeon to the Queen's Household, etc.

WHEN medical men are planning a holiday for themselves, their families, or their patients, Norway is seldom thought of. The attractions of the Norwegian fjords have been known for several years past to the hardier class of yachting men. One or more summer months have been very pleasantly passed in exploring the many branches of the Hardanger and the Sogne fjords, the valleys and fine waterfalls which are near, and the mountainous districts within easy reach of safe anchorage. Further north, the whole coast may be visited through channels almost land-locked, and reindeer and Laplanders seen in the "land of the midnight sun". Latterly, a far more numerous class than the yachtsmen have obtained almost the same advantages by means of the numerous steamers which now run from Hull and London to Christiania and Bergen, and the Norwegian steamers which ply along the coast and up the different fjords. And, with the sole disadvantage to those who suffer from sea-sickness of the forty or fifty hours' passage from Hull, it is impossible to imagine how holiday-making and the search for health could be more pleasantly combined than in a summer visit to Norway.

Those who wish to see the midnight sun would be obliged to leave England early in July. This is earlier than would suit a London practitioner; but all the southern parts of Norway can be visited with equal advantage up to the end of August, or even later. My own tour was limited from leaving London on July 25th till my return on August 28th. During these five weeks, we had only one thoroughly wet day; only two in which excursions were partially interfered with by rain; only one day and night when warm clothing was necessary or comfortable; and, although an umbrella was generally required during the warmer parts of the day as a sunshade, the heat was scarcely ever too great for comfort. Clear air and a pleasant soft refreshing breeze were the rule, not only in boats or steamers, but on the roads. Of course, some seasons are more rainy, and some hotter; but as compared with Switzerland or the Tyrol, my own experience and that of others would seem to bear out the impression that one may expect less interference with plans from weather in a Norwegian summer than elsewhere.

Then, as to accommodation; for healthy travellers who are not fastidious, this is quite sufficient. The hotels in the larger towns are good, and the steamers are comfortable. At the smaller country inns and stations visited by travellers in the carriages of the country, the arrangements are primitive, and for ladies far from convenient; but, of the many ladies whom I met at different places, I did not speak to one who did not think that these minor drawbacks were not far more than counterbalanced by the beauty of the scenery, the novel mode of life, and the many interesting events in each day's journey.

As to expense: in Norway, travelling with a party of four to six persons, about £1 a day for each person is a fair or liberal estimate for those who travel in the ordinary manner. But as all this may be learned from the guide-books of Murray, Baedeker, or Bennett—or from Mr. Cook, who has excellent arrangements for tourists in Norway—I shall content myself with thus simply pointing out a comparatively untrodden path to any who are planning a holiday; and proceed to give some little information as to some of the health-resorts in Norway. Hitherto they have been chiefly used by Norwegians themselves, with a few visitors from Sweden and Denmark or Germany. But, occasionally, an English sportsman or traveller has been glad to combine his plans with a visit to one of the sea-bathing places, hydropathic establishments, or mineral baths which are to be found both near the sea, or rather on one of the fjords, and in more mountainous districts. The most important of all these bathing-places I visited on July 7th and 8th, at Modum, about thirty English miles from Christiania. It is near the shore of the Tyrifjord, surrounded by pinewoods on the slope of mountains which extend northwards and bound a valley or gorge, along which rushes a river after a very fine precipitous fall. The hills and the sides of the stream and falls are rich in sheltered walks, and the air is very pure and invigorating. A spring known as St. Olaf's fountain is a strong chalybeate, with free carbonic acid.

This is used as a drink in all cases where iron is indicated. But a number of other bathing processes are carried out in this establishment, which was founded and is still under the direction of Dr. Thaulow and his relative Dr. Dedichen. Warm or tepid baths, with friction by birch leaves or twigs; with strong extracts or decoctions from the pine needles; with the ferruginous deposit or mud of the springs; as well as inhalations of medicated steam, are all practised here. Very perfect arrangements for carrying out all these processes have been completed by Dr. Thaulow; and I saw many patients who had found great relief in various forms of lung and throat disease, and in rheumatic, neuralgic, and paralytic conditions, after one or more visits. About three hundred patients were there at the time of my visit, living either in families in small detached cottages, or in the rooms of large villas each with many small bedrooms. A spacious dining-room, a large hall for concerts, dancing, and theatricals, with a promenade and band, complete the arrangements so well known to those who have visited the springs of France, Germany, and Belgium.

At Sandifjord there is a similar establishment, which was also founded by Dr. Thaulow, but is now under the superintendence of his son-in-law, Dr. Knutsen, where the different kinds of baths and frictions used at Modum are also to be had, with the addition of sea-bathing, and with a spring of a very strong sulphurous water much resembling that of Harrogate. A saline and sulphurous deposit, or mud, is also used here instead of the ferruginous water of St. Olaf; and there are equally good arrangements for inhalation and for the application of electricity. One quite novel appliance is a sort of local irritation or blistering by means of the sea-anemone—*medusa aurita*—which abounds in the fjord, and is a very active irritant, and is said to have proved extremely useful in a large number of rheumatic and neuralgic patients. In many cases, neuralgic pains of long duration are said to have entirely disappeared after only one application of a medusa. Dr. Thaulow first adopted this practice in 1837, after having seen a man who, when bathing, was accidentally stung by a medusa on the shoulder near the seat of neuralgia of some years' standing, and who never suffered afterwards. I made Sandifjord my head-quarters for a week, most hospitably entertained by Dr. Thaulow and Dr. Knutsen, and watched the mode of using the medusæ. An attendant holds the medusa by the upper smooth surface, which is not an irritant, and does little more than touch the parts where the irritation is required for a second or two with the under surface of the creature. The poison must be very active; for a smarting and burning sensation immediately follows; then redness and swelling, lasting for some hours; and frequently an erythema, which may not pass off for several days. Soon after the application, the patients often feel shocks, described as electric, in different parts of the body; and head-symptoms, varying in character and duration, are not uncommon.

