bullae. The first varied in size from mere points to ecchymoses the size of the palm, and, for the most part, round. The greater number of the small ones constituted apparently the second stage of the papular eruption; and on the back, where the latter were most abundant, the transition from papules to purpurous spots was observed, that is to say, papules whose elevation was subsiding, and whose redness only partially disappeared on pressure. Most, if not all of the large ecchymoses, occupied the seats of previous bullae, which varied in size from a splitpea to a goose's egg, and which, when at their height, were fully distended with clear serum. The black purpuric patches covered by the flaccid envelopes of the bullae after the serum had escaped, looked very like patches of skin which had mortified. The bullae were most abundant on the legs and buttocks; and the cutaneous manifestations had no special tendency, such as is often observed, to implicate the skin around the joints. The acetate of potash was continued, and purgative doses of castor-oil and turpentine recommended, along with light, nourishing fluid food. This patient made a good recovery.

There is considerable doubt as to the nature of this interesting affection. The fact that each outbreak is apt to be preceded by joint-affection has led to the belief that it is a manifestation of the rheumatic diathesis; hence the names by which it is known; although it might be argued that the painful affection of the joints in purpura rheumatica is similar to the aches and pains often experienced at the onset of some of the specific fevers. There can be no doubt, however, that, just as in the case of rheumatism, the disease is apt to be associated with derangement of the digestive organs, and with nervous debility.

In our treatment of it, therefore, we must pay great attention to the general health, and especially to the state of the digestive organs, rectifying, by means of careful dieting and medicine, any derangement which may be present. When this has been done, and the affection persists, we may try a course of turpentine, in doses of ten to thirty minims on sugar three times a day, or of liquid extract of ergot (in doses of half a drachm every four hours), on the principle of contracting the small blood-vessels of the skin. In very chronic cases, arsenic may be administered, either internally or by subcutaneous injection. From this, it will be seen that we do not agree with Hebra, who wrote: "We have no means either of shortening its course, or of preventing the possibility of its ending in death.... And, since the pains experienced demand some treatment, even before a diagnosis can be made, there is no doubt that, in every case, something will be prescribed by the physician, and as little that the subsidence of the pains which follow will be regarded as the effect of the prescription."*

* On Diseases of the Skin, by Ferdinand Hebra, M.D., *Sydenham Society's Transactions*, 1868, vol. II, p. 423.

LONDON EDILES.—On Wednesday, May 23rd, Dr. Norman Chevers delivered an address at 9, Conduit Street, on the objects of the Sanitary Assurance Association, which he entitled the "London Ediles." Mr. George Aitchison, A.R.A., occupied the chair. Dr. Chevers compared the sanitary condition of ancient Rome and modern London, and referred to his experience in Calcutta; and he urged that the sanitary condition of London was such, that no householder should be satisfied without the assurance of some competent authority that his dwelling, whether a palace or a cottage, was free from drain-contaminations. He expressed an opinion that consumption was hereditary, principally because successive generations neglected to remedy the sanitary defects from which their forefathers suffered. The lecturer was most impressive in his delivery, and illustrated his discourse by interesting diagrams. A discussion followed, in which Sir Joseph Fayrer, F.R.S., Mr. H. Rutherford, Mr. Cave Thomas, F.R.S., Mr. Mark H. Judge, and others took part; and a desire was unanimously expressed in favour of the lecture being redelivered to a popular audience at Exeter Hall, or other capacious building. A hearty vote of thanks was accorded to Dr. Chevers.

SANITARY INSTITUTE OF GREAT BRITAIN.—At the annual general meeting, held at 9, Conduit Street, on Monday, May 7th, Professor de Chaumont, M.D., F.R.S., in the chair, a report was presented by the Council on the progress of the Institute, and on the work achieved at the congress and exhibition held at Newcastle in the autumn of 1882. The chairman gave an address, and the officers for the ensuing year were elected, the President being His Grace the Duke of Northumberland, P.C., and the trustees, Sir John Lubbock, Bart., D.C.L., F.R.S., Thomas Salt, M.P., and Dr. B. W. Richardson, F.R.S.

AN ADDRESS

ON THE

ORIGIN AND DEVELOPMENT OF THE SCIENCE OF HYGIENE:

BEING THE INAUGURAL LECTURE AT THE FARKES MUSEUM.*

By F. S. B. FRANÇOIS DE CHAUMONT, M.D., F.R.S.,

Professor of Hygiene in the Army Medical School, Netley.

