quickly succeeding contractions, resulting in tetanic spasm; while, with the continuous, these changes only occur at opening and closing. If the galvanic current be rapidly interrupted, it has the same effect on the faradic battery in causing tetanus. Galvanism resembles faradism in this respect, that in moderate and limited doses it stimulates, and in large and prolonged doses it paralyzes, nerve-function.

Voluntary Muscle.—The faradic and galvanic currents directly applied to a healthy muscle produce precisely the same phenomena as when its nerve is similarly treated. This is due to their effect as the terminal intramuscular branches of the nerves. When these are destroyed by poison or otherwise, leaving the muscular structure healthy, the reactions are very different. The faradic current then applied to the fibres alone produces no contraction, neither does rapidly interrupted galvanism. But, if a continuous current slowly opened and closed be employed, there are muscular movements, and, while the current is passing, there is usually slight tetanic spasm. This demonstrates that the fibre is contractile without nervous influence, although in a different manner. There is another distinction; for, as we have already seen, when the nerves are intact, the muscular contractions under galvanic irritation are short, sudden, and complete. When nerve-influence is removed, they are more prolonged, more tardy in appearance, and less vigorous in degree. For this reason, if the variations of the electrical current be quickly recurring, the muscles do not contract at all, and this explains the failure in acting to the faradic and rapidly interrupted galvanic influences. To induce contractions, a longer duration of current is necessary, hence their response to the slowly performed opening and closing. Again, a stronger stimulus is necessary to produce the same effect when muscle is directly irritated as compared with nerve. The order of polar reactions is, however, precisely the same as in healthy nerve. To sum up, muscle, when deprived of nerve-influence, differs from the normal condition: 1. In the contractions being slower in appearing, longer in duration, and less vigorous in degree; 2. In requiring a prolonged application of electricity to produce contraction, hence the failure of action under faradism; 3. In requiring a stronger current to produce the same effect; and 4. With galvanism, there are contractions; with faradism, there are none; whereas in a muscle with the nerve intact, there are stronger contractions with the latter than with the former.

Sensory Nerves.—The effects of the faradic current on sensory nerves depend on its strength, the rapidity of the interruptions, and the nature of the electrodes. If of weak intensity, a slight pricking sensation is felt; if powerful, there is intense pain. A rapidly interrupted current has much more effect than a slowly interrupted one, the feeling from a single faradic shock being trifling; but, if rapidly succeeding one another, each is more powerful than its predecessor, from increasing irritation of the nerve, and hence there is greater pain. After a time, a maximum is reached, which remains stationary, after which sensibility diminishes. Gradually a feeling of numbness is produced; and then, although the current is augmented in strength, there is no increase of pain, and ultimately complete anæsthesia may be induced. A moist conductor, by enabling the current to pass through the skin, causes much less pain than a dry one, which encounters great resistance at the more sensitive part of the integument.

The galvanic current causes a sensation of stinging and heat, which continues while the current is passing. If the current be feeble, this is not unpleasant, but, if strong, there is intense burning pain. This is most marked with the cathode, and with a dry electrode. The effects increase the longer the current is applied, because not only does the nerve become more irritable, but the skin becomes a better conductor, owing to its increasing vascularity. If the current be sufficiently prolonged, the pain diminishes, and numbness, or even anæsthesia, supervenes.

At different parts of the body, the sensibility to the electric stimulus varies greatly; a current, for example, which is unbearable on the face, might not be felt on the sole of the foot. MM. de Watteville and Tschiriew have recently ascertained that "the electrical excitability of the skin, or, rather, of the nerves of the skin, is the same at every part of the body". Hence the actual differences of sensibility in various localities must be due to the variety of conducting media which surround the terminal peripheral nerves of the skin, such as thickness and dryness of epidermis, etc.

Both currents produce a peculiar sensation when applied to muscle called electro-muscular sensibility. This is due to contraction, and is proportionate to the strength of the electricity.

To sensory as to motor nerves, both faradism and galvanism act in small and limited doses as stimulants, and in strong and protracted doses as paralyzing agents.

[To be continued.]

THE MEDICINE AND SURGERY OF HOMER.

By HENRY DUNBAR, M.D.

It cannot but be remarked by those interested in the subject, and conversant with the poems of Homer, how that, in the *Iliad* more particularly, which is altogether taken up with the exploits of heroes, combats, wounds given and received, and death, very little allusion is made by the poet to the medical and surgical treatment of his disabled warriors.

