water-bath to a temperature of 194°, or until it boils. The precipitate is to be collected on a weighed filter, well washed, dried, and weighed. The albumen always contains a small quantity of earthy salts, which are obtained by incineration. The residue must be deducted from the weight of the dried precipitate.

Albuminous Urine, from a patient with acute inflammation of the kidney. The deposit contained numerous granular casts, but no fat-cells were present; specific gravity, 1015; acid. The albumen coagulated by heat and nitric acid.

Analysis 46.

	In 100 parts of solids.
Water	952.00
Solid matter	48.00
Urea	13.052
Albumen, mucus, and uric acid	19.204
Extractives	12.864
Alkaline salts	2.784
Earthy salts	.096
	100.00

New Substance allied to Albumen. Dr. Bence Jones obtained a new substance allied to albumen from the urine of a patient (under the care of Dr. Watson and Dr. MacIntyre) suffering from mollities ossium. The urine was slightly acid; specific gravity, 1034.2 (*Phil. Trans.* for 1848, p. 55). The deposit consisted of phosphate of lime, oxalate of lime, and cylinders of fibrine. Phosphates were precipitated by heat; but the urine was cleared by adding a drop of acid. No precipitate was produced by nitric acid; but, after being heated and left to cool, it became solid. The solid material was redissolved by heat, and precipitated again when the mixture became cool. On some days, the urine coagulated by boiling; on others, prolonged boiling produced no change. A specimen, which did not coagulate by boiling, was carefully examined. It was acid; specific gravity, 1039.6. It contained much urate of ammonia, phosphate of lime, and oxalate of lime. The urine contained—

	In 100 parts of solids.
Water	890.72
Solid matter	109.28
New substance	66.97
Urea	29.90
Uric acid	.96
Earthy phosphate	1.20
Chloride of sodium	3.83
Sulphate of potash	2.10
Alkaline phosphate	4.45
	100.00

The new substance was precipitated from the urine by alcohol, well washed, and ultimate analyses were made. It contained 1.09 per cent. of sulphur, and .20 per cent. of phosphorus. This substance is the *hydrated deutoxide of albumen*. It was soluble in boiling water, and the precipitate produced by nitric acid was redissolved by heat, and it formed again as the mixture cooled. A similar substance occurs in small quantity in pus, and in the secretion from the vesiculæ seminales. The urine contained 66.97 parts per 1000 of this substance—an amount equal to the quantity of albumen in the blood. The patient was passing about thirty-five ounces of urine daily, which would contain upwards of 1000 grains, or more than two ounces of this new material.

Dr. Bence Jones recommends that this substance should be looked for again in acute cases of mollities ossium. He suggests that the reddening of the urine upon the addition of nitric acid might lead to its detection.

[To be continued.]

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN IN LONDON AND ITS VICINITY. The seventy-second annual dinner of this Society was held on Wednesday, the 11th instant, at the Albion Tavern; Thomas Arthur Stone, Esq., the President, in the chair. At the toast of "Prosperity to the Society", the President dwelt upon the very great amount of good done by this Society, and instanced an application which has been recently made to the Society, in which a widow and five children will probably receive £95 a year from its funds, the sum diminishing gradually as the children grow up to maturity. A sum of £1828.10 was expended last year amongst thirty-nine widows and twenty-two orphans. Donations were announced to the amount of £207. We desire to remind our readers that relief is granted to the widows and orphans only, and that the election is by ballot. Every medical man residing in London and its vicinity should become a member.

Lectures

ON THE HISTORY OF MEDICINE.

DELIVERED AT
THE GROSVENOR PLACE SCHOOL OF MEDICINE.

BY
ALEXANDER HENRY, M.D.

LECTURE II.

Origin of Medicine. Difficulties of its Investigation. General Characters of the Early Stages of Medicine. Medical System of the Ancient Egyptians. Grecian Legends. Apollo. The Cabiri. Orpheus. Incantations. Melampus. Chiron. Heracles of the Homeric Poems. Æsculapius: Examination of the Myth concerning him. Machaon and Podalirius. The Æsculapian Temples and Symbols. Practice of the Asclepiads. Summary.

[Concluded from p. 281.]