To trace the history of the search of the human race after health would be almost tantamount to writing the history of the race itself. An inquiry into early wanderings and gropings after health would be doubtfully useful, even if it were likely to be interesting; for it would bear to the hygiene of the present day something of the same relation that the visions of the astrologer bear to the astronomy of Newton. A careful examination of the position which hygiene now holds will, I think, justify us in alleging that it has made such advances as may fairly entitle it to take its place among the progressive, if not absolutely exact sciences. Its literature has been said with truth to be amongst the oldest in the world. It has been proposed to place upon these walls the names of the illustrious dead who were pioneers and founders of our science. We cannot doubt that, in order of chronology, the first name to be honoured is that of Moses, as the author of the most complete and detailed system of hygiene in ancient times. We may be pretty well sure that the code of Moses was the outcome of the wisdom and experience of long past ages. Be that as it may, however, we cannot but admire the excellent precepts laid down for the cleansing and purifying of house and camp, for the security of pure water, for choice of good and wholesome food, for the isolation of the sick and the unclean, and for the destruction of refuse. It would not be too much to say, that a fairly strict adherence to the Mosaic law would have preserved mankind from many of the disastrous plagues which have afflicted it. During the Middle Ages, the Jews enjoyed a remarkable immunity from outbreaks of epidemic disease—an immunity which still distinguishes them in our own time. So little, however, was the real cause of their healthiness appreciated by our predecessors in the bad mediæval times, that it was held an irrefragable proof of their demoniac machinations.

As might be expected, it is to the Father of Medicine, the great Hippocrates, that we owe the most of what we have left of Greek hygienic literature, although we must admit that even in Homer there are traces of hygienic knowledge, and that there the disinfecting powers of cleansing fires of sulphur are fully recognised. Another name that deserves remembrance is that of Xenophon, whose triumphant retreat was not less a hygienic than a military triumph. Nor ought we to omit the name of Herodotus, the first to introduce gymnastics on scientific principles, not only as a curative, but also as a preventive measure. The myth which makes Health, or Hygieia, the daughter of Asklepios (whom we call Æsculapius), no doubt arose from an instinctive perception of the value of medical science in preserving health. The famous line of Homer, which is thus rendered by Pope,

"A wise physician, skilled our wounds to heal,
Is more than armies to the common weal,"

shows the estimation in which the military surgeons of those days were held. Would that modern commanders had an equally just and appreciative estimation of the services of the best-abused but most beneficent of professions!

The general life of the Greeks was eminently hygienic, being mostly out-door and under favourable conditions, persons even of high position taking part, not only in active occupations, but in labours that might be even considered menial by the unthinking. The honourable place that athletic games held is a point of resemblance between the Greeks and our countrymen that ought not to be lost sight of; the splendour of Greek literature, art, and knowledge is a sufficient answer to those who are afraid lest athletics should develop the muscles of our youth to the detriment of their brains.

* The lecture has been slightly condensed.

Among the Romans, the care bestowed upon the provision of pure water—with which is connected the celebrated name of Frontinus, as "Curator Aquarum"—and their elaborate system of drainage, prove that they had correct ideas on some of the fundamental questions of hygiene. The more recent discoveries in the Campagna have still further shown that they were fully aware of the conditions which alone could make that now pestilential region habitable, as a system of subsoil-drainage has been revealed, that is a reproach to the ignorance and supineness of modern times. Another direction in which the Romans showed great knowledge of the principles of hygiene, was in the management of troops on the march and during war. The rules for encampments given by Vegetius are excellent; and, to the great care shown for every detail of sanitation, must be attributed the comparatively small loss which the armies of the Romans appear to have maintained. In taking a cursory retrospect of the old world in its medical aspects, I should be inclined to say that, on the whole, its medicine was as much preventive as curative. The motto of the time might have been "Venienti occurrere morbo." There was a dread and impatience of disease—so much so, that men were known to commit suicide out of fear of it; and the sentiment of pity for the weak and the oppressed appears to have been absent. Hence, perhaps, the curious fact, that we have no record of public hospitals for the sick poor during the classical periods, the earliest being as late as the reign of Justinian.

