Amateur Emigrant: "An aim in life is the only fortune worth the finding." Each one of you must at times sit down seriously and think over the intentions, if you have any, with which you have come to the university. The qualifying clause, "if you have any," is not of the nature of a sneer. It so happens that a very large number of men are sent to the university in order to make up their minds what their life-work is to be, and therefore it often happens that amongst the undergraduates a considerable proportion are found not to have any very definite views as to their future. Let us, therefore, take it that each one of you is of a mind to do the best in order to be fitted for the duties of life. The first piece of advice which any of us will venture to give you is to work hard. It is one of the ghastly portents of this age that men are demanding that no one should be allowed to work more than eight hours a day, an eye being kept on the clock every minute of the time. That kind of thing, in no matter what sphere of life, will certainly, if persisted in, wreck this country. It means a fatal descent from the strong tendencies of individual independence to a weak refuge in socialistic dependence. Try to picture for yourselves the successful professional man or business man, reaching any position of eminence on an eight hours day! No! we have all, without exception, to make up our minds that if we really wish to arrive, it can only be by unremitting and self-sacrificing labour. If any of you desire to see how this aspect of academic life struck one of the most strenuous men of last century, let me recommend you to read Thomas Carlyle's letter to a medical student. It is but a type of what all the great men have reiterated. "Work while it is the day" is no less true in this age than it was nineteen hundred years ago, and let me urge you, furthermore, to remember that the present is the only time in which you will be able to work at all.

Life holds not an hour that is better to live in: The past is a tale that is told,

The future a sun-flecked shadow, alive and asleep, with a blessing in store.

But, let me add, the blessing in store is only won by those who seek for it. You must not, however, go away thinking that it is my intention to commend simple plodding. Far from it. We often do a great amount of work when we are apparently doing nothing but idling. It is most helpful for us all to sit down quietly to think, but the point is that unless the mind is well stored with information the thoughts are apt to be of the most flimsy description.

The most of us would like, as far as possible, to ease you of some of the burdens which you have to bear, some of which we frankly think are unnecessary. As some aspects of this subject have already been laid before you, it is unnecessary to add more upon the relative time to be devoted to the different branches of your work. You will, however, allow me to say once more that in my opinion a quite exaggerated amount of importance is given to the place of lectures in the curriculum. It may not be quite so bad here as it is in the Scottish universities. There every one of us is struck by the fact that hundreds of men will patiently sit and take down the words which fall from their systematic teachers' lips, as if they were jewels of priceless value, while it is difficult to induce them to come to a demonstration, and still more difficult to lead them to take a part in real practical work. In respect of your own work, let me strongly recommend you to do as much in the laboratory and in the ward as you can obtain time for, and suffer me further to advise the habit of reading widely.

One important factor in the life of the undergraduate is to be found in the friendships which are formed at college. There is something lovely and touching in school and college friendship. In the classical story, *Tom Brown's School Days*, as also in the interesting tale, *The Hill*, the influence of youthful friendship is beautifully drawn. The ennobling influence exerted by friends of high character cannot be overestimated, and it is fortunate that in school and college there is such a factor as hero-worship. "In this world there is one godlike thing," says Carlyle, "the essence of all that was or ever will be of godlike in this world: the veneration done to Human Worth by the hearts of men. Hero-worship, in the souls of the heroic,

of the clear and wise—it is the perpetual presence of Heaven in our poor Earth: when it is not there, Heaven is veiled from us; and all is under Heaven's ban and interdict, and there is no worship, or worth-ship, or worth or blessedness in the Earth any more!"

One last subject must briefly occupy our attention—it is recreation. Celsus tells us that it is a sacred duty for every man to spend some time in taking care of his own health. A remark has been made in passing upon the necessity of idling, but idling must be done with wisdom; in other words, it is necessary to relieve the monotony of work by some change. It is to be hoped that each one of you has got a hobby, be it in the walks of literature, in the fields of science, or the domains of philosophy. Time was when the undergraduate distinguished himself as a collector of such subjects of "bigotry and virtue" as door-knockers from private houses and golden effigies employed by tradesmen as ensigns of their wares. Trophies such as these, recalling the times of Bob Sawyer and Ben Allen, are fortunately no longer in such demand as they used to be, and our undergraduates are more likely to make scientific collections than to form a museum of trade symbols. It is unnecessary for me to speak to you of the pleasures of different athletic pastimes. It is probable that every one of you is keenly alive to their delights. You will suffer me to express the view that it is far better that every one should engage personally in such pastimes than to be one of twenty thousand spectators watching a football match as if it were a gladiatorial show. In conclusion, permit me to express the hope that in your work and in your play, in your public relations, as in your private friendships, you will always play the game. In this alone is it possible to find real happiness. All of us, professors and teachers, as well as the grateful guest now addressing you, earnestly desire that your days in the Queen's University may be so full of peace and joy as to leave when the time comes for you to depart from these halls, recollections so fragrant that each of you may be enabled to echo the words of your great national poet:

Long, long be my heart with such memories fill'd!
Like the vase in which roses have once been distill'd—
You may break, you may ruin the vase, if you will,
But the scent of the roses will hang round it still.

The FitzPatrick Lectures

ON

GREEK MEDICINE IN ROME.*

BY

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PRAYER for the old Roman arose in no sense of sin; as Cicero frankly says, it was not to make him good, but for material benefits, for a bargain with the proper deity—"si deus, si dea . . .," as Cato would commence not only medical operations but even the felling of a tree—for help, health, or wealth. In the hard transactions of Roman religious contracts the mystic elements of Greek and Hellenistic religion had not then any acceptance. Fortune, says Mr. Warde Fowler, was the favourite goddess of old Rome, and he aptly shows that *sacrum* with the Roman meant no matter of feeling but of law and rite; the gods were placated and taken into the community as a kind of citizens.†

Furthermore, to comprehend this matter we must appreciate the unit with which, during its integrity, Roman honour, prowess, and gratitude were built up; this unit was the household, a body animated and governed by the husband and wife, who in early times were

* This lecture, which is intermediate between the two published in the JOURNAL of November 20th and 27th, was not delivered at the Royal College of Physicians.

† For much concerning Roman manners I have, of course, to acknowledge our common debt to Marquardt.

married sacramentally and indissolubly by *confarreatio*,* or wedding cake, eaten with the *Deo Domus*. This custom was a public rite as well as an initiation into the *sacra domus*. Herein the Etruscan and the northern traditions were similar.† But, though the wife within her sphere was in honour, the authority of the *paterfamilias* was supreme, originally even to life and death.‡ The Roman children, somewhat after the manner of the English, received little intellectual but a good moral education—namely, to be manly, silent, modest, obedient, sober, and devoted to the State and the gods, ideals which were indeed identical. As with our youngsters, however, the pampering effects of wealth, luxury, and idleness soon began to undermine this discipline.

Now, among his other functions, the *paterfamilias* was medical officer of health and physician to his household, which included his slaves and his cattle. Veterinary medicine, as we gather from Cato to Columella, and to Vindicianus, had a considerable part in Roman economy; and I regret that my present limits forbid me to make use of its interesting lights upon the subject. As medical officer of health the *paterfamilias* had to fence out not only his adversary, or chance marauders, but also those hostile spirits whose arrows were sickness and pestilence. Upon him, under the auspices of Mars, the god of boundaries, lay the responsibility for the precise formulas by which they were to be repelled, and the safety of family, cattle, and crops within his consecrated precincts secured. Even Cato sought to ward off a certain calamity by a processional sacrifice. And if, after all, disease got in, or in any case when his wife lay with child, or a slave broke his leg, this practical man expected his deities and his traditions together to provide him with the right weapons to fight the disease, the pain, or the injury. These means, though in part incantations, yet included the aid of simple operations, and of certain drugs, mostly herbal. Up to the time of Cato the folk method was theurgy *plus* the drug; then the drugs, escaping gradually from the theurgy, ultimately attained the marvellous compound virtues of the galenicals and mithridatics which, at a later date, were scarcely less supernatural.

¶ Of natural products those which were notable for oddity of feature, or peculiarity of taste or odour, readily found their way into the pouches of the healers; and as in the earlier days we are contemplating there were not yet pharmacists, perhaps not even professed cullers of simples, these specific products were gathered or procured from the merchants by the *paterfamilias*, and placed in the store closet or *Penates*, which holy shrine thus held the guarantees of the well-being of the family and estate. The *Penates*, then, were in part the material of folk medicine in every household, and the *paterfamilias* was its high priest.