ÆSCULAPIUS was honoured as the medicine god; but at what period his worship commenced, we have no certain data for shewing. It did not exist at the time of the Trojan war; for Homer, with all the evident desire that he has to speak with honour of the medical art, never calls him by any higher title than that of "the blameless physician" (*ἀμύμων ἰητρῆς*). Hesiod also omits him from his *Theogony*; and Pindar, who lived much later, mentions Æsculapius in one of his odes, merely as a hero and the conqueror of many diseases. In course of time, however, we meet with the accounts of temples erected in various parts of Greece and Asia Minor to Æsculapius, as the genius of medicine. These temples were generally known under the name of *Asclepieia*; and were institutions to which the sick repaired for the cure of their diseases. They were, in fact, sacred hospitals, the priests of which were physicians, who, as I shall afterwards describe, veiled their practice in mystery from the eyes of the people. The priests were reputed to belong to the family of Æsculapius, and were hence termed *Asclepiadae*, or sons of Asclepius.

The principal and most ancient of these Æsculapian temples were those of Titan in the Peloponnesus, Tricca in Thessaly (which you will remember as one of the possessions of Machaon and Podalirius), Tithorea in Phocis, Epidaurus, Cos, Megalopolis in Arcadia, Cyllene in Elis, and Pergamus in Asia Minor. Of these, the temple at Epidaurus was at first the most celebrated; and it was to this temple, legend says, the Romans applied for aid on the occasion of a plague which devastated their city. But the fame of all the other temples was eclipsed at last by that of Cos, from which emanated Hippocrates.

Some points of interest in relation to the Æsculapian temples must be noticed before we give a sketch of the practice which their priests followed.

Hygieia, the goddess of health, was revered as the sister of Æsculapius, and temples were erected in her honour also in various parts of Greece. This worship of Hygieia, however, it seems probable, was an institution of later date, and grew out of a recognition of the importance, in medical matters, of attending to matters relating to health. And, in regard to the temples of Æsculapius, it seems that hygiene was carefully attended to, superstition even being called into play to enforce obedience. Almost all the temples were regarded as sanctuaries, which could be approached by no profane person until he had undergone a repeated course of purification; and in one of them, at Egium in Achaia, the statue of Hygieia was allowed to be looked on by no one but the priests. It was forbidden to allow females to be delivered, or the sick to die, in the neighbourhood of the temple of Epidaurus. At Tithorea in Phocis, the temple was surrounded, at a considerable distance, by a hedge, within which no building was allowed to be erected; and a previous purification in an adjoining temple of Isis was necessary to all before they could even enter this sacred enclosure.

Especial care was taken with regard to the situations of these temples; and I think the moderns, in building

hospitals, might often with advantage call to their mind what the ancients did when they erected analogous institutions. The Æsculapian temples were never built within towns, but always outside; and, whenever practicable, an elevated situation was selected, surrounded, if possible, by trees, with the view of intercepting noxious winds. The water-supply was also carefully attended to; and hence we meet with temples erected in the neighbourhood of streams or springs, sometimes mineral or thermal.

The temple of Cyllene in Elis was situated on a cape, in the most fertile part of the Peloponnesus. That of Epidaurus, also near the sea, was surrounded by wooded hills. The temple of Las in Laconia was placed on Mount Ilium, near the Gulf of Laconia; and in its vicinity flowed the pure stream of the Surinus. The temple of Cos was in a suburb of the town. At Athens, it is believed that there was a warm spring within the precincts of the temple; and at Cenchrea in Corinth, a saline spring bathed the walls of the temple of the medicine-god.

The symbolical statues of Æsculapius varied somewhat in the different temples; but the figure of a serpent generally formed part of the representation. At Epidaurus, he was represented as sitting on a throne, holding a staff in one hand, and seizing a serpent by the head with the other; while a dog lay stretched at his feet. At Corinth, Megalopolis, and Iadon, he was represented as a child, holding a sceptre in one hand and a fir-cone in the other. But in general he was represented as a long bearded old man. On some ancient monuments, he is depicted as laying one hand on his beard, and holding in the other a knotted staff with a serpent twined round it. He is often depicted with a crown of laurel, and with a cock and ram at his feet. Other accessories are also mentioned; but, among all of them, the serpent plays the principal part. The god was even believed to appear under the form of this animal; as was fabled to have occurred on the occasion when the Romans applied to the temple at Epidaurus for relief from a plague. It is related, that a sacred serpent then of its own accord left the temple, and went on board the Roman ship; that, the ship touching during the voyage home at Antium, and being delayed there by contrary winds, the serpent went on shore and visited a temple of Æsculapius in the neighbourhood; and that, the sacred animal having again voluntarily come on board, the ship reached the Tiber, when the serpent landed on an isle near Rome, where a temple was forthwith erected.

