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# Notes on the Evolution of Therapeutics.

by Dugald Mitchell M.B. C.M.

The history of Medicine in its various departments, and more particularly the history of the evolution of therapeutics, will always constitute a subject of much interest and importance, not only in connection with the development of the remedial art itself, but as affording a useful indication of the progress of civilization. That disease, infirmity, and pain very speedily followed upon the appearance of man upon the earth, goes I suppose without saying. Nor can it be less true that the desire for cure, founded on the wish for comfort, and on the powerful instinct of self-preservation, must have equally early asserted itself, and stimulated the reasoning and inventive faculties, however rude may have been the means at first devized. To gather a more or less clear idea of the most primitive means of relief resorted to by early man, and by the earlier

civilized nations in particular, cannot but prove both interesting and instructive, as showing to us those methods of cure which it was most natural to devise, and one can well hope and desire that research may from time to time, in the future more than in the past, throw fresh light on this important chapter of ancient history.

In early ages efforts at assisting nature in the cure of disease were, of course, either drawn from tradition founded upon uncertain facts, or mere random trials without any rational means of success. Advice was freely solicited, and as freely bestowed. When difficulties did occur or an uncommon case baffled the powers of those in immediate attendance, it was sometimes surmounted in this way. The patient was set down in cross-ways, and other public places, in order that he should receive the advice of passers by who might chance to be familiar with the disease, or know an efficacious remedy, - a practice that we can see could very well, in many cases, be carried out in eastern climes. It can be readily imagined that occasionally valuable services may have been conferred and useful information diffused in this simple

primitive fashion.

While practically it is our custom to think of Medicine as dating from the Hippocratic era, it will doubtless be found increasingly true, as years roll on, that its thorough study would carry us to a period much further back in the world's history. The study of folk-lore which, in recent years particularly, has shed so much light on this and many kindred subjects, and the investigation of ancient inscriptions and papyri will, we cannot but hope, reveal the origin of many obscure practices connected with our profession, and illustrate, much more clearly than can be done at present, to what extent both the Hippocratic and succeeding ages have been indebted to remoter times for many of the methods of cure which have been or are still in vogue. Some one has asserted that our boasted progress largely consists in rediscovering things which were known to the ancient Egyptians, and were buried with them in the sandy wastes of oblivion. From a nation so advanced in civilization and the arts as was that of the ancient Egyptians doubtless much may well be expected, but to what extent such a statement as the above

may be borne out it will be for the future to determine. Hippocrates, we know, could speak of ancient medicine even in his day, and some investigators have seen in several of his writings traces of Egyptian influence, while later Greek and Roman writers frequently refer to medicine as practised in that country in very remote times. And very remote times they indeed were as has been borne home to us very emphatically by the unearthing, within recent years, of several papyri which deal with things medical. There exists in the British Museum one of these Papyri which carries us back to the twelfth dynasty - to a period some 1,200 years before the Exodus. This is the earliest medical papyrus that has yet been discovered and it has recently been deciphered and published by Mr F. L. Griffiths.(1) Three other papyri dealing with medical matters have also been brought to light, and have been in part deciphered. These latter have formed the basis of an interesting demonstration given some little time ago by Dr Finlayson, and from the published report of which I gather some interesting particulars.(2)

The

(1) British Medical Journal June 3rd/93 page 1172.

(2) B. M. J. April 8th/93 page 748. May 13th/93 page 1014. May 20th 193 page 1061.

The most important of the three is the Ebers papyrus which dates from about 1550 B.C.. Next comes that first discovered viz the Berlin Medical papyrus which is of date about 1400 B.C.. Galen refers to a medical library at Memphis, and this roll which was got in that neighbourhood, is supposed to have constituted a part of it. The third is a British Museum papyrus dating from about 1100 B.C., very little of which has been as yet deciphered. The substances which we find to have been chiefly made use of as medicinal agents in those old-world days are such as may be considered to have been the most natural to employ. They were substances which were for the most part easily got such as milk, oil, beer, dates, figs, pomegranates, and other fruits, various herbs, incense, vinegar, cummin, goose-fat, sea-salt, soda, nitre, antimony, myrrh, various resins, verdigris, many animal substances &c &c. Not a few of these things are still more or less generally employed, goose-grease for example being to this day largely used as an external application in many parts of the country. The combinations, upon the whole, cannot be said to have been unpleasant if we except those in which animal substances were used. A sort of universal application for

eye affections is thus recommended to be made and employed. – "Let one take a human brain and divide it in half. Let one-half of it be added to honey, and the eye be anointed with this in the evening; the other half should be dried and finely ground and it may then be used for anointing the eye in the morning." From the prevalence of eye diseases in Egypt we find, as was to have been expected, that many remedies are recommended for them and that they received much consideration. The discrimination of the different kinds of eye diseases was indeed very considerable, as many as twenty-five different conditions having been noted. A cure which is prescribed for blindness, and is said to make the patient "well at once", not only brings the fact before us that a form of syringe was used even thus early, but shows us that the idea which is still prevalent that diseased eyes can be improved by acting on the ear, as by the wearing of ear-rings, was even then believed in. The recommendation is to inject into the ear the fluid from a pig's eyes mixed with antimony, red lead, and honey.(1)

The Berlin papyrus contains medical receipts to

(1) B. M. J. page 1015 – 11 lines from bottom

to the number of 170, and the fact that twenty of these are for enemata shows us at once how far back this form of treatment goes, and the importance that was attached to it even at this early date.

In all of these papyri many of the prescriptions are found to relate to methods of determining as to fertility or sterility, the sex of unborn children and other equally useless attempts at prying into the future. But as in later days, and I suppose in earlier ones also, efforts at the cure of disease were not limited to those of a tangible or purely practical character. As old perhaps as disease itself was its attempted cure by means of charms, amulets and incantations. The human mind ever craves after the marvellous. As with savage nations at the present day so with the ancient Egyptians they had special reasons for believing in the value of incantations. Disease and death they refused to consider natural and inevitable, but believed them to be due to the presence of some destructive spirit which in various ways strove to kill the patient. The physician must therefore "first discover the nature of the spirit in possession, and, if necessary, its name,

and then attack it, drive it out, or even destroy it. He can only succeed by powerful magic, so he must be an expert in reciting incantations and skilful in making amulets. He must then use medicine to contend with the disorders which the presence of the strange being has produced in the body."(1) The combination of the offices of priest and physician, which has been so common in earlier days throughout the world, was, it would seem, the rule in ancient Egypt also. When not actually practised by themselves ~~it was~~ matters medical were evidently controlled by them as the possessors of the six sacred books of Tot by the precepts of which it was expected all practice would be regulated. From the value attached to incantations we can imagine no better combination than that of the priest-physician for the effective production or recital of such, while in virtue of their sacred office they were of course the proper parties to invoke effectively celestial aid, or appease offended deities. But doubtless we must recognize another

(1) G. Maspero's Life in Ancient Egypt and Assyria translated by A. P. Morton. London, 1892 p. 118.

another powerful reason for the practice of medicine being largely monopolized by the priesthood in the fact that in those early days learning was practically confined to them. The practice of embalming, so common in Egypt, would lead us to infer that as a result they must have attained to a considerable knowledge of the human body and the effects of disease. Moses, we know from his writings, had much practical knowledge of the nature of disease, and as he was "learned in all the wisdom of the Egyptians" we can readily infer that it was largely attained in the land of his birth and education. From the strict laws laid down by him regarding the management of leprosy and other infectious maladies we see also how he anticipated the modern doctrine of stamping out disease by isolation and cleanliness, while in many other ways he did much to conduce to the preservation of health among this long-lived race. As students of physical science however the Jews did not excel, and their knowledge of human diseases must have been decidedly crude and imperfect. Their treatment we may believe would be correspondingly ineffectual. Not

a few maladies are mentioned in the Bible, but the references to therapeutics are very meagre. Oil, wine, figs and the celebrated balm of Gilead constitute the bulk of the remedies of which we have any notice.