From the time of the decline and fall of the Western Empire, the progress of hygiene appears to have been arrested, and we pass into a dark and dirty period when fanaticism usurped the place of religion, and dirt became the odour of sanctity. The picture of the thousand years which elapsed between the downfall of Rome and the final capture of Constantinople, as drawn by Michelet in his *Sorcière*, is one of the most striking as well as disgusting that can be conceived. "Pas de bain," he says, "pendant mille ans!" Can we wonder at the plagues which devastated Europe? Is it astonishing that the Black Death cut off two-thirds of its inhabitants? It is humiliating to think, from the accounts of Erasmus and other visitors, that our country remained long pre-eminent in Europe for dirt and disease. One can easily imagine how different the case of Europe might have been, could the hygienic knowledge collected during and before the classic period have been carefully put together, formulated, and acted upon. When a fresh interest began to be excited, and men began slowly to perceive that the elixir of life was a vain imagining, their minds turned more to actual observation. The older writers had already written much on diet, and even Hippocrates had pointed out the close relation between food and work: various treatises on food and regimen were written later, of which the two that might claim notice are, the one entitled *Tables of Health*, and written, it is said, by two Jewish physicians at the request of Charlemagne; it is quaintly illustrated throughout by woodcuts of much spirit, representing every article and operation in the book which it was possible to illustrate. But the most celebrated mediæval work on the subject is undoubtedly the renowned *Regimen Sanitatis Salerni*, the code of the famous University of Salerno, which is believed to have been compiled by John of Milan in 1099. Haller enumerates twenty editions; and it was translated into various languages, among others, into English by Paynell (1579-1609); and by Dr. Holland: it was also the subject of numerous and voluminous commentaries. Some of it is no doubt fantastic, but much of it is sound sense; some of the precepts might well fit many towns of the present day:—

"Lucidus ac mundus sit ritè habitabilis aër;
Infectus neque sit, nec olens fœtore cloacæ;"

which we may render in this way:

"Dwell in air both clear and pure,
Free from taint or smell of sewer."

I do not know, however, if our friends of the Blue Ribbon persuasion would quite approve of the next precept which I take the liberty of rendering thus:

"If over night your drink has hit you,
Take a hair of the dog that bit you!"

One of the first really practical writers on the subject of hygiene was the well-known Ludovico Cornaro, a noble Venetian, who, after a youth of intemperance and excess, reformed his ways, and kept so strict a watch over his diet and habits, that he prolonged his life to the age of a hundred years, dying in April 1566. Various writers followed Cornaro—few of them of much note except the famous Jerome Cardan, one of the most learned of the physicians of the Renaissance, but somewhat whimsical in his hygienic views. Of the other masters of the period, I will only refer to Thomas Philolo-

gus, of Ravenna, on account of his strong protest against intramural interment, thus anticipating by some three centuries, the happily fruitful labours of our distinguished countryman, Edwin Chadwick. The next writer of eminence was the celebrated Sanctorius, a Professor of Padua. He wrote a work on health, entitled *Medicina Statice*; and he also began the era of exact observation by his experiments with the weighing chair, by which he endeavoured to shew the weight of the insensible perspiration. The aphorisms in his book are couched in quaint and even fantastic language; but many of them are sound when stripped of the vagueness and mannerism of the time.

The writers, from the time of Sanctorius down to the end of the seventeenth century, call for little attention; the remarkable physical discoveries of the close of that century and throughout the whole of the next, paved the way for more exact observation in medicine; accordingly, we have the observations of Boerhaave and Haller, and a host of other names of distinction, all representatives of progressive medicine, either directly or indirectly connected with the advance of hygiene.

It is a little difficult, in a necessarily restricted lecture, to convey any exact idea of the way in which modern hygiene became formulated into so much of a science as it can at present lay claim to be; but I will attempt to make a brief sketch of its more salient points. In the eighteenth century several important questions were inquired into, and to a large extent solved, of which the chief were: the Influence of Air as a Factor in the Spread of Disease; the True Cause and Prevention of Scurvy; and the Prophylaxis of Small-pox. The introduction of inoculation was a most important step—it was the first step on the road which led, at the close of the century, to vaccination, one of the most signal triumphs of preventive medicine. The inquiry into the causes of scurvy was another step in advance, of the most signal importance. No one in the present day can form any idea of the ravages that terrible disease produced. All long voyages were imperilled by it, whilst the very existence of England depended upon her fleet, which had frequently to return to port absolutely crippled with scurvy, in some cases, as many as ten thousand men being landed from the channel fleet helpless.

Although so far back as the seventeenth century the efficacy of fruits and fresh vegetables as preventives had been surmised, if not actually noted, it is really to the renowned Captain Cook that the credit is mainly due of having established this important fact. It took many years, however, to impress this fact sufficiently upon the authorities, and it was not until 1796 that the medical officers of the navy (among whom was the renowned Sir Gilbert Blane) obtained the regulation ordering lime-juice to be supplied to our seamen. The effect was magical; scurvy lost its terrors; and it may be that the supremacy of England at sea during the Napoleonic wars, was in part owing to the improved condition of her seamen.