That Homer, however, must have had a very considerable knowledge of the internal economy of the human frame, is abundantly made clear by his nomenclature of the different parts of the body, wounded, met with in various places throughout the *Iliad*, a nomenclature still, in many respects, in vogue with us at the present day; but how the great epic poet acquired his knowledge we have no means of determining. Did he acquire his knowledge of the internal structure of man's frame by ever having seen a dead body examined? To this there must be but one answer; the strongest impossibility that he ever did, for the touch, or examination, of the dead body was interdicted as a profanation by both Jew and Greek, and it was only after the death of Alexander the Great, when learning centred at Alexandria, under the fostering care of Ptolemy Soter, who made Alexandria the capital of his kingdom in 313 B.C., when literature was encouraged, and four schools of science founded—viz., criticism, mathematics, astronomy, and physic—that the examination of dead bodies was permitted. (This period was called the golden age of the Ptolemies.)

The most probable period of time in which Homer lived is considered by most men of learning to have been about 850 B.C. Troy was taken by the Greeks, according to our chronology, in the year 1184 before the Christian era; so that, by computation, Homer flourished about three hundred years after the fall of Troy, and about five hundred years before the reign of Ptolemy Soter; therefore, it was five hundred years after Homer's time that the examination or dissection of dead bodies was sanctioned. Although Homer may never have even seen the body of a deceased person opened for the purpose of being embalmed, yet he must have been aware of such a custom prevailing among the Egyptians; for, in *Iliad*, Book xix, 38, 39, he makes Thetis "instill into Patroclus (dead), through the nostrils, ambrosia and ruby nectar, that his body might be uncorrupted".

"Whole years untouched, uninjured shall remain,
Fresh as in life, the carcase of the slain."

Nectar was supposed to preserve from decay, and to confer immortality; while ambrosia is mentioned by Virgil, *Æneid*, Book xii, line 616, as possessing the power of healing wounds.

I would ask again, Did Homer ever see a human skeleton? That is possible. Did Æsculapius? Did his two sons Podalirius and Machaon? Were they acquainted with the anatomy and surgery of the human frame? History is silent on this subject; but that they all must have had some knowledge of the internal economy of man's material substance cannot but be conceded by every one. That the knowledge of medicine and surgery in Homer's time must have been in a very infantile and rude state does not admit of doubt. No mention is made of amputation (*ἀνέκοψις*); no setting of fractures, though broken bones were plentiful; no tying of arteries, which vessels were not known to exist in Homer's time, though *φλέψ* (phlebs), a vein, occurs in *Iliad*, Book xiii, 546; more probably, however, according to the scholiast's interpretation, who calls it a "hollow or empty vein", *κοιλὴν φλέβα* (*koiilên phleba*), it is either the trachea or the thoracic duct of our nomenclature that is meant by Homer; no mention of gout, *ποδάγρα* (*podagra*), or headache, *κεφαλαλγία* (*cephalalgia*), brought on by a disordered liver, or from being *Bacchi plenus*, occurs in Homer's poems, though his heroes, and the immortal gods themselves, "who inhabit wide Olympus", quaffed the wine-cup without stint, as we read of in the last lines of the first book of the *Iliad*, where "Ἥφαιστος (Vulcan) is pouring out, from left to right (of the seated gods), nectar from a goblet, and when inextinguishable laughter arose among his immortal *confrères*, when they saw him, the lame (*ἀμφερυνήεις*) Hephaistos, hobbling about, wine-cup in hand. These Dii Majores feasted and drank the entire day till the sun set, when the Olympian Thunderer Jove arose, went to his couch and lay down to sleep, and

—"παρὰ δὲ χρυσόθρονος Ἥρη."

None of the ills to which flesh is heir troubled Homer's heroes; they came to the Troad, and sat down before Troy, sound in wind and limb; no asking to go home "on sick leave" or "on private affairs" ever came into their heads, though Agamemnon himself (*ἀναξ ἀνδρῶν*), when matters were looking black for the Greeks, once or twice counselled a going home to Argos.

Medicine and surgery, such as they were in Homer's time, were con-

joined; the earliest traditions of these arts were derived from the ancient Greeks, and by these again from the Egyptians. Apollo was the original god of physic among the early Greeks; but he appears to have resigned in favour of his son Æsculapius, in whose temples, especially in the one at Epidauros, was deposited all that was known of medicine and surgery.

