In conclusion, we have to acknowledge the kind assistance given to the expedition by the chairman and secretary of the Shanghai Municipal Council, the cordial help and advice of the principal medical officer of health for Shanghai, and of Drs. Moore and Noel Davis in the Health Laboratory. In our search for hosts we were greatly helped by Drs. Aird, Skinner, Fujinami, Goddard, Jackson, and many others, to whom our grateful thanks are due.

NOTE ON "KATAYAMA NOSOPHORA."

By G. C. ROBSON, B.A.

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THE mollusc used in the experimental transmission of *Schistosoma japonicum* and now described was reported by Dr. Leiper to occur in damp moss and grass on the sides of the irrigation ditches and also on growing plants in the rice fields in very great quantities. It was therefore a matter of surprise to the author, on making a search through the literature of Japanese land and fresh-water mollusca, that no description of the form in question was to be discovered. A very careful study of all the available literature of Chinese land and fresh-water forms (together with those of adjacent countries) was made also, and the author had the advantage of Mr. E. A. Smith's assistance. The result was to confirm the preliminary experience, and in consequence it became necessary to regard it as a new form. That a fresh-water mollusc occurring in such great profusion should to all intents and purposes be undescribed is indeed very extraordinary. Excluding the possibility of its having been described in some inaccessible Japanese publication, we have to bear in mind that it may have been recorded, through ignorance of its anatomical characters, on conchological grounds as referable to some other family. A second and possibly more likely solution may be sought in a suggestion that it may have only recently attained this plentiful development. Mr. E. A. Smith reminds me that *Paludetrina jenkinsi* when first found in England was obtained in large quantities though no previous record had been made of it in the already copious records of the British occurrences.

With regard to the systematic position, it has to be admitted that until more anatomical knowledge is forthcoming the generic position here assigned to this interesting form must be regarded as temporary, as the material was not preserved suitably for dissection.

The radula has been very kindly compared by the Rev. H. M. Gwatkin with those of various hydrobiid genera in his collection. He is of opinion that it is nearest akin to *Pyrgulopsis* and (less nearly) to *Pechydrobis*. Other genera (for example, *Littorinida*) offer a basis for comparison in single teeth, but as far as the material available for study and comparison goes, it appears to be distinct from all the known hydrobiid genera.

KATAYAMA, GEN. NOV.

Radula: Central tooth with three basal denticles and a cutting surface composed of a large median and two lateral cusps a side. The admedian tooth large, with a prominent cusp and five smaller ones; the succeeding teeth having eight and seven cusps respectively (Fig. 11, a). The outer marginal has a strongly arcuate extremity when seen in profile (Fig. 11, b).

Shell, with eight whorls (Fig. 7) (the last two usually eroded), increasing gradually in size, and exhibiting a moderately convex profile and a fairly well marked suture to correspond. The general shape is acuminate. The peristome is continuous, of a rich chocolate-brown colour, thickened and reflected upon the ventral and columellar lips. In the region of the peristome the body-whorl is abruptly extended and the transverse growth lines tend to assume the character of ribs. The colour is light olivaceous brown, the body-whorl being occasionally straw-coloured and the two apical whorls very dark purplish-black owing to erosion. The texture is horny and fairly solid. Irregular transverse growth lines cross the finely and irregularly granulated surface which in place occasionally exhibits, under a high power, a faint spiral sculpture.

Dimensions of Shell.—Maximum height 8.5 mm.; maximum width 3.1 mm.; maximum width of the aperture 2.75 mm.

Operculum (Fig. 9) spirally coiled, with the nucleus of the spiral markedly eccentric being placed towards one extremity in a lateral position.

Katayama nosophora, n. sp.; with the characters of the genus. *Locality of types*: In irrigation ditches and rice fields at Katayama.

The types are deposited in the British Museum (Zoological Department).

ON THE ALLEGED RESPONSIBILITY OF THE
MEDICAL PROFESSION FOR THE REINTRO-
DUCTION OF THE RUM RATION INTO
THE BRITISH ARMY.By SIR VICTOR HORSLEY, F.R.S., F.R.C.S.,
CAPTAIN R.A.M.C.(T.F.).