What was the meaning of the serpent which is represented in company with Æsculapius? Some of the ancient writers believed that it was the symbol of regained health, on account of its changing its skin; others supposed it to be an emblem of the prudence and vigilance which physicians should exercise. But it is probable that the serpent points to the eastern origin of the worship of Æsculapius; for, indeed, the Phenicians and Egyptians regarded the serpent as divine. The Phenicians, it is said, depicted it with the head of a vulture, the symbol of an intelligent soul; and in connection with this, I must mention that Æsculapius is sometimes represented with a vulture (or an owl) at his feet.

The staff which Æsculapius bears in his hand has been regarded as a symbol of the difficulties which surround the medical art. But, leaving the notice of these symbols, the interpretation of which is obscure, except so far as they may give indications of the origin of the worship of Æsculapius, I will proceed to a more interesting subject—the practice followed in the temples of the Asclepiads. The period of which I am about to trace the medical history is stated to be about seven hundred years, extending from the date of Podalirius and Machaon, and their immediate successors, down to the time of Hippocrates, in the fifth century before the Christian era.

Medicine, during this period, is described as having been entirely in the hands of the Asclepiads; who, like the Egyptian priests, guarded their knowledge with a jealous care, and transmitted it only to their descendants or to the initiated. The people were taught to regard disease as the effect of divine anger, and were obliged to obtain the aid of the medicine god by appropriate rites. These rites varied at different periods; but their general object seems to have been to act on the imagination, and to ensure a strict regimen. Before entering the temples, a course of purification was required; which would no doubt both have a salutary effect on the body, and would give the patients hope and confidence that benefit was about to be derived from the god. The healthy and cheerful

situations of the temples would also, it may be supposed, have a beneficial influence.

When the patients were admitted, rigorous abstinence was enjoined; and, if we may credit the records of the ancients, fasting must have often been carried beyond the bounds of prudence. The effect of this would be both to weaken the body, and to render the mental powers more subservient to the will of the priests, who also influenced the minds of the sick by a recital of the miracles said to have been wrought by the god in the precincts of the temple; that is to say, by reciting the history of cases cured, dwelling especially on those which bore an analogy to that of the patient before them. After this recital, which was given during a promenade in the temple, sacrifices were made to the medicine god; generally a ram, but often also a cock. At Cyrene goats were offered; at Tithorea, all animals except goats. The sacrifices were accompanied by prayers for revelation from the god. Pliny says, that the priest chanted a hymn, which was to be repeated by the person who made the offering, the chanting being accompanied by instruments. Bathing was required, before the patients were admitted to hear the divine oracle; and with this was conjoined anointing with oil, frictions, and other manipulations, which doubtless had, in many instances, an invigorating effect. Almost always, too, the patients were submitted to a course of fumigation before receiving the oracular responses. All preparations having been made, they slept in the vicinity of the temple, on the skin of the ram which they had offered, or in a bed, and waited the appearance of the medicine-god in a dream. Æsculapius was said to appear and to point out the treatment. Very probably, the treatment which the patients had undergone, and the impressions made on their minds by the recitals of the priests, would produce dreams, in which Æsculapius, and the instances similar to their own, would often be prominent features—and in the course of which the use of certain medicines would be indicated. The dreams were interpreted by the priests, or by the guardians of the temple. These latter had the duty also of dreaming for the patients, or of pretending to do so, in cases where sufficient faith was not said to be exhibited—or, more probably, when the priests chose to believe that nothing could be made out of the patient's dreams.

The treatment followed was generally of a very simple kind; such as mild purgatives, easily digestible food, or fasting, baths, etc. Sometimes the treatment was severe, and such as no man in his senses would submit to. Aristides, who has left an account of his treatment in the temple of Pergamus, relates that he was so weakened by emetics as to become dropsical, and that repeated bleedings were enjoined to him—on one occasion, amounting to one hundred and twenty pounds! He, however, escaped this absurd injunction by interpreting it to mean that he was not to lose too little blood. Such is the absurdity to which superstition will sometimes lead men. Like the priests of Egypt, the Asclepiads gave allegorical names to the medicaments which they employed.