We need not suppose the *materia medica* to have been a very meagre collection. Self-contained, austere, and rustic as was the older Roman, it has always appeared to me that Marquardt and other civil historians have laid too little stress on his trading capacity. Much of the vast wealth of the Empire was no doubt acquired as spoils, and Ostia, like Marseilles, was out of the line of tolls which enriched Sheba, Jerusalem, Tyre, Mycenae, Corinth, Venice, and other keepers of the gates of traffic; yet even before the Punic wars, and long before the possession of Alexandria, Rome was the centre of no inconsiderable commerce. The site of Rome, like that of Athens, combined the advantages of inland security with those of a seaport not too far away. Moreover, the recent excavations on the lower Tiber have discovered two ports; the newer port of Ostia built, in the security of a command

of the sea, farther from the guardian city, was a splendid mercantile town of stately warehouses and tabernae, and of rich dwellings containing precious works of Hellenic art. This Ostia was constructed under Claudius lower down the river when the old harbour had silted up. But the nearer Ostia, founded by Ancus Martius before Rome had command of the sea, was the ancient and by no means inconsiderable emporium of Republican Rome; and of its turnover the spice and drug traffic was no insignificant part. The greater the perils and the hardships of transit the more portable the articles of merchandise; and in early Rome, before the destruction of Carthage and the suppression of piracy, a large part of the trade would consist of the spices, incense, and the rare unguents, such as styrax, myrrh, spikenard, or opobalsamum, in precious boxes under seal and signature (*epangelia*), which in early and mediaeval times were so universally in demand as, with gold, gems, ivory, silks, etc., to kindle the adventure and paint the romance of the merchants of olden days. In great houses, in guilds, in monasteries, these medicinal *Penates* were handed down to later times; and interpreted for domestic and charitable uses by such books as *Le Manuel des Dames, formules de médicaments . . . remèdes aux pauvres*, etc.; Bonham's *The Chyrurgion's Closet et Antidotaire*, etc. In the old Yorkshire homes of my childhood there lingered still the locked cupboards containing the quaint jars and hieroglyphic boxes aromatic of pepper, allspice, cinnamon, conserves, and strong waters; and charged also with the less attractive redolences of only too familiar drugs and draughts. Our grandmothers and aunts, who, like Diana of Poitiers, were well versed in domestic medicine, made and administered our potions and powders, and those of the more grateful poor. For we children liked better to search their pockets for the pretty silver grater with the rattling nutmeg hidden in the head of it, for the arabesque and antiseptic vinaigrette, and in the depths for the few corns of cloves so warm to our teeth. Pardon my garrulity—of memories running back upon these *Penates*, and to the marvellous legends of the spices guarded by winged serpents, and by ants in size somewhat less than dogs, but rather bigger than foxes, which had been gathered for our child's story books, and their queer woodcuts, from the innocent pages of the *Father of History*. Of these exotic trucks, pepper especially counted for much in Roman trade, as it did in mediaeval times. I had been wont to suppose that the pepper was to preserve and give sapidity to the staler meats of winter; but Mr. W. H. S. Jones has pointed out that no doubt it was also used extensively as an antidote to the malaria. On the importation of the malaria, then—whensoever after the flourishing of the rich cities of Magna Graecia this may have been—that of pepper must have increased in some correspondingly enormous proportions.

But old Roman folk-medicine did not consist by any means in simples and in spices only; it consisted no less in customs, rites, and magic, some engendered of the natural brood of mankind, such, perhaps, as the *primaeval* creed of the great Earth Mother, or the custom in folk-medicine of laying out the sick in the highways for the aid of some passing traveller; some imported from the East, as by the Etruscans, by the opening out of the East in the Persian wars,§ by the campaigns of Alexander, who carried a magician with him as well as the *Iliad*, and by the avenues of commerce. From the Oxus, from Mesopotamia, from India and Sheba and the Persian Gulf, possibly even from the tin islands of the Far East, by the Caspian and Black Sea to Sinope and the Balkans, or by the old caravan track still extant from Byzantium to Ragusa; or by the Royal Road through the Cilician Gates and Pteria to Ephesus; or, again, through the lesser desert to Hebron, Jerusalem, Tyre, Nauplia, Mycenae, and Corinth, there had been for centuries untold a perennial stream of ideas as well as of merchandise. The wide and various wanderings of the old Greek philosophers and historians, and their harvests of learning and experience, were not likely to be forgotten; for, in days when manuscript was rare and meagre, memory was retentive. We are finding in the Middle East heaps of clay tablets in Assyrian script, but in their matter recording traditions of magic, astrology, and

* Although for various reasons, good and bad, *confarreatio* became less frequent and divorce more frequent; and, as with the women in all wealthy societies, extravagance in dress, luxury, and morals increased. Yet even then women ranked much higher in Rome than ever in Greece. I may observe in passing that the idea that in sexual honour there should be one law for man and woman alike is as old as Plautus (*Mercator* iv, 6), and that it was approved by so shrewd a man of the world as Montaigne.

† This honourable place of woman in a people of Oriental stem is very remarkable. But in the British Museum the passer-by may see at a glance the Etruscan wife, sitting at a table with her lord, equal in sepulchral honours, etc.

‡ This dominion of the household has persisted among the Latin peoples to this day; it is said that at one moment the old Marquis de Mirabeau had every member of his family under lock and key. Another side of the matter is that the love of home has never, it is said, been more intimately expressed, even by English poets, than in poetry or prose by Romans—as, for instance, in the *Eclogues*; one may note especially the charm of the old country home on the Mincio.

§ Pliny's story is that Xerxes brought with him a magus called Sothanes, whose influence penetrated widely in Southern Europe; "qui velut semina artis portentorae inspersit."

demonology, probably even of Sumerio-Accadian origin. In the light of our modern knowledge of the wide and frequent diplomatic intercourse brought to light in the records of ancient Egypt, it is not to be supposed that these hoary ideas did not reach and affect the Western peoples, in degrees of more or less, as their respective avidities might be. On the other hand, however, I think that the recent discoveries in Egypt, in India, and even in China,* may tempt us to attribute too much of Western culture to Oriental origins and ideals. The general truth is that, Christianity apart, Oriental thought has been sterile and, for us, vain. It has often coloured but it has never formed Western thought, scarcely even in Venice. The Moslems of Spain, brilliant ambassadors of culture as they were, made no great contributions to the sum of knowledge.

One of the most pregnant conditions of the diffusion of culture was by the immemorial consecration, for security of market and travel, of certain central marts and places of congregation, such as Dodona, Delphi, Delos, Ammon, Mecca (long before Islam), and, in less awful sanctity, Hebron, Zion, Tadmor; international refuges, each under the ward of a great god, or of an ancient and wise king, such as Melchizedek or Solomon, and often, as at Dodona or Delphi, the seat of an articulate organ of Divine messages to mankind. Homely as the primæval Romans were, we may be sure that the voices of the Oriental merchants, sages, and soothsayers penetrated even to that secluded nest of its mighty brood, already nursed in the augury and haruspicy of the Etruscans, a divination which, however, in nature and character appears to me rather as a kind of natural research than of witchcraft. That in his early ages man should be attracted more by rare incidents than by common sequences is not surprising. A chicken born with three legs was a sign from the hidden powers of Nature; the Roman Senate was summoned for its interpretation, as the Royal Society congregates to muse upon radium. The augurs were a college of scientific experts; and deflections in the flight of birds or in the currents of occult life in the entrails were phenomena significant of the working of larger causes in which man was deeply concerned. The people who best could read these signs must therefore prevail. Unfortunately the Roman, like other augurs, learned to love authority more than prophecy; and Ménière surmises these priests were adepts in anatomical tricks, such as of bleeding from carotid or jugular vessel as they chose.

Nec cruor emicuit solitus, sed vulnere largo
Diffusum rutilo nigrum pro sanguine virus.

LUCAN: *Pharsalia*, i, 614-15.

The study of religion and superstition is far too vast for this occasion, albeit its influence upon folk medicine was too considerable to be dismissed without a word. Theurgic methods in the infancy of human societies can hardly be called superstitions; they belong to that provisional framework of custom by which early societies are integrated and bonded together; and, if in Rome theurgic and other rituals have had a longer reign, we must remember that the mission of Rome has been one of integration, subordination, and rigid consolidation, not of revelation. In its classical place in Livy (vii, 2-3) we read of a great holy feast to gods during a severe pestilence in the sixth century—eight days of it, to Apollo, Latona, Diana, Hercules, Mercury, Neptune, with religious drama and dances. When this failed, the curious, apparently Etruscan rite† of driving a nail into the temple of Jupiter would be performed. The curse of Rome, the malignant pestilences, often no doubt the plague itself imported by traders, or perhaps the first invasions of malarious disease upon a people not yet even partially immunized, or again the commoner infections envenomed by foul conditions of life (though in the reign of Tullus Hostilius, and earlier, the conditions of a scanty, hardy, outdoor population cannot have been very foul), blow upon blow, and time after time, smote and devastated Rome, sometimes "killing without illness," many times destroying both men and cattle, or blighting even trees and crops also, they drove

the people into gloomy terrors during which these public rites, horrible as some of them were—such as the well-known immolation of 120 women—at any rate saved them from despair.