IN former years the soldier was the victim of various forms of extortion and deception. His life, already very hard, was made harder by his being cheated in his pay, his clothing, and his food.

His pay is still subject to numerous deductions called "stoppages," the infliction of which practically render nugatory many of the promises made to him as a recruit, and, though his clothing is now, on the whole, good and his food greatly improved, he is again being cheated in his dietary by the recent reintroduction into the King's Regulations of the old pernicious rum ration, which is given him as a deceptive substitute for real food, reduces his efficiency, and injures his health.

This issue of rum on a regular and gigantic scale is naturally at the present moment a most serious evil to the country in its struggle against Imperial piracy, but it is also a matter of the highest importance to the members of the medical profession because an attempt is being made to place the responsibility for this national injury upon their shoulders. Therefore, for the protection of our soldiers as well as the defence of the interests of the empire in its strenuous life and death struggle, this matter must be dealt with at once, as one of vital concern and for which also some degree of technical information is necessary.

First, we must begin with tradition, for although the rum ration is now admittedly given to the troops as an intoxicant,* and for this purpose is supplied, not by the Army Medical Service, but by the quartermaster, it is still absurdly supposed (according to the Army Regulations, Allowances 34) to have singular powers of making the soldier dry and warm when he has been "drenched and chilled." How this dangerous nonsense became established as a military tradition, and is still for obvious reasons cherished by some persons, we must now consider in the light of history.

The spirit drinking habit was first contracted by the British army in Flanders during Marlborough's campaign at the beginning of the eighteenth century, and no doubt it gained some hold, because the fatal notion that spirits have some sort of medicinal value had come down through the Commonwealth wars from the Tudor period, when spirits were prepared and sold by apothecaries alone, under the curiously mendacious title of *aqua vitæ*.

The spirit distilling and drinking widely introduced into this country in the first twenty-five years of the eighteenth century led to the awful development of the gin trade, which Hogarth vividly illustrated and against which the College of Physicians issued to the Government their celebrated appeal which led to restrictive legislation against this new popular disaster.

It is more than a national misfortune that this miserable story of 200 years ago is being repeated, in spite of the expressed opinions of Lord Kitchener, and that our army in Flanders is again being taught (by the issue of rum from home this time) to become victims of the spirit drinking habit, thus undoing the great work of Lord Wolseley and of Lord Roberts during the past forty years for army reform and, above all, army efficiency. At this point it must also be remembered, for the sake of our honour as a profession, that the Army Medical Service, though an absolutely essential part of His Majesty's forces, has not only never been accorded a proper place in the administration of military affairs, but even now has no representative on the Army Council, consequently the medical profession cannot be held to be primarily responsible to the nation for errors in the vital question of army hygiene and the medical and surgical care of the soldier.

In fact, the army is still, even in 1915, constitutionally, and in spite of the efforts of the British Medical Association, in a similar state to that of the days of Queen Anne,

* As Parkes said of the issue of rum, "It was one of those incredible mistakes only made worse by the explanation that it was done to please the men."

when the medical officers of His Majesty's forces had no real position and when the interests and health of the soldier were treated by tradition and beliefs instead of science.

It was during the eighteenth century, therefore, that the spirit ration became part and parcel of the soldier's diet, and hideous punishments—that is, floggings and other tortures—were inflicted in order that discipline (so-called) should be preserved among the unfortunate men whose moral was ruined by the rum given to them by their superiors.*

The first scientific evidence that physical injury was caused to troops by the rum ration is contained, as far as I know, in the very interesting memoir by Sir James McGrigor (afterwards Principal Medical Officer of the Army Medical Service) on the health of the Expeditionary Force which the British Government brought from India to Egypt in 1801.¹ Prominent among his facts is the record that in an extremely trying desert march and subsequent movement down the Nile, the men "had no spirits delivered out to them, and not only did they not suffer from this, but it contributed to the uncommon degree of health which they at this time enjoyed."