When the patient died, the death was attributed to a failure in his faith in the power of the god, or to want of obedience to his precepts.

When the patients were cured, they returned thanks to the god, and made presents to the priests. Sometimes the patients presented a model of the part affected in ivory, gold, silver, or some other metal. This practice reminds one of the "golden emerods" which the Philistines, as related in the Bible, had to dedicate in order that they might be delivered from the plague of hæmorrhoids with which they were affected.

But a more important custom was that of inscribing the names of the patients, the description of their diseases, and the remedies which had relieved them, on tablets or columns of metal. In the time of Pausanias, the temple of Epidaurus contained six columns, bearing inscriptions of this kind in the Doric dialect. No doubt this practice conduced to the advance of medicine; especially where, as in the temples of Cos and Cnidus, the art was followed with a view to its improvement. It is probable, as I shall afterwards have occasion to show, that Hippocrates derived much from the tablets in the temple at Cos.

A custom which tended to retain medical knowledge in the hands of the Asclepiad priests was that of inscribing any new discovery in medicinal remedies on the gates and columns of the temples; and of placing newly-invented instruments of surgery in these institutions.

Such was, we are told, the general state of medicine in the temples of the Asclepiads. Our next task would be, to notice especially certain of those temples in which medicine appears

to have been cultivated with special care and success, and from which emanated the solid foundation of that art of which we are followers. But the consideration of this, and of the circumstances which led thereto, must be deferred to another lecture. I will therefore sum up the principal conclusions which seem to me derivable from the notices of medicines among the Greeks with which we meet in mythology and in the accounts that have been handed down to us regarding the customs of the priests.

1. The medical traditions of ancient Greece seem referrible to two sources—one extrinsic, the other indigenous.

2. The system derived from an extrinsic source was of a similar character to that which prevailed in Egypt. The priests were the reputed possessors of professional knowledge; they acted also as the mediators through whom the gods were imagined to be appeased when offended, and to communicate the means requisite for the cure of disease. This hieratic medicine was doubtless of eastern origin; and tradition points to it as having been introduced from Asia by the Cabiri or Curetes.

3. But the practice of the healing art seems not to have been entirely confined to the sacred order. A certain amount of medical knowledge of a very simple kind, such as would spring from the necessities of mankind, and remain, at least for a time, independent of superstition, is related to have been cultivated by the heroes of Grecian tale. The origin of this is attributed to the Thessalian Chiron. It appears to have consisted in a rude military surgery, the treatment of wounds received in battle.

4. Medicine appears, at an early period, to have been specially cultivated by certain persons or families, who thereby acquired for themselves the fame of being the fathers of the art, and were embodied and worshipped under the common title of Asclepios or Æsculapius.

5. The Asclepios of Homer and the older writers is not, strictly speaking, the Æsculapius who was subsequently deified and worshipped; for the attributes of the Homeric Æsculapius are comparatively limited. He was a Thessalian chieftain, the disciple of Chiron; and, notwithstanding that he had the reputation of being *par excellence* a physician, the practice of his sons in the Trojan war was purely Chironian or surgical; for, at the very outset, there is no intimation of consulting their aid in the plague, with the account of which the first book of the Iliad opens.

6. Æsculapius, as worshipped, was the embodiment of medical knowledge; and the similarity in many respects, between the practices of the Æsculapian and those of the Egyptian priests, point to the fact, either that the Grecian medical priesthood was of Egyptian origin, or that both the Egyptian and the Grecian systems of hieratic medicine were derived from a common Asiatic origin.

7. The practice of the Asclepiad priests consisted in a close attention to the general precepts of hygiene, especially with regard to the situation of the temples; in the employment of means to work on the minds of their patients; and in the administration of medicines, in some cases of a most simple kind, but in others probably more active.

8. Medicine may be supposed to have advanced with unequal steps in the Æsculapian temples. In some, more slowly; while in others, the art was followed with zeal, and reached perhaps as high a state of development as could be expected, considering the difficulties which impeded its progress. For, to mention no others, and setting aside the impediment offered by the priest system, the want of a knowledge of anatomy, and consequently of physiology, must have greatly retarded progress. For, as you are aware, the religious feeling of the Greeks in regard to the sanctity of the dead was so great as must have precluded the use of their bodies for the purposes of dissection, or even of making *post mortem* examinations. However, the Asclepiads very possibly derived some notions of the bones and ligaments from treating dislocations, fractures, and other injuries.

