In conclusion, I will only add the expression of my deliberate belief, that the close attention now given to sanitary matters by our medical officers of health and others cannot fail, before long, to effect a considerable diminution in the prevalence of certain kinds of parasites and their associated parasitic diseases.

ON THE MEDICAL SERVICES OF THE NAVY AND ARMY FROM THE ACCESSION OF HENRY VIII TO THE RESTORATION.

By WILLIAM R. E. SMART, M.D., C.B.,

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BEFORE the reign of Henry VIII, England possessed nothing worthy of being called a fighting navy. That which best deserved the title was the flotilla of the Cinque Ports, which rose to importance under the later Saxon kings, and retained supremacy on the narrow seas under the Normans and Plantagenets, satisfying their warlike necessities up to the reign of Edward III, whose wars for the throne of France demanded a fuller national naval organisation, to include every seaport of the kingdom. Then the merchant navy of England was impressed for the king's service, to convey men, stores, and provisions to France; and, although many great naval fights are recorded, as that of Sluys, which opened France to the invader in A.D. 1340; Winchelsea, which freed our coast towns from hostile incursions in 1340; and Rochelle, which preluded the withdrawal of the English army from France in 1372; yet, strictly speaking, those battles were fought by land forces embarked in ships, which were simply laid alongside the enemy by the mariners. Naval affairs were in small request in the wars of the Roses; but Edward IV prepared for the invasion of France by the same means as Edward III. He possessed, however, ships of his own, which, in times of peace, he chartered for gain to merchants, after the practice of the Senate of Venice, whose great carricks thus employed were annual visitors to the shores of England and Flanders. It is important to notice that these Italian vessels carried surgeons, with a physician, so early as A.D. 1320 (*z. Arch's Venet.*, in *State Calendars*, published by Br. Mus.); and, as this was provided for on trading voyages, it follows, *à fortiori*, that the same vessels, when engaged in war, would have the same regard paid to their wounded by the Senate of Venice.* It would appear that these very vessels ultimately became the models for our first Royal Navy under Henry VIII, whose predecessors had on several occasions pressed them into their service when lying in our harbours. The other republics of Italy would observe the same rules in their ships and galleys; and M. Jal (*Arch. Navale*, vol. ii, p. 333) adduces a proof that *master surgeons* were sometimes present in Italian fleets at an early date, accompanying the admiral in his ship or galley similarly to the physician. This is found in a MS. dated A.D. 1337, in the library of the Doria Palace at Genoa, being an agreement (or indenture) between Philip de Valois and Anton d'Oria to furnish forty Genoese galleys, each armed with two hundred and ten men, among whom there would be, according to Italian practice, a "barbiero" and a "barbieroto", or a surgeon and his mate; in addition to which, it was specified that the admiral should have with him a "maestro di chirurgia" of his own country, whose monthly pay from the King of France was to be "10 golden florins a month"; while the noble admiral was paid 100 florins, of which eight weighed one ounce of gold, the equivalent of £3:17:6 of our currency. Multiplying that sum by twenty-five, for the difference of the worth of money, we find the Italian master surgeon to have received, relatively to the pay of Philip Beauvais, surgeon of Edward the First's army in Scotland, A.D. 1300, £1,562, against £841:13:4 a year of our present currency.

It cannot be doubted that certain medical arrangements were resorted to by the English as soon as a Royal Navy of exclusively fighting ships was formed, and in their merchant-ships engaged in the Levant trade which sprang up in the days of Henry VII.

As to the quality of these surgeons, it would be as inconsistent to

suppose that they were the master surgeons of London of their day, as it would be to expect that in our day the *élite* of the surgical profession would adopt a sea-life. Nevertheless, there is reason to believe that some men of good surgical repute devoted themselves to sea-service so early as the reign of Queen Elizabeth.