Perhaps the most striking practical demonstration² on a large scale of the harm immediately done to armies by a spirit ration was the experience of McClellan's great army on the banks of the Potomac river in 1862, when, after several weeks of severe hardships in trenches, battles, and exposure to wet, it was determined to issue a spirit ration under the belief that it would, *inter alia*, help to stop bowel complaints, which were very common. By most of the army it was accepted as a boon, but after one month the ration was withdrawn because drunkenness, dysentery, and diarrhoea had increased.

Subsequently the medical officers of the 4th Corps, being ordered to report on the sickness in the camps, unanimously stated that "the use of the whisky (the form of spirit used) ration was injurious, and the Principal Medical Officer of General Smith's Division reported not only that 'the whisky had increased bowel affections,' but also 'that it was nothing but an unmitigated source of evil.'"

Very many military medical records of precisely the same kind can be cited, but I will only quote one other authority. Inspector General William Fergusson has graphically described his experiences³ of the havoc, misery, and crime caused by the rum ration in the first half of the nineteenth century among our soldiers as follows. After saying that no one would propose to inoculate the troops with an incurable and destructive disease, he continues:

Yet by making the rum ration an article of daily diet we have done worse than this, and taken the most effectual means of destroying both the mind and the body, the moral sense and physical powers of the individual, the general discipline of the army, and the national character of the country.

All the evils of which these early writers spoke have been thoroughly exposed and denounced through the last hundred years by all the professors of hygiene in the military college and by all army leaders and generals sincerely interested in the welfare of the army.

The disasters of the Crimea campaign, in which rum was regularly issued, and the effect of many years of condemnation and protests by military hygienists and authorities, caused a cessation of the rum evil almost to its extinction until about thirty years ago, when the rum ration was specifically declared by the Regulations to be reserved for the exceptional occasions of flying columns.

Even in 1897 the issue of rum made under the Army Regulations was still restricted to flying columns, and each ration was obliged to be paid for—namely, 1d. by the man receiving it. (This payment for the rum ration has this year (1914) been abolished, and the rum is now freely distributed to all.)

During the next decade the use of the rum ration was pushed forward by the authorities, and in 1910 the Regulation read thus:

On very exceptional occasions, such as during wet or cold weather at manœuvres, etc.

This, of course, opened the door much more widely to a general issue of rum, and the traditional and absurd excuse of exposure to wet or cold as justifying the issue was for the first time clearly stated in the Regulations. And now, in the most recent edition of the Regulations (September 28th, 1914), the rum ration has been specifically restored to the free ration dietary of the British soldier in opposition to both scientific and military experience.

In the first place, the expression "*manœuvres*" has been expanded into "*manœuvres or training*." Consequently the rum can be given out to any one, whether recruits or trained men, at any time, for the word "*training*" is unqualified, except by the initial words of the Regulation, on which I will comment directly. In the second place, the proof that the pernicious rum ration is now completely restored to the Regulations and dietary of the soldier, to his injury and ruin, is shown by the following facts. Until the present year the following paragraph always completed the rum issue Regulation:

As spirits do not form a portion of the ordinary ration, special notice of the demand must be given.

This very important paragraph of the Regulations has now been struck out, and the rum ration inserted as such into the regular dietary of the British soldier on active service. The nation is therefore by the new Regulations thrust back again to the misery, inefficiency, and demoralization of sixty years ago.

In fulfilment of this new development of the liquor evil in our army just when other nations, and especially our allies, are endeavouring to suppress it, the authorities have contracted for the supply of over 500,000 gallons of rum, of which more than 250,000 gallons had already been sent to France by the end of November, 1914.

