"Effreets" (spirits) were believed to be running up and down their legs as long as they wore the obnoxious articles, and it was absolutely necessary at last to give in, and take them off. The thigh case was a severe compound comminuted fracture in the middle third, several large pieces of bone having to be removed. On January 21st, there was good union, with exactly one inch and three-quarters of shortening. Two other compound fractures of the thigh (one undoubtedly oblique) have left the hospital, the one with exactly two centimetres shortening, the second with rather less. I cannot claim any credit for these last two cases, as there was considerable union before they came under my care; but I quote them to show the remarkable kindness of nature, as in neither case was extension of any sort employed.

Several of the wounds for days after admission exuded a tenacious gelatine-like substance; and, in one or two cases, maggots appeared before it was entirely got rid of.

The natives, having once made up their minds, take chloroform well; I have never seen any struggling or sickness, even after prolonged inhalation; and, several times, after a first dose, they have held the lint over their own faces, for fear they should not get enough.

We have endeavoured to feed them exactly as they live at home, both as to time and kind of food. The following is the *menu* for one day:—6 a.m., coffee and native bread; 9 a.m., rice, milk, and eggs; 12 noon, meat and vegetables; 4 p.m., coffee and fruit; 7 p.m., meat and macaroni. Each has had ten cigarettes served out daily, and as much more as his friends liked to bring him. I cannot help thinking that the constant smoking, night and day, has assisted greatly in keeping the hospital healthy, none of the staff having suffered in any way; and the wounded have done well in spite of the much abused drainage of Cairo.

All the closets are, however, well ventilated on to the road and roof, and none in the centre of the building are in use.

At first I tried to keep the windows wide open at night, but soon found that a little night air went a long way to produce marked rises of temperature in the Arab constitutions, and had to allow a very limited amount of ventilation in consequence. The Arabs invariably sleep with their heads tucked tightly in a blanket, and sometimes in two or three. I calculate that at least three-fourths of the wounds were in the lower extremities, and the number of amputations below the knee has been quite extraordinary. A great many of the wounded were quite old men; I found, on the death of one old fellow, his discharge, dated ten years back, which he had carefully preserved round his waist ever since. We have had two cases of perforation of the ilium; one has done remarkably well. The bullet entered mid-way between the top of the left trochanter and the crest of the ilium. Under chloroform I enlarged the wound, and took away a piece of bone rather larger than a shilling, covering an aperture of the same size. On passing the finger into the pelvis I was able to sweep it round freely in all directions, as far as it would go, without meeting any obstruction, but was not able to find the bullet, which the patient said "had jumped out again." The man has never had any abdominal trouble, and is now able to walk well.

In the second case, the perforation (a small horizontal one) occurred half an inch below the right crest; the patient has been at times very ill. I should have made an opening in the right groin (where there was a firm hard lump, as if the bullet had run down between the bone and iliacus muscle, tearing up the periosteum, and become surrounded with ossific deposit), but he was so weak that he nearly succumbed to the chloroform, and the attempt had to be abandoned. With weak injections of iodine, the discharge very much decreased. In this case, there has been a certain amount of tenesmus from time to time.

Colonel Duncan, R.A., who initiated the mission, and who has done much hard work to insure its success, has arrived here to take command of the Egyptian artillery; as a member of the Committee, he will continue to take an active interest in the undertaking, and has already begun to use it by sending in one of his men. It is to be hoped that, although the hospital is well launched, home interest in it (especially on the part of members of the St. John's Ambulance Society) will not entirely cease.

I have only to add that all first-class patients will be attended by any medical man they may choose, whether civil, military, or native.

ON THE LIABILITY OF SOLDIERS TO CONTRACT DISEASES OF THE CIRCULATORY SYSTEM.

By DEPUTY SURGEON-GENERAL D. CULLEN, M.D.

(Concluded from page 1060.)