Down to the time of Cato, the application of natural, and the invocation of supernatural means lent, each to the other, supplementary and material aid. In the gathering of simples some peculiarity of form, colour, odour, or other strangeness of feature or outlandishness of habitat gave it, as I shall note presently under signatures, a hold on the attention; yet in the culling of the herb, or the brewing of the potions, were also to be regarded the mystic influences of the seasons of the year; of saints' days, such as the Eve of St. John; of the new birth of spring or the decay of autumn; of the influences of the hours of the sun, of the phases of the moon and of other heavenly bodies and constellations; of heat and cold, dryness and moisture; of the congruities of numbers, of precatory patter, and so forth.‡

Of supernatural or magical observances the more specific were "binding and loosing," the virtue of laying on of hands, the potency of names, lustrations, holy wells, dreams and their interpretation, temple incubation with its corresponding donaria, and the fantastic notions of signatures and symbolisms, of sympathy and analogy, of talismans; all of these observances entered deeply into early Roman as into other folk medicine of those and of later times. Remnants of them survive amongst ourselves, especially in the conservative functions of our churches, and beside the sick bed of helpless man, where the grosser kinds of mysticism still endure and even flourish. It were well indeed if we could say that from the practices of modern medicine they were wholly banished. No wonder, then, that magical and occult ideas and practices entered into the very framework of Latin medicine, not in the crude times of the Republic only, but, in rising and falling tide, in the earlier Empire, the later Empire also, and during the ages we call "dark." The demonology of Roman folk-medicine carried its pedigree back far beyond Endor, has propagated its kind through the Middle Ages, and in the "morbid entities" of our own nosologists has still its pale survival.

That amid these oracular, ceremonial, mystical, exorcistic, and occult agencies of magic and practice the priest had a chief place, as the necessary mediator and interpreter, was (as I have shown, p. 1453) a far stronger motive with the Roman than with the Greek people. It has been pointed out from the Coan and Cnidian Sentences how early in Greece were the indications of the detachment of professional from folk and theurgic medicine; and negatively that in all the various books of the Hippocratic Canon temple medicine has barely an allusion. To this independence I shall refer again presently. In Greece the theurgic invocations of Apollo Paeon, of Chiron, of Aesculapius, seem soon to have become, as in the Oath, rather of the drapery than of the body of medicine. "Church was one thing, common sense was another, and he wanted nobody to tell him what common sense was"; is there not a flickering light of human kinship between Hippocrates and Mr. Tulliver? Even in Celsus the shapely adolescent form of scientific medicine, if then becoming more acceptable to the newer and cultivated Roman, was notwithstanding in temper wholly Greek; to the Latins it owed nothing. But in Rome, during the Republic at any rate, theurgic, or hierurgic, or incantatory craft was of the body of it; drugs and operations were but auxiliaries. To understand Roman medicine aright, therefore, I must touch, however briefly, on some of the chief of the miraculous observances to which I have referred.¶

Binding and loosing, a kind of magical enthrallment, or a throwing of function in and out of gear, had obviously its direct medical application to childbed; and also to maladies of the kinds of hypnotism and hysteria. The very ancient goddess Carna was primarily the warden of lock and key, and thus became the goddess of the lying-in chamber; then of the strength of the stomach, and so on. As the method, from early ages, as recorded

* In the reign of Trajan a Chinese general reached the Caspian and tried to open up some intercourse with the Romans. Pliny the Elder recognized (N. 4, xii, 19) the function of trade in the diffusion of ideas.

† This observance (primarily an almanac (?) but the links are obscure) is traced to the Volturnians, and to the Etruscan goddess Nortia (vide *Mitth. Gesch. Med.*, 1904, p. 200). I do not think the alleged secondary link with the virtues of the nails of the Cross has been verified.

‡ That to the selection of herbs early man was guided, as Haeser suggests, by some instinct seems improbable; though no doubt he was aided by some rough empiricism.

§ Vide *Odyss.*, xix, 457.

¶ In these paragraphs I am indebted to the various essays of the late Professor Hugo Magnus, especially those which appeared in the *Abhandlungen z. Gesch. d. Medizin*, and to the well-known treatises of Deubner and Weinreich.

in cuneiform script,* down to its attenuated survival in modern rituals, was intimately connected with the laying on of hands, or the sign of the hand, it is difficult to consider the two methods separately. For instance, in childbed loosing was often done, or signified, by a laying on of the hands of the healer, or by a gesture of the hand, so that in Greek *χείρ* and *δύναμις* became equivalent; furthermore, in many legends, as in modern hypnotism, it is not easy to perceive whether the manual act were one of a stream of virtue from the healer to the patient, or a manumission, or a protective gesture; or, indeed, as in not a few cases, medically operative. For example, in childbirth the hand of a god may be laid upon the abdomen, so that from it the solvent virtue may flow into the womb; or the act may be only symbolic, as in the idol of a goddess of fecundity found at Cnossus—I take this instance as carrying us back to the Pelasgian people—in which the elevated right hand is widely opened; the left, for the left hand had even then its sinister potency, being closed. The Eileithyiae are often represented, upon the so-called Etruscan vases, with the right hand thus raised and opened. To close the fingers would arrest the birth. These daughters of Juno or Hera were, however, always beneficent goddesses, both for marriage (Hera Eileithyia or *Ἑρῆχίρεια*) and childbirth. But they are often shown as more than guardians; not only blessing by symbolic gesture, but also laying the potent hand upon the body, or even performing some efficient act. They appear thus on some Etruscan mirrors; and in later times we read in Ovid of Leto's childbed (*Met.*, x, 410).

Constitit ad raucos mitis Lucina dolentis
admovitque manus et verba puerpera dixit.

Now Soranus said that the pangs of childbirth are mitigated by the laying on of a warm hand. But this very ancient hand magic was by no means confined to midwifery. Chiron, Hygieia, and Apollo had the attribute of *ἡπιόχειρος*, which passed on in later tradition to the hand of the Mother of God—*χείρ τῆς παναγίας*. For instance, the Dioscuri, Asclepius, Serapis, Cosmas, and Damian, thus saved from sickness, as also from storm at sea;† and still the modern Italian mother takes her sick child to the little circular church of "San Toto," at the foot of the Palatine, where, perhaps, at this very temple, the old Roman mother used to invoke the Great Twin Brethren. Such gestures were used also for maleficent purposes (*mala manus*), especially, as I have said, if delivered with the left hand; of this side of belief we find abundant evidence in sources so different as Petronius and the *Acta Sanctorum*. Asclepius would thus use his magical powers, generally during incubation. In an Epidauric inscription so late as the fourth century A.D. he is said to have laid his hand upon the body of a sterile suppliant, who gave thanks for the son she came thereby to bear. By raising the eyelids with his fingers he restored a blind man to sight; and in another patient by stroking the hand he dissolved (a Dupuytren's contraction?). And, as I have said, by means more specific than gesture this god of Medicine often showed his good-will: to one he holds out a potion, another he anoints with a salve; or he performs an ablution, even with a sponge ("*nescio a quo deorum spongia corpora sua pertergeri*": Val. Max., ii, 4, 5); or with his miraculous hand he does swiftly an operation which the mortal physician achieves far more laboriously (Weinreich). St. Eligius, patron of a street near my own house in Cambridge, cured a dumb woman by snipping the bridles of her tongue "*cultellum etiam vel forcipem, in specie medici manu gestans*" (see Vita St. Eligii: in Migne). Similar manipulations were still related of the mediaeval Saints, as by Gregory of Tours, by Cosmas and Damian, Cyrus and John, and others. Apparently concerning malaria, in an inscription of the earliest years of the Empire found in the Asclepieion of the island of the Tiber, the donor sets up his *εὐχαριστήριον* [A]σκληπιῶ θε[ῷ] μεγίστῳ [σ]ώτη[ρ]ι εὐ[ε]ργέτῃ. "ὅκνο[ν] σπληνὸς σῶθεις ἀπὸ σὸν χυρῶν."‡ How by these Epiphanies and miracles Julian, and many of the neoplatonists, endeavoured to identify or to connect Asclepius—known

from ancient times as mild (*ἥπιος* = *mitis*)—with our Lord is well known.§ Proclus, in his Hymn to Athena, sings:

"ναί λίτομαι, βασιλεία, καὶ ἀμβροσίη σέο χειρὶ
"παῦσον ὅλην κακότητα μελανῶν ὀδυνῶν."