If, as is the case, our knowledge is still limited regarding advances made in the treatment of disease by the early Egyptians, and the extent to which we moderns are indebted to them for therapeutic hints, it has to be confessed that it is even more meagre regarding other ancient civilizations. Even among the Greeks the early history of medicine is involved in much obscurity, but there can be little doubt that it must have made considerable progress before the time of Hippocrates, who increased our indebtedness to him by collecting and arranging the scattered knowledge of his time. It is probable that the reference in the following passage from Homer's Odyssey is to opium: —

"Bright Helen mixed a mirth inspiring bowl,
"Tempered with drugs of sovereign use to assuage
"The boiling bosom of tumultuous rage;
"To clear the cloudy front of wrinkled care,

"And dry the tearful sluices of despair:
"Charmed with that virtuous draught, the exalted mind
"All sense of woe delivers to the wind:
"Though on the blazing pile his parent lay,
"Or a loved brother groaned his life away,
"Or darling son, oppressed by ruffian force,
"Fell breathless at his feet a mangled corse;
"From morn till eve, impassive and serene,
"The man entranced would view the deathful scene.
"These drugs, so friends to the joys of life,
"Bright Helen learned from Thone's imperial wife;
"Who swayed the sceptre where prolific Nile
"With various ~~arms~~ simples clothes the fattened soil.

. . . . . .

"From Paon sprung, their Patron-god imparts
"To all the Pharian race his healing arts." (1)

Some where I have seen the great Poet credited with being the first exponent of the antiseptic treatment! Be that as it may we find Acron of Agrigentum who flourished about 470 B.C. recommending a method which has been resorted to in much more modern times for the purification of the air of cities viz the kindling of large fires in the streets in the time of the plague.

(1) Pope's translation (Routledge & Sons) p. 342. 16th line from top.

To this same physician also belongs the credit of introducing the practice of fumigation, by which suggestion, it is noted, his reputation was much increased.[1]

Occasionally we find ~~curious~~ discoveries made which bring home to us at a glance the extreme remoteness of the introduction of some practices which are still in use. One of the most striking is furnished by the exhuming of human skulls now and then which carry us back to the stone age, - a fact which is evidenced by their bearing ~~trephining~~ marks, the character of which shows that this practice had been resorted to when the instrument used for the purpose was of stone. In all probability the purpose sought ~~to have been~~ be achieved in such cases would have been the relief of epilepsy and other convulsive diseases, lunacy &c.

To Hippocrates however, as is well known belongs the glory and renown of being the first to clear medicine of much that encumbered it, to free it from "the trammels of superstition, and the deliriums of philosophy", laying thus in Sydenham's words, "the solid and immovable foundation for the whole superstructure of Medicine".[2] His

(1) Hamilton's Hist. of Medicine, vol I page 52 (Colburn & Bentley 1831)
(2) Sydenham's Works (Ed. 1848) vol I p. 16

He was indeed a master mind and a clear one. Possessed of the most acute powers of observation as well as being a man of the most untiring industry, he set himself the task of stripping medicine of all that corrupted it, noting and recording at first hand the characteristics of disease, together with all incidental or accidental circumstances that might accompany it. Of Nature's efforts for the preservation of the individual he felt most firmly assured. "Our natures are the healers of our diseases" (1) he was accustomed to say, and the principle on which Nature acted he taught was by attracting what is good and rejecting what is bad. Hence the doctrine of depuration, concoction and crisis. To assist Nature then in her struggles was of course the leading duty of the physician. So he puts it "the healer (ἰατρος) is the servant of Nature" - ὑπηρέτης φύσεως, - and from his indications for the cure of disease we see that his practice coincided with this principle.

"Physic" he teaches, "consists in supplying what is deficient, or taking away what is redundant; in doing either of which the utmost caution is requisite to avoid doing either

(1) Galen's Commentary. Quoted in Gairdner's "The Physician as Naturalist". p 22.

either suddenly, everything which is in excess being repugnant to nature". "Contraries or opposites are remedies for each other; thus evacuation is the remedy for repletion, and repletion for depletion". "When we do anything according to reason, though the success is not answerable, we should not too hastily or too easily alter our plan, so long as the reasons for pursuing it remain unaltered." We should however carefully observe what gives ease, and what creates pain; what is easily borne, and what cannot be endured. We should do nothing rashly, but often pause for observation; since in this way we at least do no harm." (1) To diet he paid much attention realizing as he did its importance in treatment. Milk and whey he used largely. In chronic cases especially he laid much stress on judicious bathing and exercise. In the way of active medicines purgatives and emetics were chiefly relied on. With regard to purgatives he believed they attracted the peccant humours and discharged them from the body, (2) while as to emetics he considered them capable of recalling the humours from the inmost recesses as well as clearing out the primae viae. When dieting and the above means failed he had

(1) Hamilton's Hist of Medicine vol I (Colburn & Bentley) p. 60-61

(2) " " " " p 62

had recourse to bleeding, and, if still baffled, he followed up with diaphoretics and diuretics. Of external applications he had much faith in the value of fomentations, and employed also fumigations, gargles, oils, ointments, cataplasms and collyria. So many and so considerable were the improvements made by Hippocrates in medicine that for centuries his successors were pretty much content to follow and to reverently imitate him.

In many respects the great out-standing drawback, up to this period, to the advancement of medicine as an exact science, is to be found in the abhorrence of the ancients to dissection of the human body. Without investigations of this character it was of course impossible to acquire true ideas regarding the organs, their structure and function, and consequently it must have been correspondingly difficult to form correct notions as to the causes of disease, their exact seat, their effect upon the internal organs, and the most desirable and rational means of treatment. To the Medical School of Alexandria belongs the credit of initiating, openly at any rate, the practice of the study of human anatomy by dissection. Soon after its foundation Alexandria became the centre of the science and learning of the time, and medicine in particular, was

assiduously cultivated. Here Herophilus and his contemporary Erasistratus pursued the practice of dissection with much zeal, and began to lay the foundation of human anatomy as we now know it. In therapeutics the latter showed great antipathy to the more extreme forms of treatment, almost wholly banishing the lancet from his practice, and for the strong purgatives substituting the mildest enemata. He paid much attention also to diet and regimen. As early as this date tapping was resorted to in abdominal dropsy, - a practice of which Erasistratus however disapproved, while he had recourse to abdominal incisions for the cure or removal of hepatic tumours.

For some centuries after this period physicians were divided into two classes - the Dogmatists and Empirics. The Dogmatists or followers of Hippocrates, contended that to treat disease we must be thoroughly acquainted with its various causes, as well as have an effective knowledge of the natural functions. The Empirics on the other hand maintained that such knowledge was unattainable and unnecessary, and that experience ought to be the sole guide in practice. Sometime

after appeared the Methodists who took up a position which may be roughly described as intermediate between the other two, and consequently nearer the true position to be aimed at. In all probability such a division of the faculty as this into rival sects aided, in the long run, in the development of therapeutics, directing as it did powerful minds in various channels to the evolution of what constituted in reality different but component parts of one whole.

In those days however, as in later ones, the treatment of disease was only too largely empirical or purely experimental in opposition to rational. The drug was believed to be proved serviceable but the reason why it should really be useful could not be stated. Even now we have not got entirely beyond this position. Experience or imagined experience leading to over-hasty conclusions is only too often yet our guide in the practice of therapeutics. Still, as Dr Broadbent remarks, the value of experience pure and simple must not be too much decried. "The marvel to me is", he proceeds, "that by trial of this or that herb or mineral, suggested by superstition or astrological fancies, or by analogies of the most outrageous kind,

so much had definitely been ascertained as to remedies. Experience had taught our ancestors the action of digitalis as a diuretic and heart tonic before experiment had demonstrated its action on the cardio-vascular muscular fibres. Experience had shown us the remarkable action of colchicum in acute gout, which has not yet been explained chemically or experimentally." While this doubtless is true what we have to desiderate above all is exactitude in all departments, - as exact a knowledge as is possible of structure, of function, of the nature of disease and of the nature [action] of the remedies. To this extent we also must be Dogmatists.