THE functional diseases, syncope and palpitation, follow, though both are, probably in many instances, the indications of structurally degenerated, and asthenic morbidly irritable hearts, in which textural changes have commenced. The admissions from syncope range from 6 to 27 a year; the total deaths are 10, five years giving a blank return; the invalided are 6. It would appear to be as common at home as abroad. Of the deaths, 4 occurred at Aldershot, and 4 in India. Inspector-General Lawson records two at Aldershot, in 1868, one of which would now be returned as from fibrinous concretion in the heart due to blood-poisoning. The other was in a muscular, healthy-looking sergeant-major, aged 35, "who was attending the divisional races, and was much interested in the performances of a horse on which he had betted. He ran towards the winning-post to see it come in. After proceeding about fifty yards he stopped to speak to some one, and while doing so he fell down, and, after a few gasps, expired." The left side of the heart was empty; the right chambers were full of fluid blood; the edge of one of the mitral valves was thickened; there was no other lesion discovered.

In the more recent statistical returns for 1879 and 1880, a case is given from Bermuda where death was induced by syncope, after prolonged diving, in a man with valvular heart-disease; and another in the West Indies, in which the death resulted from shock, caused by the falling of a barrack-roof during a hurricane.

Palpitation gives for the decade 5,474 admissions, 2 deaths, and 683 invalided, the rise being enormous in the second quinquennial period, and for each year of it, so that the last year gives ten times the average admissions of the first five. Its unequal prevalence in home regiments suggested the remarks which follow in the statistical reports for the year. "Of that form of disease of the heart, a designation for which is found by the employment of a symptom-palpitation, there were 405 admissions in 1873, more than a third of which are returned by ten corps only, whilst many corps had no admissions for palpitation; the 90th Light Infantry returns 36, and 8 men were invalided from this corps during the year on account of this disease. The 2-9th Foot returns 19 admissions, and 13 men were invalided from it on account of palpitation. The increase of this disease in the Army of late years cannot be explained on the supposition of its being an apparent one only, due to a fashion in diagnosis." In the same year the admissions from Bengal were 590, from Madras 181, and from Bombay 68, compared with 468, 68, and 47, in the previous year in these commands.

In 1870 the Mysore Circle, Madras Presidency, gave a high ratio, nearly double that of 1869; it is pointed out that the excess was caused by the admission of 26 cases of palpitation in the 3-60th Rifles, at Bellary, attributed "chiefly to the high temperature acting on men whose constitutions had been impaired by previous disease or intemperance, and upon young soldiers recently arrived in the country."

Surgeon-General Currie, C.B., writes, in 1873, of the Madras increase: "An analysis of the regimental returns seems to show that the extent of the prevalence of palpitation in a station, depends more on the presence in it of particular regiments than on conditions of climate, or duty; thus, more than one-third of all the admissions in the command for palpitation took place in one regiment, the 43rd Foot, at Cannanore; whilst in the 20th Brigade, R.A., the batteries composing which were quartered at various stations, and the aggregate strength of which exceeded that of the 43rd by nearly one-fifth, no admission is returned on account of this disease in 1873." The 43rd had only arrived from England in 1872, a very young, weak, and immature regiment, of whom 125 were sent to the Nilgiri Hills, for the hot season. At head quarters, on the coast, cases of enteric fever occurred, men suffered from bowel-complaints, and diseases of the digestive system, concurrently with the excess of palpitation.

Coming down to more recent years than the decade on the table, an excessive liability to this affection is still observed. In 1874, in the Bombay Presidency, two-thirds of the admissions for diseases of the circulatory system were for palpitation, "a disease of very disproportionate occurrence in the various corps;" in the same year, in Peshawur, it is noted, "that the comparative prevalence of diseases of this system was due to the relative frequency of palpitation amongst the troops generally, though in the 72nd Foot, the preva-

THE resolution passed eighteen months since by the Council of Boulogne for the drainage of the town, is now carried out.

lence was somewhat greater than in any other corps: a comparison shows that the rate of admissions for palpitation in Peshawur is 43.6, and in Sangor .8 per 1,000 men." The 1-17th Regiment of Infantry, also at Peshawur, was sickly; it arrived in April, after a three months' march from Lucknow, and having saved a good deal of money on the march, "an Europe liquor-shop was opened, April 13th, and the opening of this establishment was the signal for a burst of intemperance, the after effects of which were abundantly illustrated in the hospital returns."