When that great monarch Henry VIII grasped the idea that the power of his kingdom would be best shown in the character of his navy, he began to carry it out in accordance with precedent with regard to manning the ships built in his dockyard by Italian shipwrights. We have seen that, in the decay of the feudal system, our kings formed armies for foreign service by legal agreements with the territorial lords, which were styled "indentures", by which they engaged to raise forces under their command, for which they received the king's pay. The earliest instance of such a practice in naval affairs is found in the reign of Henry VI, A.D. 1460, when Sir Baldwin Fulford, Kt., contracted with the king to supply "1000 mene, well and sufficiently arraied and harneysed for the warre, and competent number of ships for the same," on the daily pay of 2s. for himself and 6d. for the masters, and 2s. 3d. a week for the men. The first fleet of Henry VIII was manned on the same principle: the ships belonged to the king, who entered on an agreement by indenture with a renowned sea-captain, Sir C. Howard, to man them, receiving from the king their gross pay in advance, and distributing the same. That memorable indenture specifies only two classes of seamen—masters or captains, and common men—and shows their respective rates of pay. Consequently, it is certain that the surgeons in that fleet were rated and paid as common men. As far as concerns their pay, this practice continued until the reign of Charles I; and, as concerns their rating, it was unaltered until A.D. 1704, when surgeons first received the rank of warrant-officers, in common with pilots, boatswains, gunners, and carpenters. The low rate of pay offering no inducement to the medical men of that day to serve in the Royal Navy, it was supplemented, according to the custom of the army, by a donation of *twopence a man per month*, in consideration of which the surgeon was bound to provide the instruments of his calling, together with surgical remedies, exclusive of drugs for the treatment of medical cases. This donation from the seamen became in part—*i. e.*, as much as the surgeon could make it so—a perquisite of the surgeon; and in 1672 it was made, in proportion of one-half, his by right as an emolument, and in 1704 entirely so, until 1805. According to modern ideas, this was an undignified, and would be a degrading, plan of payment for services rendered, but it was not thought so when first instituted; and it may have been of very ancient date, when personal services were ordinarily rewarded by those who benefited by them. As an early and very high example of this, we find in the Black-Book of the Admiralty (*Circiter*, 1360, Edward III, 11th clause): "And for that the admiral is the governor of the mariners, and ought to govern and maintain them in all their laws and customs, and defend them from all injuries against all; and, if there should be need to sue for their wages and to obtain payment, the said admiral shall have and take from each pound paid of wages to the mariners, 4d. for which 4d. the admiral ought by night, at his mast-head, all the time that he is on the sea, to carry two lanterns, so that all the fleet may know and understand by the light the course of the admiral, the which course they shall keep," etc.

In this we recognise the personal offices of the admiral towards the seamen, the manner in which he was rewarded for these responsibilities, and the material he was bound to provide to ensure the safety of those sailing under his orders.

Now, to compare small things with great and noble, if we consider the personal offices of the surgeon to the wounded of the crew, and the material he had to provide for their benefit, it may be readily conceived that the established rule of rewarding personal services by gratuities from those receiving them would be extended to those who had the cure of the bodies or the souls of the mariners, who received the same daily pay from the king as the mariners themselves; and thus it came about that, as soon as ships carried priests and surgeons, their daily pay was supplemented by the gratuities of 4d. a month for the former and 2d. for the latter, in recompense of personal services to be rendered them. The most learned naval archaeologists have confessed that the origin and date of this custom are sunk in the obscurity of the Middle Ages; and therefore I must propose this as only a probable explanation of a difficult subject. It was convenient to the king's treasury that the seamen should bear these burthens, voluntarily assumed; and in the case of surgeons it was not annulled before 1805, and in that of chaplains till 1812. In the navy, the sum was deducted from the wages as they accrued; and surgeons joining ships were permitted to draw money in advance, *by imprest*, to enable them to furnish their surgical chests; while in the army it would seem to have been paid by the soldier on receiving his pay into the hands of the surgeon.

* The antiquity of the practice of carrying in ships an attendant on the sick, is proved in chap. 264 of the *Consolato del Mare*, or nautical laws of the Mediterranean in the Dark Ages, where the "Metge", the old Catalan corruption of "Medicus", is mentioned; but no allusion to the "barbiero" is found there.

B. Crescenio, pontifical engineer, in his *Nautica Mediterranea*, p. 94 (Rome: 1607), one of the best authorities on all relating to nautical affairs of the Middle Ages, states, at p. 94:—"Vi è un Medico in tutta l'armata, e in ciascuna galea un Barbiero, chi governa gli ammalati conforme dal Medico gli viene ordinato." And Pantero, in his *L'Armata Navale*, p. 126, 1614:—"Il barbiero come ufficiale molto necessario per curar gl'ammalati et efferiti deve esser molti sicuro, et esercitato nell'arte de la chirurgia."

