MEDICAL SERVICES OF THE
ROMAN ARMY

R. G. PENN
M.B., B.Ch., late Captain R.A.M.C.

The Roman Empire was won by that disciplined fighting machine—the Roman Legion. The number of these legions was comparatively small, there being only 25 in the time of Augustus (31 B.C.-14 A.D.), the rest of the army being made up from ‘auxiliaries’, recruited from the Provinces, who bore the names and character of their race.

At its greatest, this mighty Empire stretched from the Straits of Gibraltar in the west to the Euphrates in the east and from as far north as the Rhine, Danube and Tyne to the desert lands of Arabia and North Africa in the south. This diversity of terrain and climate with which the Roman legionary was faced and the multitude of sicknesses and injuries that might beset him, made essential some form of medical care if the integrity of the legion as a fighting unit was to be maintained.

There are several references in classical Roman literature to medical men being in attendance on high-ranking Romans during military campaigns. When the Emperor Claudius invaded Britain in 43 A.D., he was accompanied by Scribonius Largus, his personal physician. Dioscorides was a surgeon in the army in the time of Nero (54-68 A.D.). He is most widely remembered for his ‘Herbal’ in which he described plant specimens that he had obtained during his travels. This work was quoted as authoritative till as recently as the 17th century. These physicians however, appear to be civilian and nowhere is there any distinct allusion to physicians or surgeons forming a regular part of the staff of the army and the evidence concerning them has to be gathered piecemeal from many sources.

In the early periods of Roman history, the treatment of the ordinary military sick was probably left to the casual care of fellow soldiers. A votive tablet found in Rome, cut in the reign of Domitian (81-96 A.D.) and in the year of the consulship of F. Flavius Sabinus (83 A.D.), affords evidence that at least by this date there were medical officers appointed to the cohorts of the Roman army. The tablet is dedicated by Sextus Titus Alexander, physician in the fifth Praetorian cohort, to Aesculapius and to the safety of his fellow soldiers.

Tacitus (c.55-c.118 A.D.) described in his ‘Annals’ how Germanicus (15 A.D.) visited and encouraged the sick soldiers in their tents (10). There are several other references in the ‘Annals’ to medical matters notably the loss of medical stores in the fighting against Arminius (11), and to Agrippina, the wife of Germanicus, distributing clothes and dressings to the sick and wounded (12). Aelius Lampridius described in his history of Severus Alexander (222-235 A.D.) how on military expeditions Alexander always provided a sufficient number of draught animals to transport the sick and the wounded. He personally visited the sick and wounded in the hospital tents. Severely wounded men might be left behind in towns in the care of responsible citizens (4).
Celsus in his great medical treatise ‘De Re Medicinae’ written about A.D. 30 laid down precepts for the extraction of war weapons from the bodies of the wounded. However the standard of the medical treatment was obviously then not very high, for Galen (130-c.201 A.D.) complained that due to their lack of medical knowledge the physicians employed in the German wars (167-175 A.D.) knew no more about the treatment of wounds than the camp cooks. He is not clear on the status and the function of these physicians. Hyginus Gromaticus who lived in the 2nd century under Trajan (98-117 A.D.) and Hadrian (117-138 A.D.) describes in his book ‘De Castrametatione’, the proportions and the measurements for a Roman camp and mentions the proper place for the valetudinaria or hospital.

The jurist, Modestinus, writing in the earlier half of the 3rd Century A.D. mentions the military physicians (medici militum) as among those who were exempt from some taxes by their absence from Rome. ‘... because the office they fill is beneficial to the public and ought not to be productive of any injury to themselves ... ’ (6).

Another mention of military physicians occurs in a series of laws passed by Justinian (527-565 A.D.) to regulate the medical profession. He exempts the physician of a legion (medicus legionis) from civil duties when he is absent in the public service. A further reference may be found in Vopiscus’ life of Aurelian (270-275 A.D.) where in issuing some orders regarding the life and discipline of the soldiers, Aurelian concluded... “let each soldier aid and serve his fellow, let them be cured free by the physicians, let them give nothing to soothsayers, let them conduct themselves quietly in their hospitals and he who would raise strife, let him be lashed...”. The date of this order is not earlier than 270 A.D. when Aurelian became Emperor (6).