In 1875 it is remarked, in the Bengal report, that "two-thirds of all of the admissions from diseases of the heart were due to palpitation, the relative frequency of which is not in relation to locality; and in 1877, "the greater or less prevalence of palpitation amongst the troops in a division accounts for a rise or fall in the rate of admissions for the whole group; from the same cause also it results that the rate of mortality has no constant relation to the proportion of admissions for circulatory diseases."

In 1879 Cannanore again was tenanted by a regiment, the 48th Foot, giving an enormous number of admissions for palpitation; 56 occurred in the regiment, 49 being at Cannanore, and 6 were invalided. The medical officer reports that "the cases were purely functional, and attributable to the climate and habits of the men, in drinking and smoking to excess." Sir A. D. Home was struck with the very cachectic condition of the corps, "owing to its being stationed on the Malabar Coast for several years." This regiment had a concurrent high sick-rate from debility, dyspepsia, and hepatitis.

In Bermuda, in 1879, of 22 admissions for circulatory diseases, 17 were for palpitation, "ascribed to excess in drinking, and to exposure on the works." Delirium tremens, accidents from the effects of drink, a high admission-rate from dyspepsia, are noticeable features in the report; the principal medical officer observing on the amount of intemperance, "that the circumstance may be set down to the cheapness of rum, and the facility for purchasing the spirit afforded by the wages earned on the public works."

In Malta, in 1879, of 70 admissions for circulatory diseases, 52 were for palpitation; in Gibraltar, only 3 out of 36, although two Highland regiments, saturated with malaria from Cyprus, were on the rock. A similar disproportion in the two garrisons is observed in 1878; in Malta there were 70 admissions for palpitation out of 102, in Gibraltar they were of no importance; in 1880, while there was a large diminution of the disease in Malta, 26 out of 40 were for palpitation, in Gibraltar 4 out of 31.

Subsequently to the ten years reviewed on the table, the incidence of this functional disease in the home army has varied considerably. In 1874, it is pointed out that the infantry of the line suffer very disproportionately to the Foot Guards, their admission-rate for diseases of the circulation being four-fold, a disproportion which does not obtain in the invaliding- and death-rates; this greater frequency, it is said, "cannot be the effect of severer drill or duty;" in those respects the "balance is probably not in favour of the troops stationed in London." No solution of the cause is given, but it is pointed out that some infantry regiments suffer as little from functional diseases as do the Guards, and that two regiments of infantry return one-fourth of the cases. In 1875, the hitherto progressive rise of admissions for palpitation appeared to be arrested, the rate being 7.7, while in 1874 it was 7.8. Aldershot gave the highest admission-rate for the class of circulatory diseases, being 25.8, more than double that of some stations, as Woolwich, London, and the Channel Islands. In 1876 the admission-rate for palpitation was 7.1, varying from 8.7 at Aldershot to 1.7 in North Britain. In 1878, the class of circulatory diseases gave at Chatham an admission-rate of 28.4, at Aldershot of 16.5, and in the home district of 10.3. In 1879 it varied from 23.7 at Chatham, to 9.3 at Woolwich, and in 1880 it reached 31.2 at Aldershot. This is more than double the admission-rate in Bengal for that year, when it was 14.6 for the class, palpitation constituting 10.5. In 1879 it was 16.3, of which palpitation gave 12.6. Bengal shows the same inequality of incidence in the various returns: from Saugor a rate of 4, in Rohilcund of 28 per 1,000 for this class; the two years, 1879-80, giving 692 cases of palpitation out of a total of 924 in the class throughout the Presidency.

Farther inquiry is required to explain satisfactorily the unequal distribution of this affection. The "open canteen system" now in fashion in India is not one calculated to keep down ill-health arising from excess. A system "which places no restriction on the amount of beer with which a soldier is served, except that he must pay for it at once, and he must be sober at the time," does not commend itself to my mind; the class from whom soldiers are drawn possess little restraint where their appetites are concerned, and one cannot

feel surprised that Dr. Crawford—the present director-general—should have written in 1880, as Principal Medical Officer of India—"so far the medical opinion appears to be that this leads to greater indulgence and disease."