Podalirius and Machaon, the two sons of Æsculapius, are the first physicians and surgeons of whom we read as being "in practice" (always, with reverence, excepting "Luke, the beloved physician"); and they have been immortalised by Homer, who held members of the healing art in due regard, and they were justly looked upon as a superior body of men. But Podalirius and Machaon, ἰατρὴν ἀγαθὴν, able physicians both, besides acting as physicians and surgeons-general to the Greeks and their allies at the siege of Troy, themselves conjointly commanded a division conveyed in thirty ships to the Troad, as we read in *Iliad*, Book ii, 731. Machaon, according to Virgil, *Æneid*, Book ii, 343, was one of the Greek chiefs shut up in the wooden horse in Troy.

Of the two ἰατρῆς, Machaon seems to have been the most distinguished as a surgeon; but Podalirius was reputed to have been the first of phlebotomists, having opened a vein in both arms of the King of Caria's daughter, who had been severely injured by a fall from a house-top. The hand of this princess, and the Chersonese as her dowry, were the rewards of his skill. Would any humble Æsculapius in our day be thus rewarded? Are any of us ever ennobled by saving the life of, say, a Lord's anointed; alas! no. It was no great marriage after all for Podalirius; for, although a physician, he could boast of having a god (Apollo) for his grandfather; but, like many members of the healing art in ancient and modern times, he might have been afflicted with the *res angustia domi*, a state of affairs that obtains much more as the rule than the exception among that august body of men. Be it hoped, however, that Podalirius' prospects and practice were improved by having received such a dowry, and that the princess was to him a *placens uxor* as well as, mayhap, in body and mind, the belle and beauty of the Chersonese.

At the very commencement of the *Iliad*, Homer passes over his physicians and surgeons general entirely; for, when the plague or pestilence broke out in the Grecian camp, brought about by Apollo, at the entreaty of Chryses, whom Agamemnon had grievously ill-used and insulted, Homer applies at once to Apollo. After the pestilence had run havoc for nine days throughout the camp, Chryses, being appeased and his daughter restored to him, prays to Apollo with uplifted hands (χείρας ἀνασών) that he would avert the woful pestilence; him Apollo heard, and stayed the plague. Homer evidently was of opinion that the skill of his medical officers could not attain to the grappling with such a pestilence as was then raging in their midst; so, without "consulting them", as is the etiquette of modern times, he "calls in" the aid of the god of physic himself, knowing full well that, to stay the ravages of the ἰὼν and βέλως (sudden death) discharged by Apollo, nothing would avail but prayers and supplications to the god himself, imploring him to allay his wrath and withdraw his destroying hand.

The surgical attainments of our two ἰατρῆς seem to have extended no farther than to the simple extraction of arrow-heads, spear-heads, and other offensive weapons; the checking of hæmorrhage by pressure or styptics; and the application of soothing remedies or unguents (ἥπια φάρμακα). In extreme cases, such as fracture of the bones, Homer had recourse to the same expedient as he followed during the pestilence, to wit, invoking the aid of the gods.

We do not read of any of Homer's heroes, when wounded, dying of secondary hæmorrhage, gangrene, or the like. After a time, they recover and come up again to the fight, being met with in subsequent combats, still to the front, fighting on during, and to the end of, the siege, or falling, like Patroclus, before Troy itself fell.

When Machaon was himself wounded (*Iliad*, Book xi, 507) in the right shoulder by a three-barbed arrow discharged by Paris, and carried by Nestor in his chariot (no ambulances in those days) to his tent, did he call in his brother practitioner and brother Podalirius to dress his wound, or did he do it himself? What dressing, what ἥπια φάρμακα did he apply? Cold water, perhaps. Machaon's wound and recovery interest the whole army: Idomeneus exhorts Nestor, the μέγα κῆδος Ἀχαιῶν, to whose care Machaon is entrusted, to strenuous exertions in his behalf, "for a leech who, like him, knows how to cut out darts, and relieve the smarting of wounds by soothing unguents, is to armies more in value than many other heroes"; and Achilles, seeing Nestor and his charge approach, sends Patroclus to inquire after "the wounded offspring of the healing god". Would that, in this our day, Her Majesty's powers that be would take Idomeneus' words to heart, and promote the deserving and heroic Podalirii and Machaons of the British naval, military, and civil services to positions to which some of them most truly and emphatically are entitled!