The recognition of foul air as a factor in disease was certainly begun in the last century. The great disaster of the Black Hole of Calcutta, and the terrible effects of the jail fever investigated by Howard and others, pointed to foul air as a main factor in the propagation of disease and death. It was reserved for the later researches of Neil Arnott and other hygienic observers of the present century, to prove that foul air is the main cause of the still more general and fatal class of destructive lung-diseases, which, in this and in other lands, cuts off so many of the brightest and the best. Another important discovery of the last century, was the determination of the cause of lead-colic by Sir George Baker. This opened up the large field of metallic poisoning, which has received so much elucidation, and proved of such importance in reference to the water-supply of large communities.

In the present century, we have to point to the establishment of the fact of the water-carriage of disease, with which the name of Snow is honourably associated; the differentiation of continued fevers by Stewart and Jenner, and their connection with the poison of infected excreta by the labours of Budd and other eminent men. To these, we must add the elaborate investigations into the modes of propagation of cholera, dysentery, and other tropical diseases, and the means by which scarlet fever and diphtheria are carried from place to place by various channels of communication. No inquiry can assume a scientific form unless it have a numerical basis to work upon. This we find in the collection of statistics, a beginning of which was made a long time ago in the Bills of Mortality kept in this country. We know how imperfect these were, but still beginnings were made, until at last the Government Statistical Department was formed, and that remarkable series of reports begun, which will immortalise the name of William Farr. From that time, the future of hygiene was assured, for there was some

sound ground to work on; and, if we add to that the reports on the health of towns, published by the commission of which the present Duke of Buccleugh was president, we shall have stated some of the most important foundations of modern sanitary science. The establishment of the General Board of Health, under Mr. Chadwick, was one of the valuable outcomes of this remarkable movement. Although the original Board of Health was brought to an end in 1854, yet its work has been continued and expanded under Mr. Simon, his colleagues and successors.

We have a long roll of names connected with the public services which must ever be remembered with honour; in the Navy we have such names as Lind, Blane, and Burnett; and in the Army Pringle, one of the most philosophical physicians who ever lived, Brocklesby, Fergusson, McGrigor, and a host of others. The labours of the late Sir Alexander Tulloch, Deputy Inspector-General Marshall, and Surgeon-General Balfour, in collecting and arranging the army statistics, were of the highest value; and it is not too much to say that the publication of the first Army Medical Statistical Report marked an epoch in hygiene, especially in that part that deals with climatology. The Army Medical Statistics are continued now yearly, but it is a matter of regret that they have been allowed to be published in so abstract and undetailed a shape, as to deprive them of much of their utility. But perhaps the most remarkable contribution the army has made to sanitation has been by the evidence given to the Royal Commission of 1857, which met after the Crimean War, to investigate the causes of the sickness and mortality of our troops. The paramount influence of foul air in the production of lung-disease was proved to demonstration, and the art of ventilation was placed on a secure foundation. The Barrack and Hospital Committee, of which Dr. Sutherland and Captain Douglas Galton were the active members, laid down a series of regulations for the construction of barracks and hospitals, which have been followed with the utmost benefit both at home and abroad. Following this came the Indian Commission, which did for that vast dependency what the Home Commission had done for the rest of the empire.

To recognise an evil, and its cause, is half way to curing it; and, after the lapse of a quarter of a century, we can point to such an improvement as might at one time have been looked upon as chimerical. The death-rate of the army at home is only two-fifths of what it was before the Crimean War; the death-rate in India is only one-third, and the death-rate in the West Indies barely one-tenth. In civil life, it has recently been shown that the improvements of later times have resulted in a diminution of 2 per 1,000 in the general death-rate; and, with the knowledge we now have of the causes of disease, we may be sure that a general death-rate of not more than 15 per 1,000 may be confidently looked for.

I might extend this lecture by reference to the various theories of propagation of disease, but time would not permit it, even if it were otherwise desirable. I may, however, say that no one theory yet promulgated completely satisfies the requirements of the case, and that there may be some basis of truth, even in the more conflicting views. It is quite clear that it is only by a knowledge of the causes of disease that hygiene can be advanced, and that it can never be in any way perfected without a complete system of etiology. And we are at present in this position, that practical hygiene has, to some extent, outstripped the knowledge of causes of disease. We look, therefore, anxiously towards the pathological investigations of the time, and we deeply deplore the well meaning but misguided zeal which is at present placing such grave obstacles in the way of the only means by which true science can advance, namely, direct experiment.