The "holesome rede of sad sobriety" has found small favour hitherto in the ranks. As the wave of temperance spreads onward it may be that higher knowledge and more forethought will be displayed—that knowledge which will lead men to be mindful of such advice as Spenser's Hermit Leech could utter—

"In vaine of me ye hope for remedie;
And I likewise in vaine doe salves to you applie;
For in your selfe your only helpe doth lie,
To healee yourselves, and must proceed alone
From your owne will to cure your maladie."

Diseases of the aorta show a marked increase in the second quinquennial period of the decade (Table II). The admissions rise from 317 to 617, the deaths from 299 to 519, the invalided from 24 to 163. Aneurysm of the aorta is the one important feature in this section; the deaths averaging 79 each year of the decennium, and in the latter half of it the mortality appears in excess of all other diseases of the circulatory system, averaging 99 *per annum*. In the home force the average yearly deaths are 35; in the Indian Army, 27. The millesimal admission-rate for the whole army is 0.53, the death-rate 0.45, and the invaliding-rate 0.09. The admission-rate is highest in the Straits and China group, being 0.77; in India it is 0.71; in the Cape group, 0.59; and in the Canadian group, 0.53. It is below the average in the West Indies, being 0.27; at home, 0.42; and in the Mediterranean, 0.48. The death-rate is highest in the Straits and China group, being 0.68; in the Canadian group, 0.56; in India and the Cape group, 0.47; and it is below the average in the West Indies, being 0.34; at home, 0.42; and in the Mediterranean, 0.44. The invaliding-rate is highest at home, in Canada, and the Mediterranean, the highest being 0.12; in India it is 0.06. Surgeon-Major Welch, for the decennium 1863-72, gives the relative loss in the component branches of the home force by deaths and invaliding conjoined, as in cavalry, 0.53; infantry, 0.52; and in artillery, 0.60. There would appear to be in more recent years a notable decrease in the mortality from aneurysm of the aorta, but the statistical reports, as recently presented, do not allow of this diminution being formulated. In Table I there will be observed, both at home and abroad, a gradual falling off in the recorded mortality of diseases of the circulatory system, commencing in 1874, when it was 250, or 1.42 per 1,000, and extending to 1879, when it was 124, or 0.73 per 1,000. This large reduction in six years in mortality, though not attended with any corresponding reduction in the admission or invaliding-rates, must not be overlooked; and the less fatality from a grave disease like aneurysm of the aorta, is a subject of congratulation. The obscurity in which the compilation of the reports leaves the most interesting facts, is my apology for not being able to put this in a clearer light.

The earlier volumes presented observations of great value, etiological and pathological, on this disease. Staff-surgeon P. Davidson, in 1863, showed, by an analysis of the necropsies at Netley, the extent of atheromatous aortic lesions associated with syphilis, lesions recognised as the forerunners of the destructive changes which conduce to dilatation and internal aneurysm.

Professor Aitken's researches into the causation of organic lesions of the walls of the great vessels through the effects of the syphilitic dyscrasia, are well known. Surgeon Corban's contribution in 1869, on diseases of the heart among soldiers, gives prominence to the facts he had observed in respect of constitutional syphilis being a potent cause of aortic, endocardial, and valvular disease. Surgeon-Major F. H. Welch, in the reports of 1870 and 1873, added much to the correct estimation of syphilis as a factor in the organic lesions of vessels. From the Netley necrological register, 1860-71 inclusive, he found that of the total deaths, 46.2 per cent. exhibited, by distinct specific visceral implication, the influence of the syphilitic virus, sometimes as the immediate cause of death, sometimes "playing but a subordinate part in the production of death, and obscured during life by graver defects of an alien nature, under which they are necessarily classified." Analysing 88 cases with specific lesions, he found atheroma of the aorta in 55 per cent., and atheroma of the endocardium in 3 per cent., this degeneration heading the list among the various organic lesions. In 57 instances of the aortic lesion, 34 had a clear syphilitic history, or a percentage of 59.6; and in a later analysis, embracing a wider area of cases, the percentage was 60.7. In 31 cases of aortic aneurysm, he found that 15, or 47 per cent., had syphilitic constitutions, and, adding to these 18 examples of "infantile aneu-

rysm,"—"dilatations either in the form of pouching, or distinct circumscribed sacculated projections"—the proportion of syphilitic subjects rose in 49 cases to 67 per cent.