Patroclus speeds to the tent of Nestor; arrived there, he stands at the door, "a godlike hero", and sees for himself that it is indeed Machaon that is wounded, sitting on a couch, whilst a maiden, the beautifully curled Hecamedè (εὐπλόκαμος Ἑκαμήδη) is mixing for the two heroes a cup of Pramnian wine. Here I would remark, that all Homer's heroes, at least all of any note, carried with them on their campaigns a fair maiden, generally a captive, as a part of their Lares and Penates. What was the occupation of these damsels in these stirring times? Besides making up their lords' and masters' couches, and "redding up" their tent or tents, did they wash their linen, O Homer, for thou sayest nothing about it? No, for thou wouldst not descend from the sublime to the ridiculous; and this brings me to remark again, that the washing of linen or clothes occurs only once in the *Iliad* (Book xxii, 155):

—"θι εἵματα εὐγαλδεντα

πλύνεσκον Τρώων ἄλοχοι καλαὶ τε θύγατρες—"

"where the wives and handsome daughters of the Trojans were wont to wash their splendid garments"; and once in the *Odyssey* (Book vi, 31), where Minerva appears to Nausicaa in a dream, and desires her to go with her attendants to the river to wash her clothes preparatory to her marriage, she (Minerva) following as her assistant: "Let us go," says Minerva, to wash them together with the morning's dawn."

"ἀλλ' ἵμεν πλυνέουσαι ἄμ' ἧοὶ φαινόμενῃν."

Πλύνω, to wash clean (clothes), is the opposite of λούω, to wash the body, mid. λούομαι, to wash one's self; which verb occurs repeatedly both in the *Iliad* and *Odyssey*, and to νίξω, to wash the hands, which is found three times in the *Iliad* and four times in the *Odyssey*. But, Nestor, what was a man at thy time of life doing with a fair maiden in thy tent? Fie on't! O Pylion sage! Was thine old lady, the once fair Eurydice, then far away in Pylos, aware of the fact? Possibly so, for it seems to have been an universal custom among the Greek chiefs to take a captive maiden in their train. Horace sings that

"Serva Briseis niveo colore

Movit Achillem:

Movit Ajacem Telamone natum

Forma captivæ dominum Tecmessæ."

All these damsels were of attractive beauty; and Homer himself had a keen eye for female and manly comeliness, for all the men and women, more especially in the *Iliad*, mentioned by him, were fair to see, except Thersites, the "inordinate babbler" (ἀκριτῆρμυθος), who "was the ugliest man who came to Ilion".

But Patroclus is standing at the door of Nestor's tent all this time. He is invited by Nestor to come in and sit down. "No seat for me," replies Patroclus. Whereupon, possibly to punish him, Nestor, with the garrulity of old age, gives him a long description of valiant deeds done by him in his earlier years, keeping him standing all the while, and no doubt chafing, yet afraid to interrupt the old man, who winds up with a message of exhortation to be carried by him to Achilles.

Patroclus hies him away to the ship of Achilles; but, on his way, he falls in with his friend Eurypylus, wounded by an arrow in the thigh, limping to the rear; Patroclus, like a true-hearted comrade, at his friend's entreaty, carries him tenderly to his (Eurypylus') tent, and does a little surgery on his own account. He cuts out the arrow from his friend's thigh with some haphazard bistoury; he washes away the black blood with warm water; then he applies a bitter pain-assuaging root, rubbing it in his hands, which eases all Eurypylus' pangs; the wound is dried up, and the hæmorrhage ceases. Having completed this little bit of surgery, no doubt to his own and his wounded friend's satisfaction, Patroclus hurries away, eager to deliver his message to his heaven-born chief Achilles.

With regard to the pestilence which was committing such havoc in the Grecian camp, as mentioned in *Iliad*, Book i, 51, we have no means of knowing what kind of disease it was. The ἰὼν and βέλως discharged by Apollo meant, metaphorically translated, sudden death; if so, it might be likened, though in a far less degree as to the ravages committed, to the wholesale destruction of Sennacherib's host so beautifully described by Lord Byron; partial extermination in the one, complete in the other.

"The Angel of Death spread his wings on the blast,

And breathed on the face of the foe as he past,

And the eyes of the sleepers waxed deadly and chill,

And their bosoms once heaved, and for ever grew still."

So it might have been in the camp of the Greeks. They were encamped in a position in no way detrimental to health, on the seashore, a shelving beach, exposed to the healthy influence of the sea-breeze; they had, or could have had, abundant supplies; for they had command of the sea, and there was no stint of water, at least nothing that would lead us to suppose so is mentioned by Homer, as the rivers Simois and Sca-mander were in the vicinity; malarial influences, therefore, were not

there to predispose to any deviation from health; but who or what could withstand, with impunity, the anger of the gods?

In the first and second books of the *Iliad*, there was no fighting, no slain, no wounds to dress. In the third book, we come to the duel between Menelaus and Paris, where no blood is drawn, but where Paris is wellnigh choked by the strap of his helmet, which is held in the firm grip of Menelaus, but which gives way, and Paris is removed, concealed in a thick mist, by Venus.