The following physiological effects have been observed by military and naval officers to follow from the issue of the rum ration:

1. Decadence of moral. Causation of grouching, friction, and disorder.
2. Drunkenness. Punishments. Degradations in rank.
3. Decadence of observation and judgement. Causation of errors and accidents.
4. Loss of endurance and diminution of physical vigour. Causation of fatigue, falling out, and slackness.
5. Loss of resistance to cold. Causation of chilliness, misery, and frostbite.
6. Loss of resistance to disease (particularly those occurring under conditions of wet and cold), namely, pneumonia, dysentery, typhoid fever.
7. Loss of efficiency in shooting. (Half the rum ration causes a loss of 40 to 50 per cent. in rifle shooting. The navy rum ration causes a loss of 30 per cent. in gunnery shooting.)

That all these evils, and increase of the difficulties our men have already to contend against on active service, are the direct and invariable result of issuing the rum ration is of course well known, and it is incomprehensible that Lord Kitchener's repeatedly expressed hatred of the alcoholic curse of armies should have been overborne, yet such is the case, and the nation and the army must suffer in proportion.

I must now deal with the rum ration Regulation so far as it directly concerns the honour of the medical profession, which is also gravely involved. The Regulation in its most recent shape is as follows (No. 34, 1914):

On very exceptional occasions, as when the troops have been drenched or chilled through exposure on manœuvres or training, a free ration of half a gill ($\frac{1}{4}$ gallon) of rum (2½ oz.) may if available be issued under the authority of the G.O.C. when certified by the Senior Medical Officer to be absolutely necessary for safeguarding the health of the troops.

This Regulation embodies a number of specific statements and suggestions which are in every instance incorrect, though frequently asserted in the House of Commons and regularly furnished officially to various inquirers and seekers after the truth.

Thus, to begin with the first words: the rum ration in France is not issued on "very exceptional occasions" but every day, and in one case which has come to light it was

* Any one interested in the study of our national character and the extraordinary merits and qualities of the British soldier in spite of the incredibly horrible treatment he has constantly received, should read the records of military surgery of the eighteenth century, especially the memoirs of Surgeon Donald Monro: *Observations on the Means of Preserving the Health of Soldiers and of Conducting Military Hospitals*, 2 vols. 1780.

issued twice a day. The practice differs according to the views of the officer commanding a unit, but from being sporadic, as ordered in the Regulations, it has now become epidemic and constant up to the present date. The ration being now regularized the troops are therefore receiving a full quantity of spirits constantly and not "very exceptionally."

The next point is the phrase in which the Regulation repeats the old, worn-out, mischievous error that people who are wet and "drenched" are helped to resist any ill effects thereof by a dose of alcohol, whereas in fact the condition is reversed, because the alcohol increases radiation from the wet skin which is already cooling by the evaporation of the moisture. But the Regulation even more seriously misstates the action of alcohol by suggesting it should be given to troops chilled by exposure to wet and cold as a curative procedure. Ignorance of physiology is often brought forward by non-medical persons as an excuse for their taking alcohol, and perhaps the absence of the Army Medical Department from the Army Council must be held partly responsible for this monstrous and fatal mistake.

All physiological researches have shown that alcohol aggravates the effect of chilling in two ways—first, by increasing the loss of heat by radiation from the surface, as already referred to; and secondly, by checking the oxidation in the tissues, so lowering the temperature of the body, diminishing its resistance to cold, and weakening the circulation in the extremities. The folly of taking alcohol in cold weather has been proved up to the hilt by all dwellers, workers, and explorers in cold climates for more than a hundred years.

One of the greatest causes of invaliding in the present campaign is "frostbite"—not the necrotic form so much as a severe vascular paralysis, with secondary oedema and neuritis. No better way of encouraging such frostbite could have been imagined than the issue of the rum ration, since alcohol produces the circulatory changes requisite for the first stage of this incapacitating and painful condition. But the unfortunate soldier wet up to his waist and in freezing water is nevertheless told by H.M. Regulations that rum will "safeguard" his health and comfort him (especially if the "senior medical officer" certifies that this is so).

Probably this liquor trade fiction that spirits are beneficial instead of harmful to people who are wet and cold is more popular than any other excuse for intoxication, but that is no reason why it should be enshrined in the King's Regulations.