By this period with which I am now dealing the corroborant effects of the salts of iron in atonic diseases were generally recognized, and an early, and indeed natural form of administration, was in the shape of smiths water, or the water in which Smiths cooled their materials. To this time also may be traced some of those lengthy prescriptions to be found in Sydenham and other writers of his day, and some of which contain as many as sixty or seventy ingredients. Operations for the cure of fistula were effectively performed by Leonidas of Alexandria, and the same Surgeon removed cancerous tumours

by the knife and by the use of the actual cautery.(1)

During the early centuries of the Roman Empire medicine does not seem to have made much progress within its territory. Moschion, who flourished about the time of Tiberius, is believed to have been the inventor of the well-known diachylon plaster. Asclepiades a very famous physician, whatever else he did, gave a new dignity and value to the use of cold water internally and externally, and is generally credited with having been the inventor of the shower bath. Antyllus described thus early a method of extracting Cataract, and the same Surgeon recommended bronchotomy.(2)

In Celsus, who lived probably towards the end of the first century A. D., we have one who, like Hippocrates, gathered up and made a digest of all that was known on the subject of medicine up to his time. His works rank with the highest among the writings of the Ancients, and when compared with Hippocrates, show the decided progress made in many directions through the labour of the Anatomists. He treats of many of the great

(1) Hamilton's Hist. vol I p. 119
" " " p. 118

great operations of Surgery, of wounds in the intestines, injuries of the brain, the use of ligatures &c. The fact of his having known that the poison of serpents was not hurtful when taken into the stomach led to his recommending that such wounds should be sucked if the operator was free from any abrasion of the lips.(1) The actual cautery he used like Hippocrates in Sciatica directing that the wounds should be kept discharging for some time. In dropsy he preferred opening diet to purgatives, limiting the fluids as much as possible; and in the treatment of fevers, he not only used hot baths, but insisted on the stimulating method of treating them by the free use of wine.(2)

A wider view of collateral conditions relating to disease was beginning by many to be taken into consideration. Investigations into atmospheric influences we find eagerly pursued at this period, and Aretaus, who lived in the early part of the next century, remarked upon the inter-reaction of mind and body in disease.(3)

The end of this same century (the second) witnessed

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(1) Hamiltons Hist. vol I p. 126
(2) Medical Men & Manners. 2nd ed. (Balliere) p. 5.
(3) Hamiltons Hist. p. 134.

witnessed the labours of another reformer in the domain of Medicine viz Galen. His works are very voluminous and constitute a perfect encyclopaedia of the medical knowledge of his day. The causation of disease external and internal, its signs and symptoms are very elaborately dwelt upon. In his book on the art of preserving health he informs us that Asculapius was in the habit of curing those in whom violent emotions of the mind had induced a hot temperament of body, by melody and songs" - a statement which recalls the influence of David's harp in the case of Saul. The soothing and lulling effect of music has been known and recognized from the most remote period. The fable of Argus of the hundred eyes is a good illustration. When Jupiter sent Mercury to play the ever watchful and wakeful Argus (only two of whose eyes ever closed in sleep at the same time) the potent instrument chosen by Mercury for the lulling of his victim to sleep was the Pandean pipes. Argus listened and listened entranced as the soothing strains were played. At length the desired effect began to be produced, the hundred eyes one by one gave in: and Mercury, seizing his opportunity, cut off the head of Argus at a

stroke and sent it tumbling down the rocks.

Both the Romans and Greeks employed the charms of music - mostly that of the pipes - to cure many diseases. Not only in nervous disorders but in sciatica and rheumatism was it resorted to, and we can easily see that if it led to dancing or other active exercise it might assist in both conditions, improving the action of the liver, and driving away melancholy, and by profuse sweating benefiting the rheumatic disability. The last few years have witnessed the introduction of music into some of our hospitals with a view to assist recovery. A systematic perseverance in its use is not I fear however to be looked for.

A consideration of such therapeutic indications as I have hitherto given makes us realize that even at this early date medicine had made very substantial progress towards the position in which we now find it. Many of the curative recommendations form the basis of our present-day methods and are good for all time. In several respect however very many of the practices of that period, as indeed of later ones, were fraught with much superstition. Not a few of them were

decidedly disgusting. Of course the method of preparing drugs was necessarily crude in those early days, and it could only be as knowledge advanced that refinement would follow. The student of early therapeutics cannot fail to be struck with the repulsive nature of many of the substances employed. Ordure, urine, blood of various animals, human sweat, placenta, ear-wax, brain, moss grown on human skulls, human bile, renal and biliary calculi, and a host of other disgusting animal substances have been used from time immemorial. Brown-Sequard's recommendation for the invigoration of the aged would not have struck Pliny as at all out of the way. If we could but follow the reasoning of these ancient physicians in their prescribing of such substances it is just possible we might not think them so inappropriate as we are inclined to. "Boyle the great philosopher esteemed human urine so highly as a medicine that he declared that a full account of its virtues would fill a volume," and urine has been compared lately by Dr. Neale with beef-tea and Liebig's extract, — both the latter, it is contended, consisting mainly of excrementitious materials. What with the modern use of thyroids, thyroid extracts, nerve extracts,

brain extracts, spleen extracts, pepsines and other animal substances it is hard to say what we may yet come to! "Medical skill", says Sydenham, "is less shown in the preparation of remedies than in the appropriate selection of those which Nature elaborates single-handed, and supplies liberally". And indeed we may find by and bye that, while it is true ever more definite and analytic prescribing must give us more exact results to reason from and to go by, it is just possible that the physicians of other days got sometimes better effects by using vegetable and animal substances in the cruder form. There may be a danger of losing effects from over separation of constituents by an over-analytical chemistry. Natures laboratory is sometimes more effective than that of the Chemist, a fact which is well illustrated by the more active results got from natural mineral waters as compared with artificial. Organic compounds prepared by synthesis are not altogether identical with the natural compounds, and it is well known that salicine made synthetically does not yield results equal to those got from that derived direct from Nature. The latter evidently employs in her workings some secret process that we are not

as get familiar with.

After the death of Galen progress in therapeutics and medical matters generally was indeed slight for many a day to come. Superstition largely prevailed over true science. I note a few progressive steps. Oribasius (4th century) speaks much of the advantages of deep scarification in Amenorrhoea, Dyspnoea, Cephalalgia &c. When these diseases were due to congestive conditions the practice, in most cases, would probably be sound. It was carried out in the following manner. "Having passed a tight ligature under the harm, the leg, previously well rubbed, was immersed in warm water, and then beaten with reeds to make it swell, after which it was scarified."(1)

Aetius, in the sixth century, recommended the use of the actual or potential cautery in paralysis, directing that, in such cases, three eschars should be made on the neck, and three or four on the crown of the head, all of which were directed to be kept running.(2) I am reminded of a case of Dr Alexander Robertson's which I saw some time ago and which he has recently reported.(3) It is a case of paralysis of the insane which has been under his care for

(1) Hamiltons Hist. vol I p. 162 (2) Id. page 170
(3) Glasgow Medical Journal. Dec. 93. p. 414

for some time, and on whom he has tried treatment by issues with favourable results in several respects. Six issues were established over the motor area, and a short distance in front of it, by means of potassa fusa, and afterwards kept discharging by ung. infus. canthar.

The establishment of issues over the occiput and neck was also recommended by Celsus in cases of Epilepsy.

Rhubarb, which was originally introduced into practice by the Chinese, was in this century (eighth) used both in diseases of the liver and dysentery.

Climatic considerations also received attention in phthisical conditions at this time, and a change of air to more salubrious situations was commonly prescribed.