And, thus figuratively, potent medicines received the name of the "hands of the gods." Plutarch says, "*τὰς βασιλικὰς καὶ ἀλεξιφαρμακοὺς ἐκείνας δυνάμεις, ὡς θεῶν χεῖρας ὀνόμαζεν Ἐρασίστρατος.*"

Scribonius Largus also, in his Preface, says of Herophilus, "*fertur dixisse medicamenta divinas manus esse,*" etc. Alexander of Tralles gives this title to an infallible remedy against stone of the kidney (A. v. T. ed., Puschmann, ii, 466); and Weinreich states that in the current *Pharmacopoeia Danica* is a "Guds Haands Plaster." How by the touch blindness may be cured, or inflicted we know not only from such familiar stories as of Teiresias and Elymas—sometimes with the aid of ashes or water from the altar, or of spittle,|| or of holy relics, or of clay, but we find the same procedures in inscriptions at Epidaurus, in the Asclepieion of the Tiber, and in the Asclepian temple attached to the baths of Diocletian. In the *Vita Hadriani* (quoted Weinreich) we read "*Venit de Pannonia quidam vetus caecus ad febrientem Hadrianum, eumque contingit. Quo facto et ipse oculos recepit, et Hadrianum febris reliquit.*" Similar miracles are recorded of Vespasian, in the Serapis temple at Memphis, who may have believed as much or as little in his royal touch as Queen Anne did.¶ I may add, however, the story from Pliny (*Hist. Nat.*, vii, 20), how Pyrrhus, by the touch of his great toe (*cujus tactu*) "*liensis* ** medebatur." Pliny (*Hist. Nat.*, xxviii, 43) speaks of the cure of epilepsy, "*Si virgo dextro pollice attigit*"; and Alexander of Tralles of the *ιατρικὸς δάκτυλος* (ii, 199, Ed. Puschmann). Thus the virtue of the hand might emanate from any limb, or from the garment or a relic; but the magical virtue of the thumb or the great toe was more than this. These parts, by the analogy of form so catching in early times, had a phallic significance. Under the name of thumbs of this saint or that the emblem, in wax, is, I believe, at this day commonly sold in the nearer East, especially in Italy on the feast days of SS. Cosmas and Damian, to sterile women, or as a votive offering. Sir William Hamilton at Isernia noted this practice also on St. Januarius's Day. St. Thomas Aquinas cured a blind man by the simple device of allowing the patient to kiss his foot, a prerogative shared with Popes and Emperors.†† It was by this pedigree that the royal touch came to us in England, and it is illustrated by certain ancient Gaulish and Spanish practices of royal touching for jaundice, plague, or insanity.

To the evil of the sinister hand I have referred; but I may remind you also of the perilous stroke of the god, or ghost, of which, among many instances, that on the hollow of Jacob's thigh is the best known. To such a blow the Arabs attributed the "divine disease"—epilepsy; and the legend of the Incubus belongs to the same line.

On the magic of *Names*—that to discover the name of a person is to obtain some power over him, or some intimate access to him, is an ancient notion scarcely yet extinct. Patients, by no means confined to the ranks of the hospital classes, feel that if they can get hold of the name of a disease, they thus penetrate nearer to its essence and obtain some greater measure of control over it. In Jacob's conflict it will be remembered that his supreme effort was to learn the name of his mysterious antagonist. This power of the name, too general a belief to need farther allusion in this place, was in full force in ancient Rome. Naming and Binding were often associated; even down to the later Middle Ages impotence and sterility were to be conveyed by tying a knot in a cord with incantations and naming the person.

§ Vide Mau, *Die Religionsphilosophie Kaiser Julians*. Leipzig, 1908, quoted Weinreich.

|| How ancient are the virtues of spittle, especially of fasting spittle, I need not stay to illustrate—for example:

"Foot, foot, foot, is fast asleep."

"Thumb, thumb, thumb, in spittle we steep," etc.

¶ It was, I think, in the time of the Georges advertisements appeared postponing dates for the suppliants, as "the King wanted a holiday from healing."

** Italics mine, to indicate the malarious connotation.

†† Troels-Lund (loc. cit.) says the fingers of dead thieves stolen from the gallows were preserved in brandy for their healing virtues.

* Vide Oefele in Puschmann's Handbook.

† Vide Deubner, *Kosmas u. Damian*, Leipzig, 1907.

‡ Besnier, *L'île Tibérine dans l'antiquité*, Paris, 1902.

The magical virtues of *numbers* are too well known to require any long description in this place. In early stages of thinking numbers were confused with ideas and with causation; they gave to phenomena and to causation a sense of uniformity and progression. Moreover, they were verifiable, so that by them all things might surely be measured; and between measure and law the distinction was misty. Certainly in music and in astronomy numbers were of striking validity; and, if so, why not in the bodily courses, in physiology and disease. Times and State functions also appeared to bring about their own fulfilment, and this with a majestic procession which must have seemed to depend on some intrinsic potency.

Lustration in Rome, with its traditions to the present day, is a long story. Mr. Warde Fowler says the root idea of *lustrare* is *luere*—to get rid of something, primarily of hostile spirits. Certain events need certain *piacula*, and then—the trespass may be continued. It contained no sense of regeneration.

Incubation, or temple sleep, long prevalent in Rome, was too ancient a practice to be described in these lectures as distinctively Roman. On this practice in Greece I may refer to my portion of the article on Greek Medicine in the Cambridge *Companion to Greek Studies*. Dreams and their interpretation belong, of course, to the most ancient and universal of the beliefs of mankind. Yet, as I have said, to the lucid intelligence of Greece proper, and in particular to the Hippocratic schools, this ancient illusion was becoming less and less substantial. It is remarkable how little trace of magic there is even in Homer, medically speaking; Apollo's arrows and the expiation are another matter; this process, indeed, had in it a strong element of worldly justice. In the *Odyssey* (xix, 45) it is true the haemorrhage of the wounded hunter is stayed by "*ἐπαοιδῇ*." In Aristophanes (*Plutus*, ii, 620–21 and 665 et seq.) we find these priests of the temple sharply satirized. For the first patient, a poor man afflicted with the *lippiudo*, so curiously common in Rome, the god roughly daubs on an unguent of biting severity (and doubtful efficacy?); while to the blind god Plutus he is far more complacent. With Panacea he wraps the head in a red* cloth, under which the snakes slip in and lick the eyes. Or, again, need I remind you of the well-known passage in *The Republic*, in which Socrates says that to regard dreams seriously is absurd, or even odious; that they are the confused and often ridiculous results of indigestion, and disappear when by temperance the soul, no longer obfuscated by gross vapours, is steady and calm. In the fourth book of the Coan treatise, *Περὶ διατρῆς*, dreams are treated calmly as clinical phenomena.† And I might proceed to show how this lucid and positive Greek temper prevailed in Celsus, in Aretaeus, and even in Porphyry. In Rome, however, under the fair semblance of Hellenic culture, folklore, hierurgy, and the undercurrents of the hungering, bewildered souls of men swept on in a larger volume, gathering still grosser turbidities. In primæval times dreams were a part of the only available theory of life; in Rome they had sunk into the muddy waters of superstition. Probably the Epidaurian cult reached Rome by direct communication; the not dissimilar rites of Isis (introduced by Augustus), Serapis, Osiris, were of later introduction. But incubation did not become a local and popular custom in Rome until the conveyance of the Aesculapian divinity, or his emblem, to the Tiber Island in 291 B.C., when, by the more national observances of haruspicy and *piacula*, the augurs had failed to stay the pestilence. But before this translation of the Aesculapian cult, Roman and other foreign suppliants had been wont to seek the god in Epidaurus; and in later history, as in Herondas, we read of its continuing vitality in Cos in 200 A.D., who describes the visit of two women thither, and gives some description of the artistic treasures of that temple. It is said there were eighty temples to Aesculapius in Greece. Incubation was practised, however, in many other temples besides those of Aesculapius; it persisted in some vigour through the Middle Ages, and to this day is practised in many shrines in the Aegean. A notable example is that of Henry II (1003–1024), who, being afflicted with the

stone, attended for medical treatment at Monte Cassino. Now a Roman Emperor was an alarming and an imperative visitor; the monks therefore wisely entrusted the case to St. Bernard himself, who in a temple dream operated, successfully, if I remember right, upon the angust sufferer.