Later writers are more expansive on army medicine and Vegetius writing in 390 A.D. devotes a chapter in his book ‘De Re Militarii’ to the health of the army. This is extremely modern in its content and much of it is relevant today and, because of this, the following quotation is given from the translation by Simpson. “... now what is most specially to be attended to... I will give directions how the health of the army is to be preserved, in as far as regards places for encampment, water, temperature, medicine and exercise.

With respect to places, the soldiers should not remain long near unhealthy marshes, nor in arid situations that are destitute of the shades of trees nor on hills without tents in the summer. They ought not to be late in the day in commencing their march lest they contract disease from the heat of the sun and the fatigue of their journey and indeed in summer they had better arrive at their destination before the morning is advanced. In severe weather they should not pursue their journey through snow and ice at night nor be allowed to suffer from a scarcity of fuel nor deficient supply of clothing. For the soldier who is obliged to endure cold is neither in a fit state of enjoying health or for marching. Neither should he make use of unwholesome or marsh waters. For a draught of bad water induces like a poison, disease in those who drink it. And moreover in this case, the unremitting diligence of the generals’ tribunes and their assistants, as wielding the highest authority, will be required, so that their sick comrades may be restored by seasonable articles of food and be cured by the skill of the physicians. For it is difficult to manage with those who are at the same time oppressed with the evils of disease and war. But those who are skilled in military affairs
have led that daily exercise contributes more to the health of the soldiers than do the physicians. Wherefore they have advised that foot soldiers should be regularly exercised during seasons of rain and snow under cover and at other times in the open. In like manner they have ordered that the horsemen should assiduously exercise themselves and their horses, not only on level ground but also in steep places and in parts rendered difficult by wide ditches, so that nothing new or strange may occur to them in this respect during the casualties of battle. From all this may be inferred that how much more diligently an army ought to be trained in the exercise of arms, seeing as we do that the habit of labour procures alike health in camp and victory in the battle field. . . . if a multitude of soldiers be permitted during the summer or the autumn to remain long in the same locality, from the corruption of the water and the stench of their filth, the atmosphere is rendered insalubrious, their respirations become vitiated and this cannot be remedied by any other means than a change of encampment . . . (6).

Elsewhere, Vegetius discusses the physical characteristics which should be looked for in enlisting a recruit . . . “. . . who ever is going to enlist recruits must first look at the face, the eyes, the whole shape of the man to see whether he will make a good fighter. So a young man who would be thought suitable for warfare should have shining eyes, an erect carriage, a broad chest, muscular shoulders, strong arms, long fingers, a modest belly, feet and calves sinewy . . .” (2).

Roman documents have survived in Egypt which contain what appears to be a discharge certificate of an applicant who failed on medical grounds to enter the army. “. . . copy of a certificate of discharge in the 12th year of the Emperor Tiberius Claudius Caesar Augustus Germanicus on the 28th day of the month of Pharmouthae. This man was discharged by Gnaius Virgilius Capito, the army commander. Tryphon, son of Dionysius, weaver, with weak sight owing to cataract. On the list of those from Oxyrhyncus. The examination was conducted at Alexandria . . .” Tryphon was an Egyptian, presumably of Greek stock, judging from his name and that of his father (3).

The organisation of the medical services of the Roman Army is a very debatable subject. Each legion comprised nominally some 6,000 men and was divided into 10 cohorts. Each cohort of 600 men was further divided into maniples of 200 men with further subdivision into centuries of a 100 men, each under the charge of a centurion. The first cohort of the legion was the senior, often of double size and its centurion the senior centurion of the legion.