The relative frequency of the regional site of aortic aneurysm he gives as embracing the arch, 63.3, the descending thoracic, 16.6, and the abdominal, 20 per cent. His conclusions as to causation are, that the lesion of the aortic walls, characterised by a specific fibroid growth, which, disintegrating, tends to produce dilatation and aneurysm, is, in the majority of cases, dependent upon syphilis, and, in a minor number of cases, on rheumatism and alcoholism, as exciting agencies; while, on the other hand, simple valve-lesions present the following associations in order of frequency; rheumatism, malarial poison, dysentery, and syphilis.

Aneurysm of arteries is not a subject which can be profitably reviewed here. The deaths and invaliding show a great diminution after 1869, corresponding with a rise in aneurysm of the aorta; no doubt, the introduction of the nomenclature in that year bringing about greater accuracy in the localisation of disease, and in its entry under appropriate terms. The reports, however, have never carried out the classification farther than the two headings, aneurysm of the aorta and aneurysm, and from 1874 all are merged into systemic groups.

Diseases of the veins are of little interest, except as a cause of invaliding, occasioned by varix. With the short service system now in force, and the careful selection of sound recruits, the invaliding-rate may be expected to fall from 0.61, which it was for the decennium, to 0.27, at which it stood in 1871, when the invaliding was under 50 for the whole army for this affection.

In the course of these remarks, frequent reference has been made to syphilis as the starting-point of organic lesions of the vessels. In conclusion, and in reference to recent retrograde action on the Contagious Diseases Prevention Act, it may be inquired: Has syphilis shown any marked decline in the army in recent years?

The earlier volumes of the statistical records give the combined admissions for primary and secondary syphilis in the United Kingdom, per 1,000 of mean strength, as stated:

In 1861	...	...	209.3	} Average of the four years, 167.9.
" 1864	...	...	168.5	
" 1886	...	...	139.6	
" 1867	...	...	153.8	

The last four volumes of the records present the following figures as admission-rates:

	Syph. Prim.	Syph. Sec.	Combined Total.	
1877	48.8	23.8	72.6	} Diminution, 73.1
1878	60.7	27.3	88.0	
1879	63.4	29.0	92.4	
1880	95.8	30.5	126.3	

Average of 4 years 67.2 27.6 94.8

If the admissions for primary venereal sores are taken only at the 14 stations protected by the Acts, where fully half the home force is aggregated, the last four years give respectively an admission-rate of 35, 40, 47, and 74, or an average of 49; while the 14 large unprotected stations give an average of 124.

From the point of view of the soldier's efficiency, more particularly looking at his liability to contract organic vascular lesions of a directly fatal tendency, the upholding of these Acts by the national voice appears a duty. It is equally so, if consideration be given to his return to civil life, from loss of health contracted in the period of his service.

The diminution of syphilis on foreign stations, if we judge by India and the Mediterranean, is not so striking in recent years. Taking the years 1860-68, the annual average admission-rates for the combined syphilitic group were, for Bengal, 121.1; Bombay, 120.1; Madras, 129.0. While for 1877-80, it was, for Bengal, 104.6; Bombay, 108.4; Madras, 128.6.

In the Mediterranean garrisons, taking the years 1859-68, it was, for Gibraltar, 77.4; Malta, 31.5; while for 1877-80, it was, for Gibraltar, 52.6; Malta, 30.9.

A paper based mainly upon statistics, is apt to be considered rather from the auditor's than the writer's sense of patience. I have tried to fulfil my intention at the starting-point, and must claim indulgence for prolixity, in the hope that something suggestive may have been touched on. There is too much inexplicableness about palpitation and its closely allied abnormal organic changes affecting particular regiments only. There would seem a combination of causes at work; and in immature soldiers the desire to get off irksome drill, by the getting up of a special symptom, easily induced by excessive smoking and kindred indulgences, some of which border on hysteria, should not be lost sight of. It is not all the drill-sergeant.