Haeser thinks that the Aesculapian worship took no deep root in Rome. It is true that authors of the earlier time are rather silent about it, and little or nothing is said of any medical skill among the priests; Galen does not mention it even to attack it; but the same might be said of the attitude of modern physicians towards our own superstitions. The silence may have been—probably was in part—contempt or indifference. Its most flourishing time in Rome was probably that which immediately followed the new local foundation, before the Greek physicians flocked over to compete with their own god; nevertheless, in the time of the Spanish Emperors the shrine was much frequented, and not by the vulgar only. The temple had some privilege of asylum. If a master refused to treat a sick slave, and the slave, making his way to the island, was cured there, he became *ipso facto* legally free. Marcus Aurelius founded there a hospital rather than a hospital, probably as an annexe to the sleeping portico,‡ and a large and, it is supposed, a valuable library and armamentarium were gathered there. The instruments suggest that some rational therapeutics were in use at the temple, but the records, or testimonials, were probably of no scientific value; indeed, the value of those of Epidaurus, though probably higher, has been much exaggerated.

The votive offerings (*donaria*) were not merely commemorative; they were often deposited in order that there should be no Divine mistake about the organ to be repaired. Thus, images of eyes, ears, and limbs, and of viscera, singly or in groups, the inwards probably copied from sacrificial animals, were offered, as they are offered still abundantly to this day.§ The peculiar golden offering of the Philistines recorded in the sixth chapter of the First Book of Samuel comes at once to our minds. In the Savile Collection in the Nottingham Museum is a terracotta from the Nemi temple of a woman with the breast laid open so as to exhibit its viscera. It is attributed to a period between 300–150 B.C. (No. 131 in the Wallis Catalogue). Effigies in terra-cotta of eyes, ears, and other limbs, are dug up in modern exploration by the bushel. The votive offering which has perhaps the most ancient, certainly the most curious, history is the effigy of the uterus. For times beyond date this viscus has been regarded as an animal endowed with independent life and motion, and as using them to range over the inwards. It was customary in Hippocratic times to use both abdominal palpation and vaginal inspection to ascertain its temporary habitat. This donarium, found not in Southern Europe only but also of northern provenance, as may be seen in the Nuremberg Museum and in not a few Roman Catholic churches of the north, was usually made of metal—of iron or lead; or perhaps I should say that those made of metal have not perished. In form it was various; usually a quadrupedal tortoise-like creature, but sometimes newt-like in shape, or even crocodilian.

In Roman times the dreams, according to Cicero and Posidonius (*De Divin.*, i, 30, 64), were of three classes: the first class, which the *animus* provided for itself, with no more than the cognizance of the gods; the second, due to the haunting of aerial spirits, in which were some "notable elements of truth" (*insignitae notae veritatis*); the third, and imperative, by which the gods spoke directly with men, the *θεοὶ ὄντες* of Hellenistic authors.|| And here it may be observed that the chthonian deities were local—parochial, so to speak, and were to be sought each

† The Aesculapian asylum, founded A.D. 154 on the Appian Way, was not a hospital, but what we should call an almshouse.

‡ Vide Art. Donarium, by Homolle, in Daremberg and Saglio, *Dict. Ant. Gr. Rom.*, 1892.

§ The relative place of temple practice in the evolution of ancient medicine, and the proportions of miracle to professional and rational methods, are really unknown. This question I have dealt with elsewhere. M. Cavvadias, with whom I once incidentally discussed the subject, seems, or did seem to me, to lay too much stress—or more stress than medically instructed historians would be disposed to do—on the temple as the source of Greek medicine (vide *Τὸ Ἱερὸν τοῦ Ἀσκληπιοῦ*, Athens, 1900). To speak, as some modern historians speak, of Asclepius as only a great physician glorified, is mere guesswork. In Homer he is indeed spoken of as the father of Podaleirios and Machaon, Paean being the god of Medicine; but at any rate in the Homeric hymns (say 500 B.C.) he was a god—*θεὸν καὶ ἡγήσατο νόσων*.

* Red is a colour of ancient magic. Thus a red thread is a magic clew.

† The so-called Epistles of Hippocrates are, of course, apocryphal.

in his own abode; the Olympians, being more universal, could be sought and could appear anywhere. Thus the Epidaurian god would vouchsafe to appear to a dreamer in Rome; Marcus Aurelius seems to have been at Gaeta when the god in the dream prescribed for his haemoptysis and vertigo; and St. Gregory of Tours, if I remember aright, appeared to a certain calculous personage in a dream in St. Andrew's Church at Patras, when his stone promptly clinked into a glass vessel. Dreams were, of course, the vehicle of counsels and prophecies of all kinds, but it was in the incubations for healing of disease that they became especially popular; and thus under the earlier and later Empire,* and indeed from early ages through Rome to mediaeval times, as we read in late Roman authors such as Aetius, and in Christian hagiology, dream medicine had a wide and enormous vogue in Europe. Although Christian bishops dethroned ancient gods for later saints, such as Cosmas and Damian or Cyrus and John, yet Aesculapius was one of the last of the gods to vanish, and under change of name the practice continued. In Rome, however, the practice (*ἐγκοιμήσις*) gradually settled upon the lower and more ignorant classes of the people. Occasionally incubation was performed vicariously, even in ancient times, as related by Herodotus (viii, 134), by Strabo, and many later writers. To rarely favoured suppliants, indeed, Aesclepius might extend relief even without the formality of *ἐγκλισίς*. The physician made use of the dream in two ways: watching the patient in sleep, he sought clinical evidence of his malady, while also he partook more or less, no doubt, of the belief in the method as a means of medical aid. This aid might be given either directly, as we have seen, by the hand of Apollo or Aesclepius, for at Epidaurus the cults of Apollo and Aesclepius were united—or indirectly, by observance of certain divine commands. So strong was the tendency, especially in Rome, to categorical personifications that in many temples of Aesclepius statues to Oneiros and to Hypnos Epidotes have been discovered, or are recorded by Pausanias.† Antoninus Pius, when in Epidaurus he built a bath to Aesclepius, built also a temple to the *θεοὶ ἐπιδάσκειν*.

Some dreams were verified by earthly residues; leeches were found in the couch, or a fig, or a bandage, and the like. In later times these records became more and more stupendous, especially in the Christian hagiology. Deubner tells us of a severe operation performed by Cosmas and Damian upon so reluctant a patient that Damian had to hold him fast while Cosmas applied the knife. Weinreich narrates a less happy operation in which a certain saint put on a leg the wrong way, so that the toes pointed backwards.

In the Dream the god might appear personally in his "noble manly beauty," sometimes accompanied by his daughter Panacea, or in the shape of an attribute. Thus Aesclepius might appear with a snake or as a snake:

Vertar in hunc, sed major ero, tantusque videbor
In quantum verti caelestia corpora debent.

OVID: *Met.*, xv, 661.

It was in the form of a snake that, to avert a plague which had proved to be beyond human skill, after opening the Sybilline books and consulting the Delphic oracle, he, or some of him, was conveyed to the Tiber Island, with all the oracular precaution and processional pomp which in all times have accompanied the removal of a shrine, as in the travels of the ark of Moses, of Serapis, and so forth. "ἄγειν ἐφ' ἅματος" was the formal phrase of it.‡ Thus, was the cult of Aesclepius carried to Athens in 420 B.C. And it is no less well known how terrible a punishment might fall upon one so unlucky as to err in any point of the ritual; for although our concern is for the moment with the beneficence of the gods, yet in every degree, from mere aversion of the countenance to vengeance not only upon the sinner or scoffer but upon the hapless blunderer, their maleficence was as notorious.

The snake itself from the earliest times has been regarded as the symbol of healing, possibly from its

"chthonic" (phallic, seminal, ἀλεξίκακος) associations (Weinreich); or as the emblem of eternity; or, according to a scholiast of Aristophanes, because of its quick sight (*δράκων* = *δέρκω* ὁ ἐστὶ βλέπω: ὁξυδερκες γὰρ τοῦ ζῶον). The chthonic nature of the snake is well attested by its association with waters and wells, as illustrated by Robertson Smith in the *Religion of the Semites*, and by Dr. Frazer in his *Pausanias*. Weinreich, however, is disposed to think that the association may have been more or less indirect, as waters of healing would be under the patronage of Aesclepius and his snake. The mystical confusion between Aesclepius as a snake or with snakes, a confusion or transition typical of all these early emblems, had its conveniences, as we read in the legend of the Tiber Island. The wily priests of Epidaurus, in consenting to part with the snake, "reserved" the question of a bestowal of the god himself, while in his turn the Roman ambassador maintained a contrary "reserve" towards the Roman people.

Into the large chapter of the healing properties of waters, baths, and *holy wells*, if I enter at all I must make a separate excursion; but as they played a very large part in Latin medicine, I must not fail to call them to your remembrance. In them chthonic gods naturally have their abodes; and to them, as to the temple shrines, votive offerings were made, and indeed are still made in the form of the pins, rags, small coin or shells, which many of us have seen in and around holy wells at this day.