The chief determining cause of the eclipse of learning in Europe during these and succeeding centuries was the general wrecking of ancient empires by the barbarian. As a result the wave of civilization receded, libraries were burned, and mankind had, to a large extent, to make a new beginning very much from traditional lore. During those long and dreary centuries medicine, and learning generally, found an Asylum at the courts of the Caliphs, and the chief practitioners in medicine for several

centuries were the Arabians and the Egyptians. They possessed the works of the Greek writers which they translated from Syriac into Arabic. In Europe the practice of medicine was very much in the hand of the monks, and by them its development as a science was hardly to be looked for. Their chief reliance was centred on the praying to different saints against different diseases.

Among the most distinguished practitioners of the Arabian School of Medicine were Rhazes, Avicenna, and Avenzoar. The latter, who was a Spanish Arabian physician, died about the beginning of the thirteenth century. He it was who first wrote on obstruction of the oesophagus. His recommendations for overcoming the difficulty of nutrition in such cases were three-fold. (1) The introduction of food into the stomach by means of a silver or tin tube. (2) Immersion in a bath of milk, broth, or other nutritious liquid. (3) Enemata of broths &c.(1) Albucasis, another physician of this school removed both tonsils and uvula when they caused obstruction. Like Hippocrates he approved of paracentesis but only in ascites, and I find

(1) Hamilton's Hist. Vol I p. 262

"On first thoughts one is inclined to smile at a procedure which seems so futile, and yet it would appear as if there was something in it after all. Recent investigations (Hosp. Gaz., No. 27, 1893) go to prove that daylight has an influence on the course of small-pox, and that that influence resides in the ultra-violet rays, - the rays of strong chemical action. These rays can be excluded by red curtains." The correctness of this hypothesis was proved by Svendsen, of Bergen, who last summer treated four cases of unvaccinated patients by covering the windows with red woollen curtains. The patients escaped the suppurative stage; there was no rise of temperature, no oedema. The patients passed from the vesicular stage, which was slightly prolonged, into convalescence, and escaped scarring." Finsen

John of Gaddesden's contention is just the same.

find him giving minute instructions regarding its performance. The desirableness of removing only a portion of the fluid in the first instance and the remainder gradually was plainly recognized.(1)

From the Arabians Actuarius, a Greek physician, learned the value of manna and senna as purgatives, and introduced them into European practice. He also wrote on the great importance of the pulse and the urine in diagnosis and prognosis.

The first native English physician to be employed at Court was John of Gaddesden, - a fact which may be taken as pointing to the backward state of medicine in these Islands up to that time. John's cure for small-pox gives us an idea of the state of physic in England in the fourteenth century. Immediately on the appearance of the rash he gave orders to have the whole body of the patient wrapped in cloth of a scarlet colour, or any other red, and to make the whole surroundings of the bed of a similar hue. "In this manner," he says, "I treated the son of the noble King of England, when he had the small-pox, and I cured him without leaving any marks."(2) This same celebrated physician tells us he cured twenty

* dr Speed

(1) Hamiltons Hist. vol I p 285. (2) page 377

dropsical patients by the exhibition of spikenard. Evidently he attached the greatest value to this method of cure for he gravely adds that it is a remedy which should not be given without first receiving a fee. (Nec debet dari nisi accepto salario.) "Therefore he loved gold in special" is Chaucer's rather uncomplimentary concluding line when referring to the Doctor of Physic in his prologue to the Canterbury Tales. If the "Doctor" was John of Gaddesden as I think I have seen it stated some where he was, then apparently the description of his money-loving proclivities fits him only too well.

Theodoric Bishop of Cervia we find speaking thus early of inunction by mercurial ointments, and referring to the production of salivation and the danger from cold.

An interesting glimpse of the position of Surgery in the 14th century is obtained from the "System of Surgery" of Guy de Chauliac. At this period practitioners in the art were divided into five sects. "The first following the lead of Roger, Roland, and the four Masters applied cataplasms indiscriminately to every description of ulcer and wound: the second, with Brunus and Theodoric, in similar cases employed wine only; the third, with William of Salicetus and Lanfranc,

adopting a kind of middle course between these two, treated wounds with emollient ointments and plasters: while the fourth, forming the sect of Germans, who were mostly military surgeons, promiscuously employed oils, wool, potions, and charms: and a fifth, consisting of ignorant practitioners and silly women, had recourse to the saints upon all occasions, praised each others writings perpetually, and followed each other in one undeviating track like cranes."[1] From such crude beginnings as these has arisen the science and art of Surgery as we now know it.

About the year 1420 Abulcasis de Taranta, a native of Portugal recommended, (and it is believed he was the first to do so) arsenical preparations in the extirpation of cancer. The properties and composition of mineral waters received much attention at this time, and not a few physicians have handed down to us their observations regarding them.

The first regular surgeon to practise lithotomy was a Frenchman Germain Colot, who in 1460 became acquainted with the method usually pursued. Previously to this date the operation was entirely in the hands of itinerant

[1] Hist. of Medicine vol I p. 386.

practitioners. Ingratiating himself with one of these specialists, he learned the details of the operation, and after practising it on the dead subject, he persuaded the King, Louis XI, to give him a condemned criminal to operate upon, - the man to get his freedom if the operation should prove successful. It is interesting to know that the calculus was removed with the most complete success, and that the patient was fully convalescent in fifteen days. The man got freedom in more ways than one, and Colot procured a pension".

About the same period mercury, I find, was employed in Syphilis both by fumigation and inunction. A few years later Ambrose Paré led the way in recommending turning in transverse presentations. It was this same distinguished Surgeon, as is well known, who introduced the use of the ligature in arterial hæmorhage.

The mention of this improvement in practice recalls the fact that increase in knowledge or improvements in methods are not always welcomed at first, especially if they conflict with previous settled notions, and it has often taken practitioners long to part with the teaching by which they had been hitherto guided. "The dead hand

Hamiltons Hist. Vol I f 396.

hand of medical tradition" as Holmes, the genial "Autocrat" felt it, has not unfrequently held the practitioner in an iron grip. Paré found it so in his day, and he was persecuted with remorseless rancour by the Faculty of Physic, who ridiculed the idea of risking the life of man upon a thread, when boiling pitch had stood the test for centuries! In midwifery a further advance was made when Roussel, a contemporary of Paré recommended that Cæsarian section should, in certain cases, be resorted to even when the mother was alive. Diabetes was treated, it was claimed with advantage, by narcotics as early as 1580, a practice that was introduced by Horace Augenis a professor at that time in Rome. It was a very unusual thing in those sixteenth century days to find a compound fracture treated without amputation, but this was successfully done by the eminent English surgeon William Clowes, who also employed the trephine with good results in fracture of the skull.

The practice of midwifery must have received a wonderful impetus from the invention and introduction of the modern midwifery forceps. While the invention reflects credit on the genius of Englishmen, its history is not, from the secrecy with which the invention

was guarded, and that for profit such as to make us feel entirely proud of it. Introduced into practice by Dr Paul Chamberlain about 1647, the forceps in its construction and use remained for about ninety years the secret of the Chamberlain family. In the year 1732 it was for the first time delineated and described by Chapman, but not till after Dr Hugh Chamberlain had disposed of his secret for a sum of money to several practitioners in Holland. Up to 1663 male accoucheurs were not employed even by the rich except in urgent and dangerous cases. Soon after this date however their employment became much more general, - royalty leading the way. This revolution was substantially forwarded by the successes achieved by Julian Clement in France. He it was who first suggested early rupture of the membranes in profuse haemorrhage"[1]. Not many years afterwards Abraham Oyprian, a native of Amsterdam, made a further advance in midwifery practice when he successfully removed by operation an extra-uterine foetus from one of the fallopian tubes, twenty-one months after conception.