Take the next point in the Regulations, the quantity of raw spirit to be given to each man—namely, 2½ oz. Half that quantity, as already stated, ruins the soldier's rifle shooting, and the ordinary ration is enough to make a soldier heady and excitable, incapable of his normal physical endurance or toleration of fatigue and intolerant of discipline.

We now come to the last point in the Regulation, and in one sense the most important because involving (without their consent) the medical profession.

The final statement in the Regulation amounts to this, that the General Officer Commanding the unit may order rum to be issued "when" (but, be it noted, not "only when") the "senior medical officer certifies that it is absolutely necessary for safeguarding the health of the troops."

If "when" had been "only when," no rum ration could ever have been issued, for, of course, no medical officer, however old-fashioned, could ever perjure himself by signing any certificate of the kind laid down in the Regulations—namely, that a tot of rum was "absolutely necessary to safeguard the health" of anybody, and, above all, that there would be no health in anybody unless they drank the tot of rum provided by the Government "on very exceptional occasions."

It is interesting to see how this really wickedly ridiculous medical "certificate" has gradually been evolved by our non-medical military authorities.

Years ago, when the rum ration was given really "exceptionally," and only to flying columns, the Regulation included the words "on the recommendation of the medical officer." Around this has grown up a whole cluster of medical myths invented by those whose pleasure in incipient intoxication entirely overcomes any national

or patriotic feelings they may once have possessed. These myths have no doubt derived their greatest support from the fact that the War Office informs all applicants and inquirers on the subject that rum is only issued "on the recommendation of the medical officer"—a statement which immediately satisfies the unwary, though the issue of rum has nothing to do with the medical care of the soldier, but really is a matter between the commanding officer and the quartermaster's supply department.

The person who writes to the War Office, and gets this answer, of course tells his friends that the rum is only given to a soldier on the advice of the doctor. These fables reached their highest development about two months ago, when the London correspondent of a celebrated provincial paper assured its readers that no issue of rum was made to the soldier except on the written prescription of his medical officer. What a vivid imagination this correspondent must have possessed to figure to himself the overworked officers of the R.A.M.C. in France at the present time writing out 250,000 prescriptions for rum every day!

But let us return to the impossible form of certificate which the "senior medical officer" is nevertheless supposed by the Regulations to give, namely, that rum is an "absolutely essential" thing to maintain and protect the health of the soldier.

It follows from this Regulation that since the interests of the country demand that every soldier's health should always be at its best, every soldier should have the rum thus absolutely ordered by the doctor, but that is not so. In spite of the so-called medical certificate Mr. Tennant, on behalf of the War Office, stated in the House of Commons on November 16th, 1914, that it was entirely untrue to say that every soldier had rum. On the contrary it was only given to those who asked for it!

By which statement the whole of the War Office case, that rum is issued as a medical provision and on the recommendation of the doctors, was swept away at one blow. By the same statement also the King's Regulation No. 34 was made into as complete nonsense officially as it is of course scientifically. Is it too much to hope that the authorities will now cease this unjustifiable use of the good name of the medical profession?

In the interests of the soldiers there only remains the further point, also extracted from Mr. Tennant on the same occasion, namely, that as rum is only a deception and neither warms nor feeds, and only injures the soldier, what should he receive instead, especially if he has been sufficiently patriotic to follow Lord Roberts's advice and become a teetotaler? Mr. Leif Jones asked this question, and was answered by Mr. Tennant as follows: "If my honourable friend had heard my answer, he would have realized that an alternative is given." But on referring to the said answer by Mr. Tennant (Hansard, col. 202-3, 16.11.14), there is no allusion whatever to any such alternative to the rum ration being given, and, as a matter of fact, none is either given nor is it provided for in the King's Regulations (34 or 35).