Strong evidence not only of the persistence but also of the increasing influence of the Aesclepien cult in Rome under the Empire is the development therein of new qualities, such as are to be noted on the testimony of no less a witness than Galen, who in a remarkable passage speaks of ὁ πάτριος θεὸς Ἀσκληπίος as the patron of song and drama which warm the blood; and also, for the like advantages of health, of military and other gymnastics, and of riding and hunting. Weinreich quotes an apt passage from Iamblichus,|| who speaks of the many such wholesome methods and inventions of the god. Ritter v. Ritter-shain (*Med. Wunderglaube u. d. Inkubation*) also speaks of the Aesclepius of this period as "Vater der Heilgymnastik," and, whether by miracle or by the advance of the more rational methods of counsel or ordinance, we proceed from dreams, visions, and messages, to similar communications with persons awake, though still perhaps suppliants in the temple. As, however, there is no distinct line between the two forms, and no considerable difference of kind, I need not do more than point out this development of temple medicine. As we have seen by the quotation from Galen, this transition was a note of an underlying tendency to more rational and less superstitious habits and conceptions; although among the baser people the old folk methods were still flourishing abundantly. Mr. Jones, in his well-known studies of malaria in history, is disposed to think that as malaria became endemic the vogue of dream-oracles and other charms became exaggerated even among the cultured classes; nevertheless, Aesclepius became in part more and more associated with higher culture; and although it is true that not only his soldiery, but also Marcus Aurelius himself, not only the plebs, but also the aristocracy, still sought the shrine of the Tiber Island or of Epidaurus; yet, for the more enlightened of his suppliants at any rate, the "Iamata," both in feature and content, were becoming more rational. Besides the extant inscriptions, which betray a more trivial, and so a more individual, note with less of priestly editing, we have the evidences of the *ἱεροὶ λόγοι* of Aelius Aristeides, which, scattered through the literature of the age, have been studied by Wilamowitz¶ and other commentators; and in them Aesclepius now appears less and less as the magician and "Wonder-Surgeon" of the old Iamata, more and more as an oracular adviser. It is notable, too, that fewer and fewer suppliants seek him for overt injuries, such as wounds by weapons, blindness, and so forth, and more of neurasthenical persons and those enervated or disordered by luxury and gluttony. Furthermore, in Apollo and Aesclepius the qualities of *μάντις* and *ἰατρός* were becoming differentiated; as a like modification, both in the kinds of patient, of therapeutical virtues, and of cure, is to be observed in the histories of Gregory of Tours and other mediaeval wonder-workers. Thus,

* Vid. Troels-Lund, *Gesundheit. v. allen Zeiten*, Leipzig, 1907.

† Vide, for example, Paus., ii, 10, 3.

‡ Many of the votive offerings in the Aesclepieia were offered to Hypnos (and to Hygieia also).

§ Or ἐφ' ἁμάτας; vide Benson, *Class. Rev.*, vii, 185, who refers to Pausanias (ii, 10, 3).

|| *De Myst.*, iii, 3, 708; (Parthey) quoted Weinreich.

¶ *Isynon von Epidaurus*, p. 116, etc.

even in the pre-Christian Empire we find less and less of the amazing operations and magical extemporaneous restorations of earlier times. We learn, indeed, from Pausanias (x, 23, 13), at a later date, in the Isis temples, that cures began to be restricted to invited cases (οὓς ἂν αὐτῇ προσηύδα ἡ Ἴσις καλέσῃ). Moreover, cures began to take time, and to be compassed by physical means, however grotesque. For instance, to one sufferer is prescribed κόκκοι στροβίλου; to another a collyrium made of the blood of a white cock mixed with honey. Not only so, but with Hellenistic influences we find a very interesting advance in the sense of the effect of the ψυχὴ upon the σῶμα, so that again cures are wrought by the arts of music, the drama, and other psychic stimulants, as in the best Epidaurian period. Now, moreover, the notion of suffering as a purificatory discipline or atonement becomes perceptible. Some of the means of healing seem to have had their origin in old taboos; as in the prescription, apparently malicious, of swine's flesh for the sicknesses of Jews and Syrians;* and this not by Asclepius only, but also by Cosmas and Damian (Deubner, loc. cit.), Cyrus and John (Migne), and other magical healers who succeeded the god in his functions. Some modern commentators go farther, and read into certain of such legends meanings of an allegorical or suballegorical kind. It is but fair to the memory of the Christian saints to add that pagan legends of cures, too often of a loathsome kind, were largely carried to their discredit by the undercurrents of folklore. Weinreich explains the flocking of the sick to the shrines of Asclepius of Serapis, and of Isis, whose cults made their way into Rome by their healing attributes,† and those of Apollonius of Tyana in the reign of Titus, to a progressive decay of the medical profession; an opinion which, as concerning the age of Galen at any rate, seems to me to be imperfectly justified.

Even favourite animals for sickness or injury were brought before these temples, as many votive offerings in the Tiber temple of Asclepius testify (Besnier, loc. cit.). A similar broadening, both of medical and humane conceptions, marked also, as we gather from Philostratus, the miracles of Apollonius; and the animal stories of the Pythagorean tradition were thus propagated to the times of Cosmas and Damian, who cured all diseases, not in men only, ἀλλὰ καὶ κτήνεσι (Migne, in loc.). And thus we are tempted to recall St. Jerome with his lion which, in Carpaccio's picture, so innocently disconcerted the monks; and, again, the beautiful story of St. Francis and "brother-wolf." This sympathy with the animal creation (ἄλογα ζῷα, or θεοφιλῆ ζῷα), which we cannot attribute exclusively to the northern races of Europe) grew up under Stoic influence. Chrysippus extended προνοία (Divine providence) to all animals (Cic., *De Nat. Deorum*, ii, 64); and Weinreich says that the same tenderness for animals is to be found in Philo. Thus, before the Christian times, out of divine healing, and in the following of Chrysippus, arose a large "Providence (προνοία) literature," which was distinctly Stoical, as contrasted with Epicurean, and made its way into the current tracts of morality and edification. Now, Asclepius was eminently an embodiment of προνοία; though by degrees even in pre-Christian times the idea of Divine Providence was detaching itself from particular deities. In many temple cures, indeed, the Divine aid is made dependent upon recantation of Epicurean atheism and ἀκολασία, and burning of his books (vide Lucian, *Alex.*, c, 47). That such zeal should have inflamed that august incendiary, Gregory the Great, and some of his meaner successors, is one of the calamities of history.

Considerable as was the part of *Talismans* (τελέσματα), in which one may include magic pictures, idols, and emblems—such even as some of the sillier of our own women buy this day in Bond Street—yet I must not detain you on so familiar a part of the subject. In Southern Europe we still may see statues and pictures worshipped as benefactors, receiving votive offerings, or gilded or enamelled with gems, as in S. Antonio's temple at Padua, in Naples, and even more eminently in modern Greek churches. The conception of deity became in popular idea condensed from the abstract into the image; so that

by his god the worshipper actually meant the image itself:

"κοῖνον δὲ λόγον ἔχουσιν οἱ θεοὶ καὶ τὰ ἀγάλματα αὐτῶν."

Artemidorus, *Oneir.*, quoted by Weinreich.

If we may believe Lucian, such effigies, if neglected, would at times, like the ivory Hippocrates which belonged to the physician Antigonos, make themselves extremely disagreeable; even so far as to take to what undergraduates call "ragging" expeditions. This angry image, when annoyed, not only walked the house of a night, banging the doors, but forgot himself so far as "to make hay" in the medicine chests. It is no matter for surprise, then, as we learn from Pausanias (for example, vi, 11) and from Lucian, that such potent effigies were especially trusted for the cure and warding off of fever; and thus, by the direction of oracles, or for expiation, statues were erected to stay or prevent epidemics.‡ Plutarch tells us that Sulla carried about a golden image of Apollo as a talisman. Even in Christian apologetics these wonders were not so much called into question as attributed to demons, the demiurges who, as Plato says, ministered to God in the creation of the world; and, 200 years after Christ, Apollo had still his suppliants against the plague. At this day, indeed, in the Tyrol small stamp-like pictures of the Madonna (ἡ παναγία—Bona Dea—Dea Mater) are sold in the streets, and, according to the severity of his case, the suppliant tears off and swallows the proper number of them. Again, in incubation, the god Asclepius, or Serapis for example, would appear frequently as a statue, or in a grotesque shape, extending his aid ὥσπερ καθήται τῷ σχήματι (Deubner). Marcus Aurelius thus invoked, and saw, Asclepius. Comparetti, in his interesting book on Virgil, compares his fame as a magician with the strange Byzantine prophet Apollonius of Tyana, with whom indeed in the Middle Ages his name is often coupled. In the *Golden Bough*, Dr. Fraser points out that Moses's Brazen Serpent was a talisman;§ and often, on the ancient magical notion of "similia similibus," the very means of hurt becomes the means of healing; as the mouse was a talisman against plague, crabs against ulcers, verminous emblems against plagues of vermin, the yellow plover against jaundice, a spider necklace to extract spitefulness, and so forth. Many such instances and practices can be found in Pliny and in later, even medical, authors, such as Alexander of Tralles, who had a profound belief in the efficacy of magical recipes, amulets—even in the form of living animals, and other "φυσικά." Gold, as we have been learning anew in the *Ring of the Nibelungen*, is chthonic and magical; and was used therefore for rings and other emblems against diseases and misfortunes.