In the year 1666, before the Royal Society,

[1] Hamiltons Hist vol II p. 143

Dr. Lower recommended the practice of transfusion of the blood of one animal into another, and detailed some experiments which he had already initiated. John Denys of Montpellier put the idea into practice in the human subject in the following year, but it resulted so unsuccessfully that it was forbidden by statute. A few years after this Dr. John Archer introduced the use of the vapour bath in rheumatism, and we find an important advance made in surgical methods in 1678 when James Young of Plymouth suggested and put into practice the use of the tourniquet during amputations. The pad and twisted bandage was the method employed.

In a science such as ours it will ever be found necessary now and again for some leading mind to call a halt and bring back practitioners from devious wandering paths to hold converse with Nature and enquire into her ways as the "healer" of diseases. He who emphatically performed that function for the profession in the seventeenth century was the illustrious Sydenham. Having himself learnt the lesson of having regard to the intentions of Nature and of assisting her in her effort, as Hippocrates had taught so long ago, he sought above all to impress on others the fact that more

could be left to Nature than they were in the habit of leaving her. "To imagine that she always wants the aid of art is an error, and an unlearned error too," he writes, while he insists that the end would oftener be attained "if Nature were not diverted by ignorant men from the straight-way that, of herself, she holdeth."(1) "The sick man dies of his physician" was a favourite phrase of his. Speaking of pestilential fevers and of the risk of setting up, on insufficient grounds, some different method of cure he says the indications of treatment "follow one of two general lines. Either we must accurately follow the way taken by Nature in the annihilation of the disease, and be content with lending subsidiary aids, or we must substitute for it a method of our own from our own resources, safer than that of Nature's and different from it, putting no faith in the former mode of warfare against our intestine enemy."(2) His remarks on meddlesomeness in the treatment of small-pox, especially in the young, are also very pointed, and very emphatic. "Nature, left to herself, does her own work at her own rate, both secreting and

(1) Sydenham's Works (ed. 1848) vol I p. 30. Sect 2.
(2) Id. Williams Works vol I p. 106 Sect 19.

expelling the morbific matter in due course and time; acting best when she acts on her own resources; being best supplied when she relies on her own ways and means; best instructed when she trusts to her own mother-wit; wholly independent of all our arts, all our aids, and all our contrivances." (1)

One form of meddlesomeness however must be laid to his own charge viz his practice of insisting on patients rising for a considerable time each day. In pleurisy, scarlet fever, small-pox &c &c it would seem to us as if the patients were forbidden the rest necessary to recovery. This moving about he believed to be specially helpful in the suppression of urine in small-pox. "I have had recourse" he tells us, "to the whole tribe of diuretics in vain. Nothing has answered so well as to take the patient from his bed, to support him on the arms of the bystanders, and to walk him two or three times round the chamber. Do this and he will speedily pass his water abundantly, and be much relieved by doing so." (2) That it is indeed difficult to medicate in the recumbent position, ~~and that less urine is passed~~ most

(1) Sydenham's Works vol I p 135 Sect. 35
(2) " " " p 149 Sect 64

most people I am sure have personally realized, and doubtless any position or movements favouring pressure on and irritation of the neck of the bladder would tend to facilitate the act.

That effective treatment could only be carried out after close observation of the natural history of the disease was very evident to him. "That practice" he says, "and that alone, will do good which elicits the indications of treatment out of the phenomena of the disease itself". And so we find that he did not believe it was new remedies that were wanted but more exact knowledge as to the particular indications that want satisfying. With him, in infectious diseases for instance, the great question was, how does the febrile poison enter the system, and how is it to be ejected; is it to be by bleeding by sweating, by purging, by abscesses, by emesis or any other of Natures methods? Evacuation was the foundation of treatment, and perhaps in this respect his practice was better defined than ours is at the present day. Realizing as he did that therapeutics constitute the ultimate aim of the whole practice of medicine

medicine, he was fully impressed with the great practical importance of any improvement in the art of healing. He says (1) "I have ever held that any accession whatever to the art of healing, even though it went no further than the cutting of corns, or the curing of toothaches, was of far higher value than all the knowledge of fine points, and all the pomp of subtle speculations; matters which are as useful to physicians in driving away diseases, as music is to masons in laying bricks." (1) In these days of abounding quacks and patent medicines it is refreshing to come across such a paragraph as the following on the dishonour attaching to the concealment of the constituents of so called remedies. "In sober sooth, I consider that any man, if such there be amongst mortals, who, either by any pure line of treatment, or by the application of any specific remedy, can not only control the course of these intermittents, but cut it short altogether, is bound by every possible bond to reveal to the world in general so great a blessing to his race. If he withhold it, I pronounce him at once a bad citizen and an unwise man; since no good citizen monopolizes for himself

(1) Sydenham's Works Vol I p. 119

himself a general benefit for his kind; and no wise man divests himself of the blessing that he may reasonably expect from his Maker, when he girds his loins for the welfare of the world. Honours and riches are less in the eyes of good men than virtue and wisdom." (1)

Having seen the principles which underlay Sydenham's treatment, it is worth while glancing, if somewhat hastily, at a few of his therapeutic indications as being illustrative of the most scientific method of his day. Bleeding was of course in high repute as it continued to be for many a year afterwards. His usual practice in the ordinary run of cases was to bleed the patient four times and on alternate days. In Erysipelas besides bleeding he purged, and on the alternate days gave milk emulsions, and cooling medicines. As an external application Venice treacle was used together with other things with which it was compounded. This treacle, which was made up of sixty-five different ingredients, had in it several gums which ~~may~~ would have been effective in excluding the air in conformity with

(1) Sydenham's Works vol I p. 82. Sect 25.

with our modern ideas. In Quinsy he bled, purged, employed gargles and kept the patient on low diet. Apoplexy was treated by bleeding from the arm ~~and~~ and jugular veins, giving an emetic, applying a blister to the nape of the neck, using smelling salts, giving a julep, and "when the fit was over", an opiate. Resurrection he practised in pertussis and infantile convulsions, and with regard to the same practice in pleurisy it was his belief that he thus got the morbific matter much better away than by trusting to expectoration - "an opening in the arm does the work of a windpipe." (1) Externally he employed a liniment ~~of~~ composed of marsh-mallow and an oil of lilies which was rubbed in night and morning and a cabbage leaf laid over the part. In chest diseases generally tinctures, pectoral decoctions, and oil of sweet almonds were had recourse to. The latter may possibly be looked upon as the precursor of cod liver oil, and we find him recognizing, as we do with regard to cod liver oil, that from its heating properties, it should not be prescribed in feverish conditions. 2) In tubercular peritonitis he recognized the value of a liniment composed of several oils and fresh butter and applied with friction to the belly.

2) Sydenham's Works vol I page 63 sect 47
(1) " " " " 250 " 12

Almond oil he prescribed frequently to assist in the propulsion of stone along the ureters, a practice that may be compared with the modern one of giving draughts of olive oil for the relief of colic from the passage of gallstones. The medicines recommended in diabetic conditions partook very much of the poly-pharmacy type. Two of the compound viz Diascordium and Venice treacle agreed in this that they both contain opium, and to this constituent I suppose we may trace any good results that may have accrued from their use.

"Luck has ennobled many a worthless medicine"(1) Sydenham declare but as to the value of opium he had no doubt, and it is thus he extols it. "And here I cannot but break out in praise of the great God, the Giver of all good things, who hath granted to the human race, as a comfort in their afflictions no medicine of the value of opium, either in regard to the number of diseases it can control, or its efficiency in extirpating them..... So necessary an instrument is opium in the hands of a skilful man that medicine would be a cripple without it; and whoever understands it well will do more with it alone

(1) Sydenham's Works vol I page 58. Last line of note

than he could well hope to do from any single medicine".[1] Such an opinion I imagine may very well be endorsed even at the present day. Sydenham was however quite alive to the fact that in certain conditions its use had to be carefully guarded,—as when he says he has noted that in fevers it does "violence to the processes by which the morbed matter is separated."[2] And so also with regard to its influence in diminishing expectoration of which fact he was also aware. His use of opium in diarrhoea and allied diseases was quite in accord with modern practice. He cleared out the bowel with a mild laxative such as rhubarb, and then sought to bind up with Laudanum. In addition in dysenteric cases he drenched the patient with whey both by mouth and rectum, thus attempting to cure by an imitation in some sort of that evacuation by which Nature was wont to expel the poisonous matters of the disease. His treatment of Cholera proceeded on very similar lines, and it is questionable if our management of this disease is any further advanced than he left it.