The custom, as far as relates to the army, is similarly obscured by the mists of antiquity; but there it has analogies as respectable as those of the navy, for it is recorded that Thomas de Brotherton, uterine brother of Edward I, as Marshal of England took from every merchant or sutler buying or selling in the army, from every prostitute, and from those who erected lodges or stalls, the sum of 4d. for every week or part of a week. That this custom prevailed in the reign of Henry VIII, is proved by a later manuscript (Cotton, Nero D, 6), in which it is defined "*what the marshal shall have of every artificer*". Thus, "the marshal should have of every merchant, armourer, taylor, barber, and every man that buyeth or selleth in the field, every Saturday, in and for assigning of them their places for keeping of their shoppes, *four pence*; and likewise he shall have of the said persons sojourning but two or three days in one place."

Independently of this exposition of compulsory revenue derived by the great officer of an army, in recompense for services rendered, this interesting document throws light on the economy of the camps (*temp.* Henry VIII); and shows that, whatever surgical staff and means were provided by the kings, there was in camps another body of practitioners under the designation of "barbers", who exercised their legal practice of surgery in private capacity, and paid the marshal for the privilege. Of these men, that trusty old surgeon, Thomas Gale, who served in the army of Henry VIII at Montreuil in 1544, and at St. Quentin in 1557, wrote as follows: "I remember, when I was in the wars at Montreuil, there was a great rabblement there, that took upon them to be surgeons. Some were sow-gelders, and some horse-gelders, with tinkers and cobblers." These affected to make miraculous cures; but the Duke of Norfolk, the general, observing that his soldiers were dying of small wounds, directed Gale and other surgeons to make inquiry into the practices of those men, on which he states: "We made search through all the camp, and found many of the same good fellows, who took on them the name of surgeons, not only the name, but the payes also." Finally, "this worthy rabblement was committed to the Marshalsea, and threatened to be hanged unless they confessed to what they really were."

In explanation of what the newly created company of barber-surgeons did for the king's service, he writes: "I have myself holpe to furnish out of London in one year 72 surgeons, who were good workmen, which served *by sea and land*, and were well able to serve, and all Englishmen. Now, there are not 34 of all the whole company of Englishmen, and yet the most part of them be in noblemen's service, so that if we should have need, I do not know where to find 12 sufficient men."

As Thomas Gale died in 1572, his testimony may be taken as authentic on the state of medical affairs in the army in the time of Henry VIII until the early part of the reign of Queen Elizabeth; and from it we learn that the most efficient of the surgeons of the royal services were those furnished by the company of barber-surgeons of London.

The next reliable authority is William Clowes, who served in Queen Elizabeth's navy and army, became surgeon of St. Bartholomew's and Christ's Hospitals, and finally surgeon to the queen. In 1596, when holding the latter high appointment, he published a work entitled, *A Profitable and Necessary Booke of Observation for all those that are burned with the flame of Gunpowder, and also for the curing of Wounds made with Musket and Caliver, Shot, &c.*, which may be accepted as the earliest English work on military and naval surgery. In this he details some cases highly creditable to the naval surgery of that age; and pays great respect to some surgeons who made long voyages, but of others in that service he writes with great indignation in these words:

"It is most truly said there is no coine so current but hath in it some counterfeit, which make it suspicious; so is there no profession so good but hath also some counterfeit, which breed in it disgrace; and none so much, I suppose, as there be in some these daies, that take upon them the honest title and names of *travelling surgeons*—nay, these are idle and ignorant menslaers, or wandering runagate surgeons, that I speake of, which very boldly, with most glorious facings, challenge unto themselves to be the onely Masters of Chirurgery in the world, because they have a little travelled. Nevertheless, a number of these old, arrogant, and frivolous fellows are known to be men altogether ignorant of the art, both in reason, judgment, and experience; howbeit, some one of them will use more comparisons, prating and babbling words, than four wise men would willingly answer; and you shall also further know them by this note: They are most commonly unfurnished of all good medicines, either medicinal or instrumentall, unless it be some such paltry stuffe which a man would scarce lay to a gauld horseback, with other furniture answering to the same. And so they are no more able to performe any good cure they take in hand than they be able with one puffe of their winde to turn about a millstone, for their cures at their