Each legion had a physician (medicus legionis) who were all of equal rank and were subordinate only to the camp commander (praefectus castrorum). Vegetius in ‘De Re Militari’ (6) said that the praefect exercised authority over the sick soldiers and their physicians and regulated their expenses. Each of the cohorts had 4 surgeons (medicus cohortis) who in the Praetorian and City cohorts were required to be citizens. The physicians of the auxiliary troops in Italy and the Provinces and of the 7 cohorts of ‘vigiles’ (who acted as police and firemen in the City) could be freemen or foreigners (medicus ordinarius). The status of these physicians was much lower than their counterparts in the army medical services of today. They ranked among the non-commissioned officers (principales) but were exempt from guard and combat duty or fatigue (immunes).
Other terms referring to camp physicians have been found on votive tablets. One inscription found at Rome contains the extra word 'clinicus' and another found in Naples was dedicated by a physician on a trireme who is described as 'medicus duplicarius'. This term indicates someone who by virtue of his length of service or his superiority is entitled to double pay. This inscription also shows that the Roman fleet was provided with physicians (6).

Archaeology has revealed much of the medical system of the Roman army. In the early days, the sick soldiers were sent home but as the limits of the Empire grew this became impossible and military hospitals were built at suitable sites and some of these have been excavated.

One of the earliest is on the Danube at Carnuntum which is some 20 miles from Vienna and dates from the 1st century A.D. Carnuntum was one of the most important settlements of the Roman eastern province of Limes. Around 100-200 A.D. it had some 100,000 civilian inhabitants with two legions and some cavalry. It was also the headquarters of the Danube fleet and was destroyed about 350 A.D. by invading Teutons. The hospital at Carnuntum had an entry hall leading into a reception room with an operating theatre beyond. Around were some sixty little rooms.

Another well explored hospital site is at Novaesium on the lower Rhine near Dusseldorf and is well described by Singer. "... and the military hospital at Novaesium was founded about 100 A.D. but has some later elements. It is built on the corridor system. Entering from the north between the administrative offices we come on a large hall which succeeds a long narrow room placed along the axis of the building. This room was probably used as a refectory. It is surrounded on three sides by a corridor out of which open chambers for the sick. Around this series of chambers runs another corridor, also along three sides of the building and around this outer corridor again is another series of chambers. These outer chambers are peculiarly arranged so that they do not open directly into the corridor but each is reached through a small vestibule. The arrangement must be related to sanitation and traces of the drainage system have been uncovered. The general scheme is much in advance of any military hospital until quite modern times ..." (7). The room used as the operating theatre also had a raised hearth for the heating and cleansing of instruments.

Trajan's column in Rome was erected in 106-114 A.D. by Apollodorus for the Emperor Trajan (98-117 A.D.) to commemorate incidents in the Dacian campaign. Various scenes from the campaign are sculptured on it and in one of them a surgeon is seen dressing wounds.

There is a full size plaster cast of the column which is some 240 feet high in the Victoria and Albert Museum.

Various finds in Britain have also testified to the existence of an army medical service. The remains of several military hospitals have been found notably at Housesteads, (Borcovicus), at Benwall on Hadrian's Wall and at Fendoch, an Agricolan fort in Glenalmond. The hospital at Housesteads is at present unexcavated but seems well preserved and has been identified by analogy from other Roman forts (1). A votive tablet found at Housesteads was erected by the 1st Tungrian cohort to the memory of their 'medicus ordinarius'. "Sacred to the gods of the shades below. To Anicius Ingenuus, physician in ordinary of the First Cohort of the Tungrians. He
lived twenty-five years . . . " (6). The animal on the top of the tablet is a hare or maybe a rabbit which could be the emblem of Spain from which country perhaps Anicius came.

Recently the remains of a legionary hospital have been excavated at Inchtuthill in Perthshire on the banks of the River Tay. This fort was called by the Romans, "Pinnata Castra" and dates back to the times of the campaigns in Britain by Agricola between 78-84 A.D. The plan of the hospital is very reminiscent of the one described above at Novaesium. The building was about 200 feet by 300 feet in dimensions and built on the corridor system. It was planned about an oblong court and consisted of 60 small wards. Each ward was only large enough for 3 beds and in number corresponded to the 60 centuries of a legion. They were arranged in pairs flanking a side passage opening off a central corridor.