[1] Sydenham's Works vol I p 173. Sect 14
[2] Sydenham's Works " I p 61 " 43

Syden early he recommended the washing out of the stomach and intestines with copious but very dilute draughts of chicken broth, copious clysters of the same also to be persevered with. After three or four hours he then endeavoured to bind with laudanum." (1) In the use of alcoholic ~~spirits~~ stimulants he placed little reliance, and what he did prescribe was as a rule of the mildest type, such as small beer and canary wine.

A curious belief of Sydenhams was the great value of animal heat in depressed conditions. Its application must have been decidedly inconvenient not unfrequently, for his recommendation was that boys or girls, according to the sex of the patient, were to be sent to bed naked with the sick person, and caused to lie up against him or her, back and front. His belief was that by such applications, a "notable supply of fresh effluvia from a sound and athletic body may be transfused into a sick and exhausted one;" and that they were more congenial to the human frame, and much more useful than hot flannels, being "bland, humid, equal and permanent." (2) His

(1) Sydenhams works vol I p. 164 sect 3.
(2) Sydenham vol I page 60. sect 40

His treatment of hysterical diseases was similar to that of other practitioners of his time, being pretty much confined to burning in the sick room hides, feathers, hartshorn, urine &c, - "hysterical medicines which are of strong and foetid odour, and which will remand back to their proper places the exorbitant and wandering spirits." Such it was supposed was the mode of action of all medicines of this unpleasant class.

By the beginning of the following century the necessity for greater simplicity in prescribing began to be more distinctly recognized, and in the year 1709 I find Boerhaave emphatically protesting against the enormously complex formula still in vogue. Probably the belief in multiple prescribing is largely to be attributed to an idea, then entertained pretty generally, that the activity of a medicine always increases in a duplicate ratio when compounded with others. In the year 1714 the treatment of Aneurism by simple ligature of the artery was introduced into practice by ~~Guillemeau and~~ Arnel." Dr Hancocke about 1722 brought prominently before the profession anew the use and value of "the great refrigerg", cold water externally and internally; a

"Hamiltons Hist. vol II p. 230

practice which we find was largely resorted to at this time both in Spain and Italy.

The introduction recently into therapeutics of the vibratory armchair by M. Charcot for the treatment of paralysis agitans has led to some one pointing out in a periodical that Charcot's invention was clearly anticipated in 1734 by the tremoussoir of a certain Abbé de St. Pierre which had great vogue and by which he claimed to cure many human infirmities. The Abbé in turn confesses that he got the idea from a Dr. Cheyne who was in the habit of saying that for many diseases generally attributed to biliousness, obstruction of the liver &c., the best cure was a few days drive in a post chaise over paved streets. Such a method of treatment one would suppose to find its most perfect modern counterpart in our frequent railway journeyings.

In the London Gazette of March 25th 1740 there appear particulars of a cure for stone in the bladder which attracted much attention at the time. It is the prescription of a Mrs Joanna Stephens, - a prescription for which she "received five thousand pounds reward on her medicine having been tried and approved." This medicine,

which has since gone the way of many less fortunate ones, was composed chiefly of egg-shells and snails mixed with various herbs, soap and honey. This compound was divided into powders decoction and pills,- all to be taken at different hours day and night. A somewhat similar case is reported from Russia. For the secret of the balsamic plaster of Schauffan the Russian Court, equally intelligently, paid the sum of thirty thousand dollars. This rubbish had the reputation of curing rheumatism, palsy, deafness, and loss of vision. It also had its day and ceased to be. Such instances may well deter Courts and Governments in the future, from interfering in such matters, however strenuously they may be advized to do so by well-meaning, but illogical advizers.

I have in my possession a copy of the third edition of a popular medical book published in 1731 entitled "The Poor Mans Physician, or the Receits of the famous John Moncrief of Tippermalloch." Sir John, who was an eminent physician in his day died in 1710. Who the editor of this third edition was does not appear,

but that he was a thorough believer in the efficacy of the recipes is very apparent, and in concluding his preface he adds his "hearty prayers, that the great Preserver of the Bodies and Souls of Men, may bless them with success to all those who may have occasion to use them." A point that strikes one very forcibly in looking over such a book as this is the multitude of remedies that are indicated for all diseases dealt with. The more obscure the disease and the more difficult of cure, the more numerous and the more varied of course were the cures suggested. Fifteen, twenty or more different and independent suggestions for the treatment of a single disease are quite common, and when one considers the multitudes of remedies that were had recourse to, drawn as in earlier days, particularly from the animal and vegetable kingdoms, and many of them of the most disagreeable nature, he feels how much reason he has to rejoice in the advances made in pharmacy within the present century. Such substances as the following were still recommended - bile, urine and ordure of all sorts of animals, putrified serpents, menstrual fluid, dried placenta, snails, foxes brains, the ashes of bones human and others,

dried toads &c. &c. The blood of hares, goats, bats bulls, geese, lambs, black-sheep, doves, chickens &c., each and all had their several and specific spheres of action. For one purpose or other human milk, cows milk, mares milk, sheeps milk, goats milk dogs milk, sows milk - all were used under the most diverse circumstances. The value of milk in Phthisis I find thus gravely extolled. "Milk doth hit all intentions for cure. It cleanseth with its serous part, it conglutinateth with its coagulating part, and nourisheth and refresheth with its nutritious part."(1) Milk from a black or red cow was specially recommended in diarrhoea, and it was somewhat elaborately fitted for its purpose by being boiled nine times, a little spring water being added after each boiling.

Precious stones continued to be recognized, as in many other countries, as sovereign remedies in innumerable diseases. A jasper hung about the neck or applied to the liver was resorted to in spitting of blood. An emerald, held in the mouth, was employed in dysentery, and

(1) The Poor Mans Physician (1731) page 22.

and "a green jasper," we are told, "or a piece of ivory borne about the pit of the stomach stayeth vomiting". A sapphire held before a boil was credited with arresting it, and a ~~sapphire~~, or jacynth or jasper, or diamond worn or carried was considered effectual in restoring a lost appetite. To combat the plague even a larger variety might be resorted to— a carbuncle, ruby agate, garnet, jacynth or sapphire.

What it is desirable however to gather from such a volume as this is not so much curiosities of practice, as ~~the~~ an indication ~~raising~~ of the relationship which exists between the popular practice of say 160 years ago and that of the present, and to what extent the methods of those former days may be considered the proto-types of those in vogue now. Take for example the different ways resorted to for the application of heat for the relief of conditions in which we still employ it. A substitute for a bath in convulsions was the following.— "Put the part affected into an ox or sheeps belly or other great creature's belly newly killed and let it remain there till warm." For headache we have this recommendation — "Sheeps lungs applied

hot do much assuage the pain of the head in a continued fever." A live ducks belly applied to the painfull part was had recourse to in colic. In sciatica a hot jigot of mutton was said to be a most effectual application. Hare's blood applied hot to gouty feet was extolled as a remedy that "perfectly cureth the gout", and hot bread from the oven, dipt in fresh butter, vinegar, or spices constituted a common form of poultice in painful conditions such as pleurisy.