The doctrine of *Signatures* is too well known to need more than a passing allusion. As of Omens, that of Signatures was tentatively science, though of incredible naïveté. The *Geister der Pflanzen*,|| it declares, are revealed by forms or marks. This plant—euphrasy, for instance—has the form of the eye; another resembles the ear, another the tongue, and each has its virtues corresponding to its sign. That plant, being like a snake, is accordingly poisonous; or again another, having the marks of a snake on its leaf, is an antidote to poison. In this, as in many other modes of fanciful symbolism, the clews are often lost; we cannot tell how or whence the notions originated, or if, indeed, they sprang independently, from the fundamentally similar minds of several races in several places. As regards magical or critical *Numbers*, for instance, which, as every physician knows, have entered deeply into medical system and prognosis, very deeply even into Hippocratic medicine, whether among the Chaldeans, among the Jews of the Old Testament, among the Chinese, among the Pythagoreans, and in other peoples and schools, they originated independently, or were propagated by intercourse, no one can now say.

Analogy and Sympathy.—Analogy must predominate in man's reasoning before he is trained to search for affinities in deeper resemblances, and before he possesses a body of knowledge. Even in later times analogies come

* Vide, for example, Robertson Smith, *History of Semites*.

† As recorded by Tacitus (*Hist.*, iv, 81), Suetonius (*Vesp.* 7) and Cassius Dio (lxvi, 8).

‡ The association of Apollo (Smintheus = of the mouse) with plague is a very ancient belief (vide Homer, *Il.* A.).

§ See also Robertson Smith, loc. cit.

|| Schlander, *Aberglaube des Mittelalters*, Breslau, 1858.

only too readily to save us the trouble of hard thinking and trying. The doctrine of Signatures is an eminent case of the analogy conceit. Analogy was strictly an imperfect logic, whereas Sympathy, speaking as strictly, consisted in a mystic transfer of some virtue. Still in particular instances it is often difficult to distinguish the two ideas. When Lucretius argued from dust in the sun-beam to the atomic constitution of matter (ii. 113), or when Heraclitus, with infinite effect, assimilated the living principle to wine and its spirituous vapour, they argued by analogy. But the Greek, even in his errors, was preserved from extravagance by his sense of proportion. In our own times, if in the sphere of science we have learnt better, and not to apply the methods of one kind of problems to those of a different kind, yet in the sphere of the fine arts, for which our aptitudes are less, we fall continually into the errors of analogy: we impute to one art the conditions of another; we carry into sculpture the conditions of painting, into painting the conditions of history or romance, into music the conditions of epic poetry, and so forth.

Sympathy, the transference of a virtue from one agent to another, is a distinct idea. In Pliny, Virgil, Juvenal, we have abundant examples of this curious but popular notion in medicine, many taken no doubt from Cato's *Commentarium*. For instance, from early times down to the Middle Ages, the dreads of impotence and sterility were a nightmare, so that the means of averting or curing the evil were many; and when regarded in the light of the gravity and good faith of the performers, these cures by analogy had not the naked loathsomeness in which, even in authors so chastened as Virgil,* they appear to us. However, passing these by, as a respectable instance I will quote that of the swallow. This bird was supposed to be, of all animals, the acutest in vision, and its eyes to be either invulnerable or capable of regeneration after injury. Accordingly, by the witness of Graeco-Roman physicians, from Celsus (vi. 6) to Paul, and probably long afterwards, swallow's eyes roasted and pounded into a salve, or swallow's blood similarly prepared, were used as a sovran remedy by the oculists. Or again, as the blood was always regarded as the fountain of life, to drink the blood of a warrior, or still better to eat his raw heart, was to transfer his bravery therewith to the consumer. But, as human hearts were not often available, the heart of a savage beast, as of the lion, was regarded as not much less efficacious. I have read somewhere a quotation from the chronicler, Cedrenus, a Greek monk of the eleventh century, that the physician who dissected Cyril cut off and ate the holy episcopal liver. That in consequence his tongue sloughed off ended this story with a dramatic fitness. Of many more such examples I may mention this also, that the blood of a chamois was drunk to cure vertigo.† Thus a craving of decadent men for vicarious or transferable virtues led to hideous abuses—to the procuring of the blood of virgins of either sex, or of children, as in the infamous story of the medical sorcerer who, as it was rumoured in the chronicles of the time, sought to cure the nervous disease of Innocent VIII with the blood of three pure children.

Astrology, that most ancient of Asian mysteries,‡ made no great way in Greece. In the Hippocratean treatise on Ancient Medicine it is vigorously denounced, but in the *De Aëre*, in respect of the behaviour of Arcturus and the setting of the Dogstar, it finds some little countenance. Indeed, in early Rome astrology seems to me to have been less prevalent than other false doctrines, superstitions, and sorceries. We have no doubt the well-known passage of Pliny before us, where he speaks of Crinas of Marseilles, who, besides ordinary medical means, observed the courses and positions of the heavenly bodies, ordering days and hours by almanacks and ephemerides, "as if he commanded all our destinies." The sober Aretaeus, in the latter part of the first century, supposed that the Pleiades produced tides in disease; and astrology made some farther advances under the Empire, acute diseases being referred to the Moon, and chronic to the Sun. In Sudhoff's opinion, Galen, in his tract on

Critical Days,§ gave astrology a great material hold; yet, speaking generally, I think Galen cannot be regarded as a propagator of this imposture. In the West the great outbreak of astrology, and of sorcery white and black, was deferred to the thirteenth and later centuries, when it was kindled or fanned by the Arabs and Frederick II, by Arnold of Villanova, and Peter of Abano. That in this later period, not the several limbs and viscera only, but even the hair of the head and the nails of the toes were under the punctilious rule of the stars, was independent of the tradition of Galen or of any others of the regular or irregular professors of Graeco-Roman medicine.

Around these gropings after knowledge, besides these deceptive practices of illusory methods which move our sympathy and prevent our rebuke, stealthily but in dark volume poured in the miasm of charlatanry. Theurgic medicine, as we have seen, was at least some protection against the charlatanry which captured the childlike methods of folklore only too readily: the populace is always too ready to gamble for the profits of service without its discipline and its price. Even in the best Hippocratic period we read of quacks collecting crowds and using vulgar deceits. In the *Περὶ εὐσημiosis* and in the *Παραγγελία* by the side of earnest counsel to high-mindedness and intellectual sincerity—pleading even for those wicked men, the fickle folk who change their doctors, as αἱετοὶ μὲν ἀμελῆς οὐ μέντοι γε κολάσιος—we read of the base and ignorant pretenders who cannot or will not comprehend such maxims, but, dressing gorgeously and blowing trumpets, plunder the rich, yet leaving them in evil case.¶ And would this were all. If these things were done in Greece, in Rome not only was the art of medicine thus degraded in manners, but it was dragged into far deeper and fouler mire. Without assailing your ears with scandals of black intrigue and monstrous crime, it is but too certain that not the blatant quack only but even physicians of repute connived at and even conspired in the basest infamies. In the Rome of which we are speaking, there was no standard of qualification; in the words of Scribonius Largus, "Quisque volet faciat medicinam." Physicians, at any rate down to the Empire, were not a professional body, scarcely a specific group; they mixed, a motley gang, in a world of all shades and confusions—"augur, schænobates, medicus, magus." Good and bad, instructed and uninstructed, freemen and slaves, reputable and disreputable, straight and crooked, honest and profligate; some were loyal and gentle, others sycophantic, avaricious, and treacherous. Of such a crew it is impossible to strike an average. Galen said of them ironically that he who in the race for applause and gain wasted his time on learning was silly. Thus the public was bewildered, and in the eyes not of the satirists and gossips only medicine was brought into hatred or contempt. Satires and plays of public manners, overcharged as they may be, if not fairly lifelike lose their point; and we have only too much sober evidence of the complicity of the physicians in such practices as suppression of births, infanticide, and even murder of adults by poison, to regard the public gibes of Plautus as, even in that early time of Rome, calumnious. When Plautus puts into the mouth of the handmaid Astaphium, "Ne sibi persuaderes Ut abortioni operam daret, puerumque ut enecaret," the threat was presumably taken as a matter of course, though it is fair to add that it was made in respect of a midwife. And it cannot be said that these and such crimes, explicitly forbidden by Hippocrates, prevailed only in a semi-barbarous period of old Rome; with the corruptions of wealth and social profligacy they became more and more frequent and shameless. Before this audience I need but allude to the reprobate Eudemus, brought at last to torture and the gallows as he well deserved, fellow paramour of Livia with Sejanus, and poisoner of Drusus, whose death was one of the unluckiest mishaps of history; or to Vettius Valens, physician to the abject Claudius and parasite of Messalina, a wretch who also came to the bad end he merited; or to the greedy boaster but no less wicked and adulterous

* See *Georg.*, iii, 280; and Juvenal, vi, 133.