It is difficult to be precise as to the type of person and the training of these army medical officers. The Romans themselves were averse to practising the art of medicine, which as Pliny said . . . " . . . in spite of its lucrativeness, is the one art of the Greeks that the serious Roman has so far refused to cultivate. Few of our fellow citizens have been willing even to touch it . . . " (8).

In the early days of Rome, medical practice was mainly in the hands of the Greeks. There is a record of one Archagathus who in 219 B.C. acted as a 'vulnerarius' or wound doctor but his nickname of 'carnifex' or the butcher seems indicative of the regard in which he was held (4). There were at these times no rules or regulations for the training or conduct of doctors and to quote Pliny again . . . " . . . there is no law to punish ignorant physicians and capital punishment is never inflicted on them. Yet they learn by our suffering and experiment by putting us to death . . . " (9).

However over the next few centuries some attempt was made to regulate medical practice. Various privileges were given to doctors such as freedom from some taxes and civic duties. Eventually by the time of Alexander Severus (222-235 A.D.) these privileges were given only to doctors whose capabilities were vouched for by the local authorities or landowners. Under the Emperors Valentinian I (364-375 A.D.) and Valens (364-378 A.D.) the qualifications required for a doctor in the public service were precisely formulated.

Medical teaching was at first given by the physician to his personal following of pupils. These groups later combined and formed societies who met at the 'Schola Medicorum' on the Esquiline where teaching was given. Later under Vespasinian (70-79 A.D.), teachers were paid out of public funds and the system was expanded by Hadrian (117-138 A.D.) and Alexander Severus (222-235 A.D.) Doubtless much of this later payment made by the state was to provide doctors for the army and the fleet. Although at first Rome was the main centre, there are traces of schools at Marseilles, Bordeaux, Arles, Nimes, Lyons and Saragossa.

There seems no doubt therefore that both the Roman army and fleet in their heyday possessed a highly efficient medical service which was greatly in advance of anything that succeeding civilisations produced until quite modern times. In Britain, this organisation was destroyed by the ravages of Germanic invaders when the last Roman troops were withdrawn from the island about the beginning of the 5th century A.D., although there were apparently 'medici' attached to the forces of Welsh kings for some time.
Letters to the Editor

REFERENCES

3—Ibid. p. 82.
8—Ibid. p. 23.
9—Ibid. p. 23.
11—Ibid. p. 68.
12—Ibid. p. 69.

Acknowledgements

I gratefully acknowledge the permission of Dovers Publications Inc. to quote excerpts of “From Magic to Science” by Charles Singer and the permission of Evans Brothers Ltd., to quote from “The Great Invasion” by Leonard Cotrell.

LETTERS TO THE EDITOR

PENICILLIN IN THE TREATMENT OF LEPTOSPIROSIS

From: Colonel John Mackay-Dick, O.B.E., F.R.C.P.E., late R.A.M.C.

Sir—Before I left Malaya in March 1958 the number of consecutive cases of laboratory confirmed leptospirosis treated on the lines indicated in the Corps Journal (1957) had risen to 140 (Soldier Magazine 1959). There were no fatal cases and the response to treatment with penicillin was as described by Mackay-Dick and Robinson (1957). Other workers in this field support their views on the efficacy of penicillin therapy in cases of leptospirosis (CLEIN 1956 and 1957; COOK 1959; DOHERTY 1960). Reviewing 86 cases of leptospirosis treated with penicillin COOK states: “the pattern of response described by Mackay-Dick and Robinson is uniform and sufficiently reliable to be used as a diagnostic test over the first 24 hours. The severity of the penicillin leptospiral reaction occasionally causes anxiety and the management of this remains a matter of opinion.” In view of the fact that commonwealth forces are once again operational on active service in jungle conditions in FARELF it will be interesting to learn of the results of penicillin therapy in leptospirosis contracted in SABAH and SARAWAK.