Again take haemorhages in their several varieties. The fore-runner of tannic and gallic acids may be found in the use made of the distilled water of oak-tree leaves in haemptysis; or in haemorhage from the bowels water in which the inner rind of an oak sapling had been macerated and boiled. In the advice given to "rub and bind the extreme parts" for the arrest of epistaxis it is probable we have the same treatment recommended that is still resorted to in severe haemorhage viz ligature of the limbs. Recently I have seen an old woman applying a piece of fine cord round the little finger of a patient in order to stay epistaxis. May we not find in this a very literal following of the above

instruction to bind the extreme parts, but without knowing its origin or the reason why? A very radical remedy for the pain condition, yet one quite in keeping with modern principles, was to "apply cloths wet with vinegar and water to the whole body till the patient trembles." A method of coagulating the blood locally which makes us think of the modern use of horse hair in the treatment of aneurism, was the putting into the nostril of hares hair mixed with white of egg or vinegar. In hemorrhoids a somewhat similar application was resorted to viz "a cataplasm made of the hairs of a hare burnt and spider's webs mixed with the white of an egg". To assuage the pain and reduce the swelling, cold water and even a cold bath was recommended, though one is inclined to doubt if the principle was understood when he finds that in winter a warm bath was to be used. In menorrhagia astringent injections, such as the juice of strawberries and their leaves, or of plantain was had recourse to, and this application was reinforced by the use of "pessaries of the leaves of purslain, plantain or knot-grass or some other convenient herb, bruised and rolled in a piece of fine linen put up in the womb." ~~The helpful effects~~

The helpful effects of vinegar were sought to be obtained by fumigation - "a fume made with vinegar poured upon a red hot plate, and received sitting over a close stool, is said to be very profitable". In the same condition, and in order to produce derivative or revulsive effects it was advised to "fasten a very large cupping glass to her dugs, & to take it off quickly off again." Amenorrhea was sought to be relieved by the introduction into the vagina of various herbs such as garlic, which, if helpful at all, would probably be by acting as irritants, and so determining an increased flow of blood to the parts.

In leucorrhea I find the use of chalybeated milk recommended, while for "pain in the womb", a soothing injection advized was lefid milk.

Uterine prolapse was treated by reduction followed by injections of the decoction of galls, or in bad cases by the use of pessaries "made of cork smeared over with wax, or made of wax alone, round or long." A method of reduction spoken of was decidedly primitive. It was to "affright the patient with a red-hot iron in your hand, threatening to burn the part".

The chief value of a plaster made of clay and vinegar to be applied to the breast in galactorrhea

would probably be found in the support afforded.

Another application which was said to "suffer them not to grow great" was made up of honey, wax, and doves dung, and this also whatever else it might do would at least afford the necessary support.

This supporting method of treatment was practised also in parotides in which a plaster composed of glue, resin, and wax in equal proportions was recommended.

Fissured nipples were dressed with an ointment composed of the inner bark of the elder tree, grease and wax, — a composition that may have acted as a good substitute for tannic acid and spermaceti, being on the same lines.

The remedy that was most highly esteemed in the treatment of suppurating ears was the juice of the leaves of the willow, — a substance which in all probability was, though unrecognized, effective from its antiseptic powers. Modern antiseptics in chest diseases were fore-stalled by the giving of tar in pneumonia, pitch made up with honey in "short-windedness", resin turpentine in empyema, and turpentine in various other lung affections.

If we turn to the treatment of constipation

we find the value of fruit was distinctly recognized. Both prunes and apples were in great repute, and they were ordered, in such cases, to be taken an hour before dinner. For combining the laxative qualities of chicken broth and apples it was recommended to boil them together. With regard to dysentery we see a seeking after astringents in the use made of "iron water", "steeled milk", the juice of ground ivy &c, while the value of both oil and rhubarb was duly appreciated. The use of protective substances we may also find recognized in the recommendation to "roast a young pigeon stuffed with wax and give it to the patient to dinner". For the relief of pain and tenesmus an emollient application in the form of a suppository of goats suet was prescribed.

When a pin was swallowed the patient was instructed to sup fat broths and eat much butter. Might we not in similar conditions follow the same lines with advantage, and secure a helpful lubricating effect by giving considerable quantities of olive oil?

"If it (iliac passion) come of the circumvolution of the intestines which is either from

wind or a hernia, the last remedy is to apply a smiths bellows to the anus and blow in the belly". The idea is as old as Hippocrates and like treatment has been not unfrequently tried in our own days, though carried out in a more refined way. In similar conditions quicksilver swallowed in water to the amount of a pound weight was had recourse to for its mechanical effect.

Eye diseases as was to be expected, claimed a host of remedies. In inflammatory conditions alum was made use of in the following way. "Take the white of an egg, beat it in a pewter dish with a piece of alum until it come to the consistency of an ointment, which you must spread upon a linen cloth and apply it warm to the eyes. Let it remain but two or three hours at the most."

In eye-diseases from small-pox a soothing application was found in pigeons blood, which was to be dropt in frequently. "If clouds appear in them they must be scoured off with sugar-candy finely powdered". Probably the cure in such a case would not be due to "scouring" but to the rough powder setting up sufficient inflammation to promote or facilitate absorption. In similar condition an astringent

was also found in the gall of partridges, hens, and wild goats, while we find a salt of copper used and procured by boiling urine in a copper vessel. "A drop of the patients urine powerfully drieth up tears," it is noted. Personally I have seen this application employed, and it is probable that in some parts of the country this primitive wash is still employed for this purpose.

Just as a salt of copper was procured by the action of urine on a copper vessel, so we find a mild lead ointment was prepared by rubbing up oil in a leaden mortar with a pestle of the same metal.

The stimulating method of treating alopecia was effected by rubbing the head over with onions, or by using the burnt ashes of goats hoofs rubbed up with pitch. Pitch, when combined with sulphur, was also used as an external application in pleurisy. In rheumatism a substitute for the blister or other counter-irritant was found in the vigorous application of nettles.

Ashes of burnt egg-shell were had recourse to for absorbent purpose. In ulceration of the nostrils a primitive method of employing charcoal was to sniff up the smoke from wax candles which was said to "powerfully dry up the ulcers." Before

the days of castor oil a substitute was found in almond oil, six ounces of which was prescribed in colicky conditions. A local application in erysipelas was the use of raw eggs, and on the principle of excluding the air it would probably constitute an effective dressing. Eggs were also employed in the treatment ~~of~~ burns and they would probably be helpful on the same principle. The statement regarding their use is that "the yoke of a raw egg anointed on new burnings healeth them absolutely." Blood was also recommended in similar circumstances and on the principle of protection we can ~~at~~ imagine it to be effective though gruesome. For the purpose of "drying up" burns the ashes of burnt bark were sprinkled on the raw moist surface.

The earliest mention I find of milk as a dressing for burns and scalds is in the first edition of the Encyclopedia Britannica published under date 1771. The drawback to such an application is of course its tendency to sour. Being convinced however both of its convenience and cleanliness as a dressing I have employed glycerine as a preservative, using it in the proportion of one of glycerine to six of milk. In any practical

experience I have had of the value of this combination during the past year I have been much pleased with it. It constitutes a much more agreeable dressing, both for doctor and patient, than does common oil; the softening tendency of the latter application is largely avoided; it is usually available; it is cheaper, and it gives better results as regards rapidity of cure. My method is to soak a piece of thin rag in the mixture, apply it closely to the part, and cover it up with a dry rag, using neither cotton wool nor gutta-percha tissue. Except for the cutting away from time to time of parts of the rag next the wound as the healing process is seen to be completed, this immediate dressing is left untouched till, by its looseness and dryness it is ready to fall off and the wound is entirely healed. If the patient complains of uncomfortableness, the top covering is removed and the immediate dressing moistened with the mixture in situ. This may be done by those in charge three or four times in the 24 hours - a fresh preparation being made up for this purpose each day.