Undoubtedly from a physiological standpoint the question of an alternative to the rum ration is one which should be answered by the medical profession, and can be at once. The interests of the soldier require that he should be supported as far as possible against chilling and fatigue, mental and physical. Much has been said of the admirable way our army has been furnished with ordinary food in this campaign all through, though in my opinion a supply of adequate food was but the very least that a wealthy empire should provide for men rendering it such splendid services. But on this matter of food we are cheating these men in the old Georgian way, with the same old deception of a rum ration. Physiology has proved that a man who is doing hard physical and nerve-trying work needs extra warmth and food; above all, hot liquid or semi-liquid nourishment easily assimilated which, by being function-restoring, is genuinely stimulating. In the present trench campaign there is no difficulty in supplying hot milk flavoured with coffee, chocolate, etc., or hot thick soups, in the night or early morning. For troops on the march probably one more "cooker" or field kitchen per unit must be supplied, but the provision of hot liquid food—the real genuine alternative to the cold deception rum—is perfectly simple.

Yet this question of supplying a real alternative for the

rum sham is indeed no small matter, seeing that warm nourishment enables a man to shoot better and encourages him to go forward, whereas rum makes him shoot badly and inclines him to sit still or even go back.

There remains another point of no little national importance too. Probably 200,000 to 250,000 men in the ranks now were teetotalers. At the least the empire ought to provide fully for these men who have followed Lord Roberts's lead, and it should not attempt to ruin their physique and *moral* with a spirit ration, under the false statement that it is "absolutely essential to safeguard their health."

Whatever else happens, if only the foregoing facts are made widely known, the reputation of the medical profession will at least be safe from the accusation that they are responsible for this gross injury done to our country and its defenders.

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- ¹ *Medical Sketches of the Expedition to Egypt from India*, 1804.
² Hamilton, *A Treatise on Military Surgery and Hygiene*, 1865, p. 70 et seq.
³ *Notes and Recollections of a Professional Life*, Longmans, 1816, p. 73.

BATHS FOR WOUNDED SOLDIERS.*

BY

R. FORTESCUE FOX, M.D.LOND., M.R.C.P.,
 F.R.MET. SOC.

In setting forth the value of medical baths for patients from the military services of the country I shall rely upon a three-fold argument: firstly, historical evidence; secondly, the contemporary practice of other countries; and lastly and chiefly, the known facts as to the action and uses of baths which have afforded in recent years the sure foundation of medical hydrology.

It is not surprising that upon the Continent, which has been so often ravaged by wars, this department of practice should have been studied and followed far more than in our own favoured country. The greatest military empire in history, that of Rome, fully appreciated the value and indeed the necessity of health resorts for its home and colonial populations. We have ample evidence of the fact that not only senators and officials, but the legionaries exhausted by campaigning, had recourse to natural hot baths for periodical treatment and rest. Wherever thermal springs were found bath establishments were maintained by the Government with great care throughout the empire—in Italy, Northern Africa, Egypt, Gaul, Germania, Syria, and Britain. At the sites of many of these baths inscriptions are still found testifying to their medical use by the military. Indeed, for 600 years the Roman *thermae* were regarded as *municipia Divum*, and afforded one of the chief means of medical aid to all classes, both for the prevention and the cure of disease.¹ Many of the Roman baths have been irretrievably lost; many were subsequently re-discovered and restored by the Mohammedans; many others have been in continuous use for 2,000 years.

In some Continental countries, as in Italy, the employment of bath treatments for the military has been traditional almost from the Roman period. At the present time there is in many countries an organized system under Government direction.

France.

In France (1) the large military hospitals and (2) the hospitals *militarisés* (that is, civil hospitals used for the reception of military patients) include, in each case, special establishments for the reception of military patients at certain selected watering places and health resorts. These are known as *hôpitaux d'eaux minérales* and *établissements civils d'eaux minérales* respectively.

This branch of the military hospital service is regarded as an essential part of the organization for the after-treatment of soldiers in France. Out of the thirty-three permanent French military hospitals, three are situated at health resorts—namely, that of Vichy with 212 beds, that of Barèges with 225 beds, and that of Amélie-les-Bains with 418 beds. Among the 216 hospitals described as *mixtes* or *militarisés* are included bath hospitals at the well-known spas Plombières, Bourbon-l'Archambault, and Bourbonne-les-Bains, as well as others at climatic resorts

such as Nice, La Rochelle, Dunquerque, and Dieppe. In Algeria and Tunisia there are the military establishments of Hammam R'hira (with 50 beds) and Hammam Lif. It will be noted that some of these hospitals have been set up at the seaside as summer resorts, and that others, like those at Nice and Marseilles, have a winter season but are available throughout the year.