In the fourth book, the first blood is drawn from the person of Menelaus, who is hit somewhere in the upper part of the abdomen, superficially, by an arrow discharged by Pandarus. Menelaus' wound, however, is not in a vital spot (*ἐν καρδίῳ*); and here Machaon, as a surgeon, first comes to the front, his first patient being Menelaus. Agamemnon, much concerned about his brother's wound, resolves to send for the "physician, who shall probe the wound and apply remedies, which may ease thee of thy acute pains", and forthwith he orders Thalybius to call in Machaon. The son of immaculate Æsculapius straightway appears, extracts the arrow, breaking the sharp barbs while doing so (there is no mention of his enlarging the wound); then he lays bare the wound, sucks the blood, and skillfully applies soothing remedies, "which benevolent Chiron had formerly given to his father". In this close-waged fight, many were slain outright, Menelaus being the only chief mentioned as having had his wound attended to.

In the fifth book, the exploits of dashing, daring Diomed, the Murat of the Greeks, come into play. Pandarus, seeing the onslaught of Diomed, who was driving all before him, tries to check his career by wounding him on the right shoulder by an arrow; but Diomed, nothing daunted, requests his charioteer Sthenelus to come down from the chariot and draw out the keen shaft; Sthenelus does so, the blood spurting up through the twisted mail as the arrow is withdrawn. Diomed, notwithstanding, presses on, irritated by his wound to reckless daring. After first killing Pandarus, and all but slaying Æneas, he rushes on Venus and wounds her on the hand; the goddess, distracted with pain, is conveyed by Iris, in the chariot of Mars, to Olympus, to the feet of her mother Dionè, who wipes off the ichor from her daughter's hand, soothing her the while, and forthwith the pain is mitigated and the hand is healed.

Diomed, in his impetuous career, next, aided by Minerva, encounters Mars, and wounds him in the lowest flank (*νέλατον ἐς κενεῶνα*). The god of war, bellowing like ten thousand men, ascends to Olympus, as did Venus, and complains to Jove, "showing him the immaculate ichor flowing down from the wound". The son of Saturn, sternly regarding him, tells him that he has been rightly served; but, being his offspring, he orders Pæon to heal him. Pæon does so, applying to his wound pain-assuaging remedies (*δδυνήματα φάρμακα πάσων*). Pæon was a celebrated physician of Egyptian origin, who was considered in fable to have cured the wounds and diseases of the gods. Pope, in his translation, makes Pæon Apollo.

In the eleventh book, Agamemnon and Diomed are both wounded; but there is no mention of their being attended to by either Machaon or Podalirius. Machaon was unable to look after any one, for in this book, as mentioned above, he is himself wounded, and is attended to by Nestor. But I come to the treatment of Eurypylus' wound by Patroclus, and would inquire what the "bitter pain-assuaging root" (*ρίζαν—δδυνήσαντον*) could be which Patroclus, after rubbing (to express the juice, no doubt), applied to the wound. *Ῥίζα*, according to lexicographers, is simply a root; most probably it was either the *ρίζα ῥοδία* of Dioscorides and Galen, or the *Rhodiola rosea*, *Anglicæ*, the rose-root of Sprengel or a species of geranium, a strong bitter astringent. Query, Was the root, whatever it was, at hand in Eurypylus' tent? Did Patroclus carry it about with him? or was it to be found growing plentifully in the immediate neighbourhood?

Nestor was left, at the close of the eleventh book, undertaking the cure and care of Machaon, the surgeon-in-chief; at the commencement of the fourteenth, he leaves his patient under the care of the fair Hecamedè, who is instructed to warm tepid baths (*θερμὰ λουτρὰ*), to wash away the blood oozing from the wound, and to give her charge a tonic occasionally in the shape of wine, while he (Nestor) was going to gain information as to how the day was going.

There is no more mention of Machaon in the *Iliad*, except in Book xiii, 213, where Idomeneus, after having given directions to the surgeons (*ἡγροῖς ἐπιτείλας*) to look after a comrade who was borne to his tent wounded in the ham (*κατ' ἰγνύην*), goes to the front to participate in the fight.

