headed tube (for the purpose of replenishing and for the admission of air) filled with antiseptic wool, and a delivery-tube, to which are attached about four feet of india-

rubber tubing and a cannula made of vulcanite or glass.¹ The apparatus, having been washed with a 5 per cent. solution of carbolic acid and with boiled water, is filled with hot boiled distilled water containing one drachm of sodic chloride to the pint. Instead of using the solid salt, time and trouble may be saved by employing a preparation of Mr. Gerrard's, the dispenser to the hospital, which consists of sterilised and stoppered glass tubes containing two drachms of pure salt in solution. When the bottle is filled, the solution is maintained at a temperature of 105° by placing the bottle in a vessel, into which hot or cold water is poured from time to time. The solution is made to run by blowing with the mouth through the wool-stoppered tube, and raising the bottle about two feet above the

patient's arm. A longitudinal slit is then made in the skin over the median cephalic or basilic vein; if assistance is not at hand, it is better to make a transverse slit through a fold of skin, as the elasticity of the skin then makes the wound gape; the vein is isolated, and three fine silk ligatures are passed under it. The lower of these is tied, the vein picked up with forceps and opened by a scalpel, and, the solution having been set running, the cannula is inserted and tied in with the middle ligature. The solution should be allowed to flow slowly, and the bottle should not be raised too high. Thirty or forty ounces will in nearly all cases be sufficient to inject, and the operation should take from twenty minutes to half an hour. In case of relapse the operation may be repeated on the other side. After the operation the cannula is removed, the vein tied with the upper ligature, and the wound closed and a back splint applied. If necessary stimulants may now be administered with greater benefit than before the operation. In conclusion, I would express my belief that the operation properly performed is neither attended by danger nor followed by evil consequences; that it will afford remarkable relief in cases of severe hæmorrhage, which are not complicated by "shock," after all the ordinary methods of treatment have failed; and that in the gravest cases of ante-partum hæmorrhage it would be well to inject the solution before delivery is effected.

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NOTE ON THE FEVERS PREVALENT ON THE SHORES OF THE MEDITERRANEAN AND RED SEAS.

By G. HUTCHINSON MILNES, M.D. CANTAB.,
FORMERLY SURGEON IN HER MAJESTY'S FLEET.

THE LANCET of May 28th, 1892, contains a review of a work entitled "Studio Etiologico e Clinico delle Malattie Febrili più Comuni a Massaua," by Dr. Pasquale. This book describes the research officially entrusted to its author on account of the difficulties experienced by the Italian doctors in dealing with fever at Massaua. Dr. Pasquale's conclusions are summarised in THE LANCET as follows:—"1. Massowah is not a seat of palustral infection, though malaria may be evoked in its climate when already existing as a cachexia due to previous attacks. 2. There is no fever infection *sui generis*, such as the 'climatic remittent' which some classifiers have called it. 3. There are febrile maladies which might be confounded with common continued fevers (such as those arising from typhoidal infection), principally of the so-called 'abortive' and minor types." I am not in a

position to refer to Dr. Pasquale's work, and am therefore unable to pass an opinion upon the thorough and exhaustive research which he appears to have conducted into the nature of the fevers occurring at Massowah; but the conclusions as stated in THE LANCET seem to me unsatisfactory and lacking in distinctness, especially as no indication is given of the nature of the fevers mentioned in conclusion No. 3. During a turn of service as a naval surgeon in the Mediterranean and Red Sea in 1887, 1888, and 1889, I paid considerable attention to the study of the clinical characters of the fevers prevalent on the shores of those seas, and arrived at certain conclusions, which, though by no means original, represent, I think, fairly and distinctly the views of men who have had most experience of these diseases. The important point in my conclusions is that the same kinds of fever occur in all parts of the basins of these two seas; a case of fever at Sawakin or Massowah will not present features essentially different from those of a case treated at Malta or Naples. These fevers, excluding the exanthemata, typhus, and influenza, comprise typhoid, malarial fevers, as well as a febrile disease which is called by some local name in nearly every district of the area under consideration, and is regarded by the inhabitants as peculiar to each locality, but which is, I feel convinced, actually the same throughout the whole region. This is the Malta fever of Malta, the Rock fever of Gibraltar, the Cretan fever of Crete, and the local fever of the Red Sea ports, including Massowah. It has been thought by many to be malarial, by some to be closely allied to typhoid fever, or, indeed, typhoid fever itself in a masked form, and by others to be a compound of typhoid fever and malaria which they have called "typho-malaria." It is evidently this disease that has puzzled the doctors at Massowah, and has been made the subject of his research by Dr. Pasquale. In the consideration of this fever it is most important to remember that real typhoid fever is a common disease throughout this region, and that malaria occurs wherever the usual conditions of soil and climate give it an opportunity. Hence, it is necessary to judge every case upon its own merits, and to distinguish carefully the diagnostic features of each disease. It will then be apparent that in a series of cases some show the characters of typhoid fever, and some perhaps those of malaria; but a large proportion present features agreeing with neither one nor the other. Cases of the latter class vary widely in their duration, and to some extent in their symptoms, but the varieties overlap each other at so many points that lines of demarcation can hardly be drawn between them. An attack may begin with flushed face, full bounding pulse, dry burning skin, and other "sthenic" symptoms; or it may start with a slight sense of illness, debility, loss of appetite, clammy skin, quick feeble pulse—in fact, evident "asthenia,"—and in either case the duration may be long or short without reference to symptoms. Cases sthenic at the invasion do not always recover in a few days, and the asthenic cases do not always last for weeks or months; but if the duration be more than about a week every case will assume the asthenic type and retain it to the end. For my own part, I am inclined to call both the short and the long cases—both the sthenic and the asthenic—varieties of the same disease; for I know no distinction between them, except duration, and any attempt to distinguish between them by means of this feature alone must end in the drawing of an arbitrary line at a certain date in the course of an attack. If the date be passed, we have one disease; if recovery occur earlier, we have another. Such an artificial method would be foolish and impracticable.