comming home are plain demonstrations of their beastly ignorance, and thus they bring themselves to ignominie and shame, and the worthy artist into very great discredit. Therefore, friendly reader, let this be a warning unto thee, to take heede of these uncleane birds, who doe daily abuse many worthy persons, captaines, gentlemen, masters of ships, and merchants of good account by reason of the shamelesse braggings and boastings of their great, divine, magnificent skills in physike and surgerie, wherewith we say they are adorned, and exceed all others, under color hereof, by their fraud and subtile means; they have bene and daily are entertained to be *principall surgeons for great ships of war*, and charge of numbers of men: and having received aforehand towards the preparation and furnishing of their surgerie chests of some £20, and of some £40 and £50; but in conclusion, they falsified their promises, for shortly after they had received their money, they lay aloofe off, lurking for opportunitie, and so in the end ran away, and could not bee found nor heard of, untill the captaines that hired them had set saile and gone forwards in their great and long voyages without any surgeon at all. But, good reader, what hath ensued hereof? Truly, many a brave souldier and mariner hath perished, and sometimes the generall and captaines themselves, and so by this meanes, partly, the whole voyage hath bene overthrowne, by reason they had no helpe or succour, either of physike or surgerie, to relieve or comfort them. But what remedie or redresse I know not, they are no changelings, for still they persevere in their wickednesse, without check or controulment. The like broode of abusers and abuses I read of in some sort in a certain history, which lately came to my hand, and it is published in the French tongue, by a most famous surgeon in France, one Gulemeu (Guillemeau), surgeon to the French king, and it is written by him, etc."

[To be continued.]

ON THE USE OF IPECACUANHA IN INFANTILE DIARRHŒA.

By ROBERT FARQUHARSON, M.D.,

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ALTHOUGH ipecacuanha had long been known to possess some influence in checking excessive intestinal evacuation, it is only within the last few years that its powers in this direction have been accurately defined. Mr. Docker was, I believe, the first to point out that this drug may be relied upon as a true specific in cases of acute dysentery; and ample confirmatory evidence has now established the fact beyond all possibility of doubt.

Dr. Ringer, in his suggestive work on *Therapeutics*, tells us of the signal service rendered by small and frequently repeated doses of the wine in various forms of infantile diarrhœa; and Dr. Thorowgood, in the last volume of the Clinical Society's *Transactions*, has furnished the details of two cases of very inveterate dysenteric diarrhœa, rapidly cured by powdered ipecacuanha. Acting on the hints supplied by these able observers, I have recently been giving this remedy a full and impartial trial in a considerable number of cases of diarrhœa at the Belgrave Hospital for Children, and with results so satisfactory, that I feel myself justified in laying my experience briefly before the profession.

Without entering at present into the wide field of the varieties of this troublesome affection, or the endless forms of treatment which have been proposed, I shall, in the first place, lay down the familiar proposition, that many of these cases are due to the irritation of some unwholesome or ill digested article of diet. If, therefore, we can see our little patients early enough, the common sense indication is clear, and we can usually effect what we may really flatter ourselves is a cure, by prescribing some mild aperient. But it is very rarely that our services are required at this manageable stage; and, as a general rule, domestic, and, perhaps, even more skilled, treatment has been exhausted in the endeavour to check what has now become a chronic diarrhœa. The time for elimination having gone by, for it is hardly reasonable to suppose that irritating matters can linger about the intestines after days or weeks of active purging, we are bound to try the other remedies at our disposal. Now, as a rule, I have found that the diarrhœa of children does not bear astringents well.

Temporary benefit may seem to be derived from one or other drug of this class; but, after a few days, the purging returns as badly as before, and the patients suffer, as they often do, under the ill considered use of strong tonics, with headache, dryness of tongue, and slight feverish symptoms. We are, therefore, compelled to change our treatment from time to time; and, even after a careful trial of various and widely contrasted pharmacopœial preparations, we may find that we are making no progress, and that the patient is being gradually exhausted