Machaon seems to have held a more conspicuous place among the Greeks and their allies than his brother Podalirius, for he is mentioned eleven times in the *Iliad*, while Podalirius appears only twice, he being evidently the physician, and Machaon the surgeon, to the forces. Neither is to be found in the *Odyssey*. After the fall of Troy, they are

said to have established themselves in the island of Cos, where, let us hope, they had an extensive and lucrative practice. Cos was sacred to Venus and Æsculapius, and became, in after years, famous as the birth-place of Hippocrates, the great father of physic as he was called, and the founder of the Coan medical school.

That Homer must have had some knowledge, to a greater or less extent, of the parts of the body on which wounds inflicted might prove mortal, is evident from one or two passages in the *Iliad*. In Book iv, 183, Menelaus, when wounded, reassures his brother Agamemnon by stating that the arrow "has not stuck in a vital part" (*ἐν καρδίῳ*); again, in Book viii, 326, where Teucer is struck by a stone thrown by Hector "near the shoulder, where the collar-bone separates the neck and breast, and it is a particularly fatal spot" (*μάλιστα δὲ καρὶόν ἐστι*); and again, in Book xi, 381, where Paris, after having wounded Diomed on the upper surface of the right foot, exclaims, "Would that, striking thee in the lower part of the groin, I had deprived thee of life!" and once more, in the same book, v. 435, where Odysseus, having been wounded by Socus, perceives that the weapon has not touched him mortally (*κατακαίριον*).

To Homer also may be ascribed, without any cavil, a knowledge of some drugs and medicinal plants. In the first book of the *Odyssey*, Minerva tells Telemachus that his father, *δῖος Ὀδυσσεύς*, went to Ephyre at one time in a swift ship to seek for a man-destroying drug (*φάρμακον ἀνδροφόνον*), that he might anoint his brazen-tipped arrows; and here I may remark, that in the *Iliad*, *φάρμακον* is invariably translated as a remedy, an unguent, *ἤπια φάρμακα*, soothing applications; while in the *Odyssey* it signifies a drug or medicinal plant, poisonous and non-poisonous, or an antidote or countercharm.

In *Odyssey*, Book iv, 220, Helen casts a drug into the wine of Pisistratus and Telemachus, the guests of her husband Menelaus, a drug "which frees men from grief and from anger, and causes oblivion of all ills". This *φάρμακον νεπενθές* is supposed to have been opium, or the juice of the *Papaver somniferum*; some have conjectured that it was brandy, as the ancient Egyptians were acquainted with that liquor, for the whole process of distillation is or was to be seen figured at Thebes. Homer tells us that Helen possessed cunning and excellent drugs, "which Polydamna, the wife of Thone, an Egyptian, gave her, where the bounteous land (Egypt) produces very many drugs, many excellent when mingled, and many fatal (poisonous); and each physician, *i. e.*, the physicians of Egypt, is skilled above all men, for truly they are of the race of Pæon". We also read in *Iliad*, Book xi, 740, of Agamedè, daughter of Augeas, "who well understood (the virtues of) as many drugs as the wide earth nourishes".

In the tenth book of the *Odyssey*, we have mention of a drug and its antidote or countercharm; we have the poisonous drug of Circe, which Mercury tells Odysseus she will put into his food, to counteract which, Mercury gives him another drug or herb (v. 286) as an antidote. "The Argos-slayer", says Odysseus (v. 302), "gave me an antidote, pulling it out of the earth, and he showed me its essential quality (*φύσιν*). It was black in the root, and its blossom was like unto milk, and the gods call it moly." *Μῶλυ* was believed to have been a species of garlic, to which Linnæus, Stackhouse, and Sprengel give the name of *Allium moly*; others believed it to be the wild rue, which was supposed to be an antidote against drunkenness; Dierbach maintains that the magic plant must have been the mandrake (*Atropa mandragora*), a herb that was much used in incantations.

The poet must also have been acquainted with the custom of making a lustration in, or the purification of, a house in which slaughter or murder had been committed; for in *Odyssey*, Book xxii, 481, 482, we find Odysseus, after killing the suitors, calling upon his old nurse Eurycleia to bring him sulphur and fire, that he might fumigate the palace.

οἷσε θέειον, γρήν, κακὼν ἄκος, οἷσε δέ μοι πῦρ
δφρα θέειωσω μέγαρον,—

"Bring me, O old woman, sulphur the remedy for impurities, and bring me fire, that I may fumigate the palace."

To sum up, I will give a *résumé*, in alphabetical order, of the names of some of the more prominent parts of the human body mentioned by Homer on which wounds were inflicted, and the mortality resulting.

αἰδοίων (aidoion), the pudenda; once in *Iliad*, xiii, 568; mortal.
ἀνθερέων (anthereon), the chin; four times in *Iliad*; twice mortally.
ἀστράγαλος (astragalos), a vertebra; once in *Iliad*, twice in *Odyssey*; dislocation of the neck; mortal.