From this edition of the Encyclopaedia

Britannica – articles Medicine and Surgery – I glean a few items of interest. The use of oily substances in the treatment of biliary colic dates back to at least this period, oil of sweet almonds and spermaceti having been administered internally to appease the spasm.[1] The process of replacing a sound tooth after extraction was practised at this time more particularly by the French, who in this direction went even further for "When the tooth is rotten, or otherwise unfit to be replaced, they put another sound human tooth in its room when it can be had; otherwise one of any other animal that is of a size suitable for the purpose."[2] The treatment of dropsy, in the manner so long ago practised by Celsus, viz by pertinacious abstention from all fluids, was strongly insisted on, the patient being made to live on sea-biscuit with a little salt and a very little rich wine.[3]

Inhalation of steam had by this time, in vitiated conditions of sputum, found its way into practice, the steam being conveyed to the mouth through a glass or tin tube. In menorrhagia and some other haemorrhage venesection was recommended, the

(1) Encyclopaedia Britannica 1st Edit. vol. III p. 122. (2) p. 121. (3) p. 110

the idea being that they produced a revulsion by diverting the blood. If however good was thus effected it was probably brought about by reducing the force of the heart, - a method of treatment which is still sometimes pursued in severe hamorrhage into vital parts, as in cerebral apoplexy and suffocative haemoptysis. Not only was almond oil prescribed in phthisis at this period but fat in other forms were also had recourse to, such as fat broths and raw linseed oil. The value of the iodides in the treatment of scrophulous conditions we may find fore-shadowed in the following quotation. "It has lately been asserted by men of great skill and veracity, that sea water is more powerful than any other remedy hitherto known, both for scrophulous ulcers and scrophulous tumours."(1)

Where difficulty was experienced in returning a protruded bowel into the abdomen the advantage of pricking it to let off the flatus was recognized(2). So also in retention of urine puncture of the bladder was resorted to at a point two inches above the os pubis - a cannula to be kept in and corked till the urine

(1) Encyclopedia Britannica (1771) vol III p. 647. (2) p. 651

urine was got to come by the urethra."(1) In filling the bladder previously to operating for stone, an ox's ureter (the ~~tube~~ prototype of india-rubber tubing) was used to connect the syringe and the catheter, as from its pliability "it would prevent any painful motion of the instrument in the bladder."(2) Varicose veins when painful, ~~when~~ were sometimes treated by tying both above and below the dilatation, and the material used for ligaturing vessels was from four to eight flaxen threads, such as shoemakers' use, twisted together and waxed.

The origin of drainage tubes I find thus explained. Where the opening of an abscess was smaller than desired, it was "enlarged by means of a sponge tent. This tent it was of course soon found imprisoned the pus only too effectually. To preserve then a medium in these cases a hollow tent of lead or silver may be kept in the orifice, which, at the same time that it keeps it open, gives vent to the matter."(3) Short silver Cannulæ were also at this time used in empyema.

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(1) Encyclopædia Britannica (1771) vol III p 658. (2) p. 659
(3) " " p 648

It is not my intention to pursue my subject further or to endeavour to trace the great developments of the last hundred years. As in past centuries, so in this one, the evolution of therapeutics still goes on and will go on, ever changing, yet ever progressive. We shall always have much to learn, and not a little to unlearn.

One thing that we are fortunately realizing in a greater degree than our Fathers did is, only to expect a certain effect from its appropriate cause, and in our realization of this fact comes the hope that our progress in the future will be still more satisfactory and stable than it has been in the past. Proving a particular line of treatment to be good by the attainment of satisfactory results, even in a considerable number of cases, cannot be considered as the most desirable method. We should have some better, some more scientific reason for our prescribing. Had the profession such as a whole we would not find ourselves deluged and distracted by the hosts of new remedies that are constantly being introduced, heralded with the greatest promises, and trumpeted with the highest recommendations, the bulk of them only

to be ere long given up and consigned to a deserved oblivion. Time has done much in the past for us; it will do much more in the future. Meanwhile the rank and file must go on, each man proving medicines for himself, showing ourselves neither excessively sceptical, nor yet over-credulous, endeavouring in each case or series of cases, to determine whether we have, on the one hand, produced unsatisfactory results by our prescriptions, or whether any improvement that may ensue is due to the drug, or is independent of the drug, or in spite of the drug. If we keep this before us we will be increasingly careful to avoid firing in a haze indefinitely. We shall in our prescription aim more and more at simplicity with a definite object in view, and as the definiteness of our aim increases, as our practice becomes more exact, - less conjectural and uncertain than it has been, reactions in methods of treatment we may hope will correspondingly decrease, and fashion in therapeutics become very much a thing of the past. As yet it is the Quack alone who has no uncertainties. He can assert boldly and unblushingly where wiser men

would be sensible of their own limitations and that of their art, and be in consequence more guarded in their promises and assertions. The time may come though it has not yet arrived, unless in a very few cases, when (within limits) our treatment of disease shall have reached such a definiteness that under similar conditions substantially the same prescription would be given by different physicians.

The more we know of diseases, and all that bears upon them, the more exact and the more effective shall be our treatment of them, - a point that is well illustrated by the fact that as a result of our better knowledge of the natural history of acute diseases over those of a chronic type, our treatment of them is more definite, less meddlesome, and altogether more satisfactory. The advance in our knowledge of disease processes as a whole has been enormous during the present century. Close clinical observation, accurate physiological knowledge, pathological investigations, and researches in the new field of bacteriology, have all combined to produce this increased enlightenment. Formerly the symptoms constituted almost entirely the physician's guide to treatment.

How he is guided, not only by them, but by his more exact knowledge of the causes and effects of disease. As a consequence our treatment in many ways has undergone, more particularly within the last half-century, very great modifications. Our methods are, for one thing, less heroic and less meddlesome. Bleeding both local and general has been almost abolished; starvation methods have given place to judicious feeding; mercurialization has been brought within bounds; emetics have ceased to be given in acute diseases; the effect of antimony has been limited; and the excessive use of alcohol as a medicine has become, as a rule, a thing of the past. We are learning once again to place more reliance on the "vis medicatrix naturæ". We attend more to the placing of the patient under the most favourable circumstances and conditions for promoting recovery; we endeavour to give physiological rest, and otherwise assist the organs, as best we may, in the performance of their functions.

With our more exact knowledge of the causes of disease, its course and effects upon the economy, we receive however a warning now and again that

we have yet much to learn regarding the more subtle constituents of our systems. An interesting note in this connection, and a very suggestive one, is struck by Dr. Lauder Brunton, when he points out how that at different times, and in different conditions, medicines administered may meet with substances in the tissues or fluids of the body which may either emphasize their action or render them inert. For just as vegetable life brews its alkaloid as it is found does animal life, and as science, in its exactness, reveals in the future the characteristics of these bodies so, in all probability, will their presence have to be counted upon in all intelligent prescribing.

Notwithstanding the limitations put upon us by considerations such as the above, there can be no doubt as to the strides made by therapeutics within recent years, or of the fact that the therapeutics of today is more full of promise than ever before. "Arms of precision" in the shape of drugs have been placed in our hand through the research of the Chemist, and their active principles have been isolated. "It is not a hundred years" says Brunton, "since the first alkaloid, morphine, was discovered, but since that time

patient research has revealed the active principle of nearly all known medicinal plants". And not only is our knowledge of the active agencies in drugs thus enlarged, and our prescribing become more precise in consequence, but we have reached the stage when in many instances we can judge of their mode of action from a knowledge of their chemical composition. Such a remark applies especially to such drugs as Chloral, and to many of our antipyretics.

Much, one can see, is to be expected in the future from such considerations, and we may well conclude that we shall find ourselves, as years roll on, more and more capable of attacking both the cause of disease and its symptoms, with ever increasing directness and definiteness.

Our indebtedness to Chemistry is borne home to us in many ways, but in none more than when we think of what we owe to the introduction of anaesthetics and antiseptics within the last fifty years. Operations, the most painful and the most delicate, can now be performed with their aid which formerly could never have been dreamt of, and a deliberateness and carefulness is possible which could never have been

reached without them. Well may we rejoice as a Profession in the results already attained in our co-operation with Nature in the cure of disease and the alleviation of the sufferings of humanity, and anticipate with hope and pleasure the possibilities which lie before us in the future.