Although there are many names to whom I might refer as good workers in hygiene, abroad as well as at home, there is one which we cannot omit in a lecture like this, more especially as it is the first delivered in this museum, which has been founded to his memory.

Edmund Alexander Parkes did more than any other one man in this, or any age, to make hygiene a positive fact, a practical science based upon, not only philosophical conceptions, but actual experiment. Starting in life as an army medical officer, he was able to produce during his short service in India and Burmah, works upon Dysentery and Cholera, which will always be of the greatest value. Retiring into civil life, he became eminent as a physician and teacher, and in 1855 he undertook the organisation of the hospital at Rénkioi in the Dardanelles, which was a perfect model of successful hygienic administration. Struggling with distressing and dangerous disease, he continued to lead a life of intellectual activity, not often accomplished by the most robust; and, when in 1860 the Army Medical School was established by Lord Herbert of Lea, Sir James Clark had no hesitation in advising that Dr. Parkes should be

secured, if possible, as the Professor of Hygiene. How excellent the foresight of that eminent physician was, we all know, for Dr. Parkes was not only the first Professor of the science in this country in point of time, but also the first in every sense of the word. The publication of his well known *Manual of Practical Hygiene* gave us for the first time a work on the subject, which was not merely a string of opinions and surmises, but at every point brought opinion to the test of figures and experiment, where it was possible, and thus laid the foundation for a real science in the future. Similarly with his teaching he pressed upon the Government to establish practical laboratories for his pupils, where they could do for themselves as much of the experimental work as time and opportunity allowed; and he impressed upon those who studied under him, the necessity of testing everything by actual investigation, and bringing all statements to the proof of figures before accepting them as true. There was never probably a man of calmer and more judicious mind, a man more rigidly critical of his own work, or more kindly disposed to allow every credit to the work of others. Having known him personally for many years, during thirteen of which I was his assistant and colleague, I can bear confident testimony to the exceeding beauty of his character, in which "sweetness and light" were never more truly displayed, and to the scrupulous accuracy and care with which every investigation of his was carried out. The science of hygiene could have no purer and better founder, and its votaries no brighter and more spotless example.

CLINICAL REMARKS

ON

PRIMARY OR IMMEDIATE LIGATURE OF THE FEMORAL ARTERY IN POPLITEAL ANEURYSM, AND ON THE DIVISION OF THE ARTERY BETWEEN TWO LIGATURES.

By T. HOLMES, M.A., F.R.C.S. Eng.,
Surgeon to St. George's Hospital.

THREE cases of popliteal aneurysm have been treated at St. George's Hospital within the last few months by the Hunterian operation without any previous trial of compression. As this is a somewhat unusual circumstance at the present time, I have thought it might probably interest the readers of the JOURNAL to have the subject of ligature of the femoral artery brought under their notice, especially at the present time, when the old plan of dividing the artery between two ligatures is being reintroduced by Mr. Walsham and other surgeons at St. Bartholomew's Hospital.

After seeing something of popliteal aneurysm, and studying the literature of the subject, and the practice of other surgeons, with a certain amount of industry, I have come to a very confident opinion that the safest plan of treatment for all large, all rapidly growing, and all thin-walled popliteal aneurysms is to tie the femoral artery at once, that is, after a few days' confinement to bed; and that the safest way of tying it is that which interferes the least with the natural connections of the artery. I believe, further, that the safest material for the ligature is either the ox-aorta ligature of Mr. Barwell or the kangaroo-tendon ligature which was introduced at St. George's Hospital by our then assistant-surgeon Mr. Stirling, and which was brought under the notice of the Royal Medical and Chirurgical Society by Mr. T. Smith and Mr. Girdlestone of Melbourne (*Med. Chir. Trans.*, vol. lxv, p. 71). On this latter point, however, our experience is as yet insufficient.

I will illustrate the three points above-mentioned by a short account of one of the above cases (the only one which was under my personal care), and by a very brief reference to the other two, which were treated by Mr. Haward and Mr. Dent.

My patient was thirty-three years of age. He was a married man, and there was, as far as I know, no history of syphilis, though there seems reason to think that he had been given to drinking. He first noticed something wrong about a month before his admission, when he was getting off a horse, and felt "something snap" behind his right knee. It did not seem very clear how soon afterwards he was conscious of the existence of a tumour and pulsation; but it soon became very painful. Still he continued at his work (that of a coachman) up to the day of his admission. When he presented himself at the hospital, on April 23rd, there was a very large