γαστήρ (gaster), the belly; twelve times in *Iliad*, eighteen times in *Odyssey*; mortal in *Iliad*. In *Odyssey* the word relates to hunger or greed.

γλήνη (glenè), the pupil of the eye; once in *Iliad*, mortal; once in *Odyssey*.

γλουτὸς (glutos), the hip; twice in *Iliad*, mortal; once in *Odyssey*.

γναθμός (gnathmos), the jaw-bone; four times in *Iliad*, mortal; once in *Odyssey*.

ἐγκέφαλος (enkephalos), the brain; seven times in *Iliad*, three times in *Odyssey*; seven times mortal.

ἥπαρ (hepar), the liver; six times in *Iliad*, three times in *Odyssey*; five times mortal.

ἰγνύη (ignūē), the ham (Lat. *popli*); once in *Iliad*.

κράδιη (cradie) (Lat. *cor*), the heart; many times in *Iliad* and *Odyssey*; once mortal in *Iliad*, Book xiii, 442; the only instance in which the heart was pierced.

κύστις (cystis), the bladder; twice in *Iliad*, mortal.

λαίμωδς (laimos), the throat; three times in *Iliad*, once in *Odyssey*; mortal.

μαῖζος (mázos), the mamma; fourteen times in *Iliad*, three times in *Odyssey*; thirteen times mortal.

μέτωπον (metōpon), the space between the eyes; twelve times in *Iliad*, four times in *Odyssey*; seven times mortal.

μυελός (myelos), marrow (Lat. *medulla spinalis*); twice in *Iliad*, twice in *Odyssey*; once mortal.

ὀμφαλός (omphalos) (Lat. *umbilicus*), the navel; three times in *Iliad*, not in *Odyssey*; three times mortal.

ὄσας (ouas) (Lat. *auris*), the ear; twelve times in *Iliad*, eight times in *Odyssey*; seven times mortal.

ὀφθαλμός (ophthalmos), the eye; occurs repeatedly both in *Iliad* and in *Odyssey*; but as wounded five times; all mortal.

πνεύμων (pneumōn), the lung; once in *Iliad*; mortal.

πρᾶπιδες (prapides), the diaphragm; four times in *Iliad*; twice mortal.

στέρνον (sternum), the breast; sixteen times in *Iliad*, three times in *Odyssey*; three times mortal.

τένων (tenōn), a tendon; seven times in *Iliad*, once in *Odyssey*; four times mortal.

φλέψ (phlebs), a vein; once in *Iliad* (Book xiii, 546); mortal.

χολάδες (cholades), the intestines; twice in *Iliad*; mortal.

To these are added—

σφενδόνη (sphendonē), a sling bandage; once in *Iliad* (Book xiii, 600).

φάρμακον (pharmakon), a remedy or application, unguent, in *Iliad* nine times; a drug or medicinal herb in *Odyssey* twenty times.

It will be remarked that, in mentioning the blood that flows from the wounds of mortal men, Homer applies the word αἷμα (hæma); blood from the immortal gods has the word ἰχώρ applied to it; this last is translated by some lexicographers as "the fluid that flows in the veins of the gods"; by others, as "the fluid which distilled from the wounds of the gods, ichor".

I cannot do better, in bringing these remarks to a close, than give a quotation from the *Observations on Homer's Battles*, by the Rev. T. S. Watson, which will be found at the end of the fourth book of his edition of Pope's *Iliad*.

"Another cause of this variety is the difference of wounds that are given in the *Iliad*; they are by no means like the wounds described by most other poets which are commonly made in the self-same obvious places; the heart and head serve for all those in general who understand no anatomy; and sometimes, for variety, they kill even by wounds which are nowhere mortal but in their poems. As the whole human body is the subject of these, so nothing is more necessary to him who would describe them well than a thorough knowledge of its structure, even though the poet is not professedly to write of them as an anatomist; in the same manner as an exact skill in anatomy is necessary to those painters who would excel in drawing the naked body, though they are not to make every muscle as visible as in a book of chirurgery. It appears from so many passages in Homer that he was perfectly master of this science, that it would be needless to cite any in particular."

CASE OF DILATATION OF STOMACH, SUCCESSFULLY TREATED BY THE SYPHON STOMACH-TUBE.

By W. SNEDDON, M.D., BEITH.