The following is a summary of the incidence of diseases of the vascular system, during a four and a half year's charge of a Highland regiment at Gibraltar.

The regiment, as a body, was young and immature on arrival, with a modicum of seasoned soldiers who had been in India, and, during three years at home, drank pretty heavily. At Gibraltar, the admissions bearing on this class were—pericarditis, 1; valve-disease, 1; hypertrophy, 3; aneurysm of the abdominal aorta, 2; palpitation, 13; varix, 2. Deaths, none; invalided, 13, or 1 in 7 of the total invalids sent home. The case of pericarditis occurred during treatment for constitutional syphilis; the cases of hypertrophy were, in two instances, of inveterate tipplers, the third was complicated with palpitation and hysteria in a very heavy smoker; the case of valve-disease was double, with hypertrophy and dilatation, in a company's cook, an habitual drunkard; he died at Netley. The aneurysm cases were invalided; one of them was broken down with syphilis and malarial rheumatism; the varix cases were in old soldiers; the palpitation cases were in young soldiers, 7 apparently from inherent debility and climatic causes, all slight; the remaining 6 were in drunkards or masturbators, and some had commencing hypertrophy; all were smokers.

These personal experiences may induce others to put on record a wider study of the etiology of functional diseases of the heart in soldiers, which seem at present to cause an amount of inefficiency disproportionate to tangible morbid influences.

GALIUM APARINE AS A REMEDY FOR CHRONIC ULCERS.

By F. J. B. QUINLAN, M.D. Dubl., F.K.Q.C.P.,

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FEW of those connected with the admission of patients into hospital fail to observe the number of applicants suffering from chronic ulcers, principally of the legs; and in some institutions there appears to be a tacit rule against their admission. When admitted, especially if old and broken-down persons, they frequently occupy a bed for months, to the exclusion of relievable sufferers, and sometimes with unsatisfactory results. The great difficulty in treatment seems the impossibility of maintaining permanent healthy granular action; and strapping, sponge-grafting, skin-grafting, and the application of irritants, such as mercuric oxide, silver nitrate, or cupric sulphate, are often tried in vain. I would wish to mention a remedy new to me, and which proved successful when all the above well-known methods had entirely failed.

Immediately after the publication in the JOURNAL of January last of a note upon a pulmonary remedial simple, I received letters from several parts of the United Kingdom, recommending me to try the effects of the galium aparine in the treatment of chronic ulcers—a recommendation which I was unable to adopt, for the sufficient reason that the plant was then nowhere to be obtained. I made a note of the matter, and a suitable opportunity for trial presented itself in due time.

The galium aparine is a wild annual belonging to the natural order *Rubiaceae*, and is described in Sowerby's *British Botany*, vol. iv, pp. 225-6. An excellent coloured illustration is given in the appendix of the same volume, plate 658. It is a well-known weed, found in the hedges in every part of the United Kingdom, and of Northern Europe. It runs to from two to four feet in length, and has a succulent square stem covered with prickles, which can be felt by drawing the finger and thumb along the stalk in the upward direction. This circumstance causes it to adhere to the clothes of passers-by, and has procured for it in some places the name of "cleavers," or "catchweed." Its more usual name in England is "goosegrass;" in Ireland, it has the peculiar designation of "robin run the hedge," arising from the way in which it spreads; in France, it is called "gaillet gratoron;" in Germany, "Kletterndes Labkraut." In this country, it appears from about the beginning of May till the end of autumn.

Cornelius C., aged 74, from Clonmel, a very tall, weak, and worn-out old man, applied for admission to St. Vincent's Hospital on the 8th of February last. He suffered from enormous ulcers of both legs; that on the right being eight inches and a half long, and extending nearly round the whole limb; and that on the left being little smaller. He had just come out of another Dublin hospital, where he had been for four months under the care of a very eminent medical man, and with no good result. A more unpromising case of