Another class of cases in which the Sandifjord processes have proved very useful, are diseases of the nervous system due to secondary and tertiary syphilis. Every year, the number of these patients increases. The use of the sulphurous water and baths is combined, very much as at Aix-la-Chapelle, with mercurial inunctions. Dr. Knutsen told me of many very remarkable examples of the advantages of this so-called "mixed cure". Fifty such cases were treated here in the year 1881, among a total of 420; and 55 of diseases of the nervous system due to other causes. The most numerous were rheumatic patients, 178 in number.

At Laurvig, a small seaport, I also visited a very well arranged bathing establishment, superintended by Dr. Holm. The water here is also sulphurous, but much less strong than at Sandifjord. Warm sea-water baths, with friction, followed by douches of warm and cold fresh water, are systematically carried out here; and there are very well arranged inhalation-rooms for vapours and for the use of compressed air. Cases of chronic catarrh, remnants of chronic pneumonia or pleurisy, scrofulous and many chronic diseases of the skin, are treated here with great advantage. One of the special modes of treatment used both at Laurvig and Sandifjord is a saline mud called *gyfte* or *gytte*, used alone or after admixture with the sulphur-water. This is used as a "mud-bath"; also by friction and poulticing.

At all these establishments, patients are very methodically treated. Each one has his number, and a form of printed directions filled up by the doctor, who attends in an office for two hours three times a day. The amount of water to be drunk at different hours; the temperature, duration, and kind of bath; the frictions, belts, or poultices; the vapours and douches, are all prescribed with care and precision. So are the amount of exercise and the diet.

There are several hydropathic establishments in Norway; but I only visited one, a large place called Grefsens Bad, about half an hour's drive from Christiania. The views of the fjord and its islands are splendid, and the bathing arrangements very complete. It might be a very convenient place to stay for any one detained in Christiania.

It would be ungrateful if I were to conclude this very hasty sketch without a word of thanks for the extreme kindness and hospitality received from my professional brethren in Norway, but especially from Professor Nicolaysen of Christiania, Dr. Thaulow of Modum, and Dr. Knutsen of Sandifjord.

BRITISH MEDICAL ASSOCIATION.

FIFTIETH ANNUAL MEETING.

PROCEEDINGS OF SECTIONS.

THE SCIENTIFIC AND PRACTICAL OBJECTS OF THE REGISTRATION OF DISEASE.

Read in the Section of Public Medicine at the Annual Meeting of the British Medical Association in Worcester, August 1882.

By ARTHUR RANSOME, M.D., A.M.,

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So much attention has been paid of late to what may be termed the political aspects of the subject of the notification of disease, that it may be of some service to revert for a few moments to the scientific as well as the practical objects of the registration of disease. My remarks must necessarily take the form of a survey of the course that this undertaking has followed hitherto, and its possible scope in the future; but time will not permit much more than an enumeration of the things that have been, and that may afterwards be, accomplished by its means.

To those who have not followed the history of this subject, it will be interesting to learn that probably the first complete attempt at a registration of disease was made by this Association in 1853, nearly thirty years ago, when the Association was still called the Provincial Medical and Surgical Association; and tables of prevalent disease, along with elaborate meteorological data, were given week after week by Dr. Moffat and others in the JOURNAL of that day. These returns attracted much notice at the time, and many interesting observations upon the connection between the meteorological changes and disease were made. As the records were made daily, it was even possible to note the effects of changes in the barometric pressure and in the direction of the wind. In a paper published in 1860, on the Influence of Barometric Pressure upon Hæmorrhages, I showed that the results of these returns already bore testimony to the value of even a partial registration of disease.

In 1857, the General Board of Health in London took up this question, and from 1857 to 1858 they published a carefully compiled return of disease occurring in the metropolis. These returns were also utilised by several observers of the influence of atmospheric changes upon disease; and in the year 1860 similar records were obtained in Manchester and Salford by the Sanitary Association. These weekly returns were continued for twenty years; and, in addition to being put to the above purpose, they were found to be of great service in giving timely information of the presence and course of epidemics. They now form a body of medical statistics out of which have been drawn many conclusions respecting the laws of epidemics, their periodic appearances and their causes, and the relations to them of other diseases.

In 1862, our own Association again took up the subject, and a committee for its advancement was appointed by the Lancashire and Cheshire Branch; and in 1865 this movement was spread throughout the Association by the appointment of a more general committee at the meeting in Leamington.* It was then pointed out that many valuable results might be expected to follow the establishment of a systematic registration of disease; such, for instance, as the tracing of the influence upon sickness of the varying conditions of climate and season, of prosperity and distress, of the trades and manufactures, and of many other circumstances peculiar to a district. Their bearing upon the subject of epidemics was also fully discussed.

Shortly after this date, the Royal Sanitary Commission reported favourably on the subject; and I would again earnestly call the attention of members to the terms in which they speak of both the practical and the scientific value of the registration of disease. But I will not now carry any further my history of this subject, seeing that from this point it is

* This committee consisted of Dr. Acland, Dr. Hughes Bennett, Mr. Crompton Dr. Farr, Dr. Fleming, Dr. G. Harley, Dr. Hodgson, Dr. Handfield Jones, Mr. R. C. Browne, Dr. Morgan, Dr. W. Ogle, Dr. Philipson, Dr. A. Ransome, Dr. Stewart, Dr. Sibson, Mr. Thomas Turner, Dr. Waters, and Dr. Eason Wilkinson.