A few particulars of the French *hôpitaux thermales militarisés* may be of interest.

Barèges is a mountain spa at an elevation of 4,000 ft., in the Pyrenees. The waters are thermal and sulphided, containing a glairy organic substance—Barègine—and have enjoyed for three hundred years a reputation for old gunshot and other wounds and painful cicatrices. The thermal baths, like the semi-alpine climate, are stimulating and "excitant," and are taken in vast piscines or bathing-pools, in flowing water at 99° F.

Eaux Bonnes is another of the group of sulphur spas in the Pyrenees. The old name, Eaux des Arquebusades, was given to it after the Béarnese soldiers wounded in the battle of Pavia (1525), who resorted thither to be cured.

Bourbonne-les-Bains, in the Vosges, is a hot spring, feebly muriated and calcareous. Dr. Martin tells me that it has been a resort for wounded soldiers for centuries, and the baths are considered good both for rheumatism and for wounds. The military hospital at Bourbonne has more than 300 beds, and is fitted with a modern equipment for the baths, as well as for massage, hydrotherapy, and mechanotherapy.

Algeria.—Upon the conquest of Algeria by the French in the fourth decade of last century, they found here or there some dilapidated but still massive bathing pools or *piscinae* of the Roman age. It occurred to the French military doctors, familiar with the historical practice in France, to use the thermal waters of Algeria for treating the sequelae of wounds, and for the anaemia and debility in the soldiers which resulted from the climate or from fever and the fatigue of war. The engineers were accordingly directed to restore the Roman baths. The *piscinae* were again excavated, made good and fenced in, and at several of the ancient hot springs a kind of camp was organized, where the officials and the sick were lodged in tents. The results following these simple means were so good that a few years later the military authorities decided to erect regular establishments, of which the first in date was that of Hammam Meskoutine, founded by Médecin Inspecteur Bégin in 1843. Complete statistics of the cases treated at Hammam Meskoutine, including diagnosis and results, were kept from the beginning, and case-records of about 2,000 cases have been preserved.² It is probable that these figures may be accepted as fairly representing the treatment of medical and surgical military cases at thermal baths. Rheumatism accounts for nearly half the total, or 904 cases, including both the civil and military, rheumatic affections being common in Algeria. Of these, 789 were cured or relieved by the baths. The next group is exclusively military, 509 cases resulting from traumatic lesions. These comprised unhealthy or adherent cicatrix, nerve pains, muscular atrophy, bony deformation, articular and periarticular effusions—all following gunshot wounds; also fractures, dislocations, sprains and other injuries. Of 283 cases resulting from gunshot wounds submitted to the baths, 225 were cured or relieved; of fractures 90 out of 101; of dislocations 10 out of 13; of sprains 19 out of 23. At Hammam R'hira the military bath hospital is furnished with three piscines of moving water, also with bathrooms and douches, and has accommodation for fifty officers and men.

Italy.

Italy is the chief inheritor of the Roman tradition, and for hundreds of years Italian physicians have been foremost in the advocacy of the rational employment of waters and climates. I need only refer to Savonarola, grandfather of the ill-fated prophet, to Baccius of Venice in the sixteenth century, to Giannini of Milan in the beginning of the nineteenth century, to Semmola and Vinaj and Maggiora in our day. Professor Casciani, Lecturer on Medical Hydrology in the University of Rome, tells me that there are at present five military bath stations in Italy (*Stabilimenti Balneari Militari*)—namely, Acqui (160 beds), Recoaro (60 beds), Castellamaro-di-Stabia, on the Bay of Naples, and Salsomaggiore (30 beds), besides the hospital at Ischia, founded in 1875, with 120 beds. It is recorded

* Read before the Balneological and Climatological Section of the Royal Society of Medicine.