A very short review of the principal symptoms will serve to show the eminently negative characters of this fever. The invasion is always marked by loss of appetite, often by headache or backache, but seldom by rigor or vomiting. The rise of temperature, sudden or gradual, reaches its highest point early generally in the first three days. There may be some slight pulmonary or pleuritic congestion; slight jaundice occurs in rare cases; rheumatism is not an uncommon complication at a late stage; but, except the sign noted in the next sentence, the disease has no features of its own. The tongue is covered with a dead-white moist fur, which persists throughout the attack, and whose disappearance I regard as the sign of recovery. The bowels are nearly always constipated, and there are no abdominal symptoms like those of typhoid fever. Enlargement of the spleen can very rarely be detected during life. In

¹ The apparatus is supplied by Messrs. Maw, Son, and Thompson at the price of 6s. 6d.

forty cases of which I kept careful notes, it was sought for constantly and never found. I never discovered it in many other cases of which no notes were kept, although I made a habit of examining the spleen in every case. Some observers have, however, found it enlarged at post-mortem examinations. If recovery do not occur within a week or ten days the main features of the disease are progressive febrile debility and emaciation, accompanied by irregular temperature without rigors, a condition which may continue for weeks and months, for which return to England seems the only cure, and which may recur on slight provocation even after the return home. I saw cases of this disease in most parts of the Mediterranean, at Malta and Naples, in Sicily and Crete, as well as in the Red Sea ports of Sawakin, and Massowah. During a stay of about a week at Massowah several cases occurred on board H.M.S. *Starling*; they did not differ in any respect from cases seen at other ports, and in the Italian military hospital at Massowah. I saw typhoid fever in all these places and ague in some, and I have no hesitation in saying that this disease is neither ague nor typhoid fever, nor nearly related to either. It is not typhoid fever, because it neither presents the characteristic spots, abdominal symptoms, and lesions of that disease, nor does it run a definite course like typhoid. I am aware that in certain fatal cases post-mortem examination has revealed ulceration of the ileum, till then unsuspected; but I am also aware that surprises of the same kind have occurred in large metropolitan hospitals, where pneumonia, meningitis, and other diseases have been confused with typhoid fever. I have, however, never heard anyone argue from these mistakes that pneumonia and meningitis are nearly related to typhoid fever. The same may be said of typhoid fever spots, which are said by some to occur occasionally in these cases. I have seen spots in supposed cases of this malady, but the after-progress of the disease satisfied me that it was unquestionably typhoid fever. I have never heard of a fatal case in which real typhoid fever spots were seen and where no intestinal lesions were found on examination after death. Neither is this disease a kind of ague or malarial fever, because it occurs where malarial conditions do not prevail. There are no marshes at Malta, for instance, and real intermittent fevers do not occur there; but Malta is never free from the fever I am discussing. It abounds in towns and thickly inhabited places, such as are notoriously avoided by malarial diseases, while it does not prevail in open deserted districts which are known to be most favourable to ague. Rigors, exacerbations, and remissions take no part among its symptoms, such as they play in malaria. The prolonged attacks are familiarly called remittent, and in them the temperature is often irregular, but rigors are absent, splenic enlargement is absent, and in their other features these cases do not agree with the description of true malarial remittent fevers observed in any part of the world. Finally, all patients suffering from this fever may be dosed with quinine in every way and to any extent without the slightest beneficial result.