† The fear or use of blood, especially of the ox, as a poison (vide *Herodotus*, iii, 15) is another and different notion which I cannot now discuss.

‡ See Troels-Lund (loc. cit.).

§ Zur Gesch. d. Lehre v. d. kritischen Tagen im Krankheitsverlaufe, *Wiener med. Woch.*, 1902. I would refer also to a paper on "L'influence religieuse de l'astrologie dans le monde antique," by Franz Courmont of Ghent read at the Oxford Congress of the History of Religions, 1908.

¶ Wherein we are reminded of the charlatan doctors of the *Spectator* who rode in gilt coaches and dined off gold plate.

scoundrel, Stertinus Xenophon of Cos, who aided Messalina to poison Claudius; or, again, of a lesser order of turpitude—to the swaggering impostor, Thessalus, and his like. The huge fortunes left by these medical adventurers, fortunes estimated in scores of millions of sesterces, whatever these sums may mean to us, speak not only of the unscrupulous rapacity of the Greeklings who hied to Rome to shake the pagoda tree, but also of the ill-gotten spoils and bloating diseases of their patrons. In venality there was not much to choose, perhaps, between Vettius and his like and Crassus, "the great slum landlord." Yet while such evil men were flourishing, men of modest mien and honest, kindly nature, men, moreover, of skill and resource, if less notorious were by no means wanting; such men as Antonius Musa, to whom Galen testifies as the able physician of Augustus and the friend of Virgil,* Horace, and Mecenas; or such as Mege, of whom Celsus speaks as "the very wise," who was the best pupil of Themison, and the first to reduce a forward luxation of the knee,† and to describe carefully certain scrofulous conditions. Of the esteem and affection in which many such honourable and skilful physicians were held we have ample warrant in contemporary authors, as, for instance, in Cicero and Seneca. Seneca has left us a beautiful portrait of his own physician, of whom he gratefully says, "*pretium operae solvitur, animi debetur.*" Perhaps it was during the period of the Spanish emperors, if we may rely on Galen himself, Plutarch, Pliny the Younger, and Dion Cassius, that, superstitious as the period still was, physicians stood highest for probity, skill, and beneficence. By these authors many such men, to us now but *noninis umbrae*, are named with honour and affection.

In the midst of the swelter, towering above all, as great monuments rise above turbid and devouring floods, beacons for their own age and for all ages, stood, and yet stand, the great figures of Asclepiades and Galen, in fame unequal but in the gifts of Nature not unequal. Of these great men, and of Asclepiades especially, I spoke in Lecture II, published in the JOURNAL of November 27th.

ON SOME USES OF OPIUM.

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AMONGST the many new sedative remedies which in recent years have been introduced into the market, opium and its alkaloid, morphine, seem in danger of losing much of their traditional repute. As a hypnotic opium has been practically superseded by newer and more fashionable specifics; and as a general tranquillizer of nerve and muscle it has been forced far from the position it used once to hold as the very first in importance and usefulness of our therapeutical possessions.

For the relief of pain opium and morphine are no doubt still resorted to, but even in this capacity their claims are often set aside in favour of antipyrin, aspirin, and other recent analgesics. Unless pain be actually present opium is now but rarely prescribed. It is often forgotten that the drug has stimulating as well as sedative properties, and that as a general stimulant to the nerves, the brain, and all the organs of life its value even for this quality alone entitles it to a high place in the esteem of the practical physician. Opium and morphine are not quite the same in this respect. Of the two it is in the former that the quality is most active. Its stimulating effect is best brought out by the use of small doses given at convenient intervals, for in a full dose the sedative influence of the drug is so decided that any primary stimulating effect passes off too quickly to be noticeable. This stimulating action is well seen in cases of indolent ulcers of the skin and mucous membrane. Such sores which had resisted previous treatment will be found to show a surprising improvement after only a few doses of the remedy. The pale, unhealthy-looking surface becomes red and is soon covered with closely-set granulations, while its

secretion changes from a thin serous fluid to healthy-looking pus.

This invigorating influence can be turned to account in the case of obstinate sores occurring in cachectic children. The ulcerative stomatitis which is so common amongst the ill-fed and badly-nourished children of the very poor often shows little disposition to heal, even when treatment is reinforced by a generous diet and healthy surroundings. When repair is thus at a standstill, a few drops (2 to 5) of laudanum given twice a day quickly induce a welcome change in the local conditions, and start an improvement which goes on smoothly to a cure. I have had lately under my care a case of gangrenous varicella in a child 12 months old. When the patient was admitted into the Shadwell Hospital the sloughs had just separated, leaving a number of clean-cut and very deep ulcers on the child's back. The sloughing process had gone completely through the skin and subcutaneous tissue to the muscular layer beneath them; and the sores had an angry, unhealthy look, and seemed little disposed to heal. An iodoform dressing was ordered, and 1 drop of laudanum was given every four hours. Three days later the appearance of the ulcers had quite changed; the unpromising look had passed away, and healthy granulations were beginning to show themselves at the bottom of the hollows. The opium was continued, and the sores were dressed with zinc lotion. On account of the depth of the pits they were able to fill up but slowly, but improvement went on without any break, and at the end of four weeks from her entrance the child was discharged from the hospital as cured.

Opium exerts its influence by means of the nervous system, through which it gives energy to the capillary circulation, and affects to some extent every organ of the body. There can be no doubt that the circulation is stimulated by the remedy. The feet become warmer, and the resistance of the body to the depressing influence of cold is very appreciably enhanced. This primary effect of the drug as a stimulant of the nervous system is a quality the value of which must not be forgotten. The nervous trepidation called "stage fright"—the ill-defined sinking apprehension which is familiar to the orator and the player, and is not unknown to the student as he prepares to face his examiner—may be forestalled and disarmed by a small dose, five or six drops, of laudanum taken half an hour or so before his trial is to begin. Again, the nervous tremblings and depression which may be induced by a shock, and are apt to follow a surgical operation, are amenable to the same influence. The above dose, repeated, if necessary, several times at intervals of half an hour, is usually soon followed by tranquillity and sleep. The same treatment will go far to relieve the distress of dying persons. Under the influence of a few drops of the tincture the painful uneasiness abates, and is succeeded by a period of restful calm, which may be maintained by judicious repetitions of the remedy until the close. Again, the profound mental depression which sometimes afflicts elderly people, making their lives a burden to themselves and to their relatives, may be alleviated by the same means. In this, as in the preceding cases, the drug acts as a stimulant, and something more; it quiets nervous irritability, while at the same time it gives a welcome spur to jaded nerves. There are few cases of nervous unrest in which opium given in these moderate, stimulating doses fails to relieve. Children who have been treated surgically for empyema and wear a drainage tube often suffer much uneasiness while the drainage process is going on. Under this treatment their restlessness is calmed, and they are enabled to bear the continued presence of the tube without showing any sign of discomfort. In all forms of illness in which the nervous system is irritable and perturbed the same treatment will be found of service.

When thus given with a view to stimulation the dose of the drug must be carefully limited, for too large a quantity would defeat our object; and it must be remembered that the susceptibility of the system to the remedy varies greatly in different cases—in adult life as well as in the child. It is wise, therefore, to begin with a very moderate dose, lest, unwittingly, we produce an effect the very opposite to that which we desire. The dose can be repeated at intervals of half an hour until the end we aim at is achieved. In the case of old people with thin-walled

* It has been cogently argued that Musa was the Iapex of Virgil.

† Professor Howard Marsh thinks what is meant in this passage is a forcing forwards of the tibia in relation to the lower end of the femur, a condition he has seen only twice.