W. M., AGE 48, was not troubled with his stomach till immediately after a severe attack of scarlatina in 1854. He complained of pain with general dyspeptic symptoms, which were eased by taking a little alcohol. The pain was confined to a small spot which could be covered by the point of one's finger. About a year after this, he commenced to vomit, which he did several times a day for months in succession. He was unable to work every year from eight weeks to eight months, with one exception, in 1876. He came under my observation about seven

years ago, from which time till now I think I used all the usually prescribed remedies in the *Pharmacopæia*. Amongst these were iron and strychnine, sulphurous acid, carbolic acid, creasote, sulphite of soda, charcoal, bismuth in fluid and solid form in combination with bitter tonics, and with morphia, pepsine, lactopeptine, effervescing citrate of iron, strychnine and quinine, salicylic acid. All these were used for some time and got a fair trial, none being used fitfully. Of all these, I think he was most benefited by the effervescing citrate of iron, etc. None of them gave him temporary relief equal to bicarbonate of soda or citrate of magnesia. Bismuth invariably increased the pain. Attention to regimen only was tried for some time, with blisters over the stomach.

When seen at end of April this year, there was distinct evidence of dilatation of the stomach. He was thin and anæmic. He had been off work four months, during which time he vomited several times every other day. The vomited matter was so sour, that it felt as if "it would take the skin off his mouth", as he termed it. It had a sour disagreeable fermenting smell. When allowed to stand for a short time, it commenced to ferment, and, if a little bicarbonate of soda were added, active effervescence took place. He often vomited a basinful at a time. The tongue was clean, but white. The bowels were constipated, which necessitated the frequent use of enemata. He was so much pained, that he cried out with it. The pain was not confined to the stomach; it was worse in the hypochondriac and umbilical regions, and was sometimes worst of all over the lower dorsal vertebrae.

April 30th. I used the syphon stomach-tube for the first time. It was simply the gum-elastic tube with the flexible India-rubber tube detached from the ordinary bivalve stomach-pump. I ordered him to hold back his head, as recommended in some text-books, but found this was objectionable, for it caused the tube to point forwards. When the gum-elastic tube was nearly bent at right angles, it could be hooked over the tongue as it were, and, when kept in mid-line, and pushed upwards and backwards, there was no difficulty in using it. On the tube entering the stomach, it produced retching, which filled the tube, and the fluid ran out of the syphon. There was a pint of sour turbid fluid evacuated, which felt very hot when flowing through the brass part of the tube.

May 1st. He had a better night than he had had for some time. On using the syphon-tube to-day, there was not the same immediate tendency to retch, but, by slightly withdrawing and then pushing the tube back, vomiting was induced. I introduced, by raising the external end of the syphon, a pint of lukewarm water, to which had been added a drachm of bicarbonate of soda, and then evacuated it.

May 16th. I used the syphon-tube daily till to-day; from the 6th, he took a small teaspoonful of Gregory's mixture every morning, and the vomited matter was often greenish in colour from this date. He was quite free from pain since the 8th, and felt better than he had done for months. From the 10th to the 16th, nothing was ejected.

May 31st. I used the syphon-tube every third or fourth day since the 16th. On two occasions a few ounces were ejected. He had a little pain last night.

June 2nd. He vomited last night for the first time since commencing the syphon. In using the syphon to-day, it entered the larynx, when there was a whistling rushing sound with suffusion of the face and violent retching.

June 3rd. He vomited half a pint of fluid last night. About a pint was evacuated with the tube.

June 4th. He vomited a little last night. Fully a pint of slightly greenish fluid was evacuated to-day with the syphon.

June 11th. I used the syphon daily from the 4th, though on several occasions nothing was discharged. He had remained better since the 6th, and felt very well.

June 27th. I used the tube every third day since last date, when about six ounces were ejected daily. I invariably used the soda solution after seeing whether there was anything in the stomach or not.

July 11th. I had not used the syphon for a fortnight, but, as he complained of a little pain last night, I used it to-day. Only one ounce of glairy clear fluid came up. I ordered him to take a teaspoonful of Carlsbad-Sprudel salts daily.

On August 30th he had been working for six weeks, and had gradually increased in weight and strength. His colour was better, and he felt quite well.

I think the success of the treatment adopted cannot be questioned, for the benefit was manifested immediately after the syphon was used. The intractable nature of the case, after the failure of all the other means used, and the long duration of the illness, render it all the more convincing. This method of treatment was introduced by Kussmaul; and, according to Dr. Schliep (*BRITISH MEDICAL JOURNAL*, March 27th, 1875, page 416), is more and more used in Germany since praised