With the first of Dr. Pasquale's conclusions, as tabulated in THE LANCET, I am quite prepared to agree—namely, that "palustral infection" does not exist at Massowah; it is certainly absent from Sawakin and many other places (e.g., Candia in Crete) where this fever abounds. The second and third conclusions are too indistinctly stated to admit of precise argument; if they mean that fevers occur at Massowah that are neither malarial nor typhoid, I agree again; but if they do mean this, why say "there is no fever infection *sui generis* such as the climatic remittent," &c.? My opinion, and I believe that of other observers, is that a fever exists whose prevalence is not confined to Massowah, which always presents the same features, which is endemic in certain places, which differs from the usually recognised forms of continued fever, and which may very well be supposed to result from an "infection *sui generis*," if by that term be understood some poison capable of producing this disease and no other.

It only remains to mention the simple method of treatment I used in all the cases that I treated. Patients were kept in their hammocks and on liquid diet till the tongue became clean. A dose of calomel was given at the start, and a saline mixture containing nitrate and bicarbonate of potash and soda, with or without sulphate of magnesia, according to the state of the bowels, was taken thrice daily throughout the attack. In twenty-three cases out of the forty above mentioned quinine was given in addition, generally in large doses (from twenty-five to forty grains), and in seventeen cases

no quinine was given. Out of a ship's company averaging sixty-four more than fifty suffered in the course of two years from fever, some had several attacks. No case was invalided, and only one death occurred from typhoid fever (known and treated as such from the first) on the fifty-first day of the disease. Most of the fever patients returned to duty in a fortnight or three weeks. High temperature lasted on an average a day longer in the cases treated with quinine than in the others, a fact explicable, perhaps, on the grounds that quinine would sometimes be given if the attack seemed unusually severe, and withheld if it seemed slight. The results were particularly good when compared with those of other ships engaged on similar service at the same time, and this in spite of the fact that the men were reckless with regard to health considerations.

Derby.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF SPASMODIC TORTICOLLIS TREATED BY AVULSION OF THE CENTRAL END OF THE SPINAL ACCESSORY NERVE.

By A. PEARCE GOULD, M.S. LOND., F.R.C.S. ENG.,
SENIOR ASSISTANT SURGEON TO THE MIDDLESEX HOSPITAL.

A LADY aged twenty-eight was brought to me in August, 1885, by the late Dr. Troutbeck, for very troublesome spasm of the left sterno-mastoid muscle. She first experienced trouble in the neck eight years before, soon after the death of a near relative; the jerking of the head had persisted ever since, gradually getting worse. The patient was a tall, thin girl, and delicate looking. There was no history of fits; she had had facial neuralgia, but not severe migraine. The spasm appeared to be entirely limited to the left sterno-mastoid muscle, and was so severe and constant as entirely to preclude the patient from mixing in society, and at night it was some time before she could get to sleep. Dr. Angel Money applied the constant current to the muscle on nine occasions, but with no benefit; indeed, the spasms appeared to be increased in severity. So on Sept. 10th, 1885, with Mr. Hudson's assistance, I exposed the spinal accessory nerve by means of an incision along the anterior border of the upper part of the sterno-mastoid muscle, intending to stretch it and excise a considerable portion. In stretching it from the central end I felt the nerve gradually give way, and I pulled out a long, slender nerve from the jugular foramen and excised four inches and a half of it. No special symptoms were noticed from the tearing of the nerve roots. The wound healed without complication, and the patient returned home on Sept. 23rd. She called on me on Sept. 8th, 1886. She was then in much better general health, her head was held erect, and was quite steady. She could turn it freely to the left and about half the distance to the right, and she was gaining power in it. The left sterno-mastoid muscle had completely atrophied, and the cervical portion of the left trapezius muscle was markedly smaller than the right. The patient was able to mix again in society, and was very pleased with the result of the operation. A year later (October, 1887) Dr. Troutbeck saw her, and reported to me that she was "quite well, except for occasional fatigue felt in the neck; no jerks."

The satisfactory result of this operation was, in my opinion, chiefly due to the fact that the spasm was limited to the one muscle—the sterno-mastoid. I have on two subsequent occasions intentionally removed the central end of the spinal accessory nerve in the same way for spastic torticollis. The operation is quite a simple one, the delicate roots of the nerve rupture and a long tapering filament is drawn out from the spinal canal. These two cases were treated last year and it is too early to pronounce with certainty upon the result of the operation in them.

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