Having thus briefly sketched the state of medical practice in the Æsculapian temples, I shall turn aside for a while from these institutions, in order to take notice of certain agencies which, though lying outside the medical world of the Asclepiads, exerted a remarkable influence on the practice and progress of the healing art. In our next lecture, then, I propose to bring before your notice some of the doctrines of the early Grecian philosophers, and to allude generally to the causes which led to the breaking down of the barriers within which medicine was enclosed by the hieratic system.

Transactions of Branches.

SOUTH-EASTERN BRANCH: ROCHESTER, MAIDSTONE, GRAVESEND, AND DARTFORD DISTRICT MEETINGS.

CASE OF CONGENITAL MALFORMATION OF THE COLUMNÆ CARNEÆ OF THE TRICUSPID VALVE.

By J. J. D. BURNS, M.D., Convict Prison, Chatham.

[Read at Gravesend, March 30th, 1860.]

A MALE patient, aged 21, on the 10th February, at 7 A.M., complained of pain across the stomach, appeared faint, and was unable to stand alone. He was quite sensible. The pulse was scarcely perceptible; the extremities were cold. He was placed in a warm bath, and removed to bed; and an ounce of julep of ammonia was ordered to be given every hour.

9 A.M. Reaction appeared to be setting in. The eyes were congested; the face was flushed. There had been neither vomiting nor purging; but he had severe cramps across the stomach. The bowels had not been opened for two days. There was dullness on percussion over the left side of the chest, with puerile respiration, and pain on taking a full inspiration. He was ordered a powder of calomel and antimony, with a mustard poultice to the side.

11 A.M. He vomited nearly two pints of dark bilious matter, with the medicine that had just been administered. The skin was hot and dry.

2 P.M. He seemed relieved by the vomiting. The skin was less dry. He complained chiefly of tightness and pain across the chest. He was ordered to have ten grains of calomel.

4:30 P.M. The bowels were freely opened. The pain in the chest was severe; the skin was hot and dry. No pulse was perceptible except at the cardiac region, and there but slightly. Twelve leeches were applied to the side; a grain and a half of opium was administered; and hot bottles were applied to the extremities.

Feb. 11, 2 A.M. He had been very low, but had rallied a little. He had some dyspnoea, but it was not complained of. The feet were cool. The pain was all referred to the left side. He had blueness of the lips; the pulse was not perceptible at either wrist, or at the temples. The bowels had been freely opened. He was very weak, and could not bend his knees. He complained of great thirst.

7 A.M. The breathing was difficult; the surface of the body was quite cold; no pulse was perceptible. A blister was applied over the chest.

He died at 9 A.M. The nurse informed me that he was quite sensible to within a short period of his death; and he did not remark till then any appearance of immediate dissolution.

POST-MORTEM EXAMINATION, made Feb. 12th, at 10 A.M. The surface was congested, particularly the chest and upper extremities, as well as the depending parts. There were carnisation and active pneumonia in the lower lobe of the left lung, involving its whole extent; the remainder was healthy. On opening the pericardium, there was the usual quantity of serum. The heart was quite free, and of natural colour except at the upper part of the right auricle, where it was studded with black spots, as if the blood had exuded through the minute vessels. The left side of the heart was filled with dark coloured blood. A deposit of fibrine, in layers similar to that in an aneurismal tumour, was found firmly adherent to the inner walls of both auricles. The columnæ carneæ of the right ventricle were adherent, apparently from congenital malformation obstructing the play of the tricuspid valve. Excepting slight general congestion, every other part examined was of normal appearance.

REMARKS. My first impression in this case was, that the symptoms indicated faintness and debility from obstructed bowels and biliary derangement; the pain in the left side arising from catarrh consequent on some previous pulmonary affection. As the case advanced, my opinion was partly confirmed; but the chest symptoms becoming more prominent, my attention was directed to them, when, by stethoscopic examination, I found there were unmistakable signs of active pulmonary inflammation. Yet, to account for the pulse was somewhat puzzling. Neither systole nor diastole could be distinguished; a slight fluttering was all that could ever be de-