complexity of the problem how foulness acts in producing disease. There may be filth without disease of an epidemic sort. King Edward II, when in confinement at Berkeley Castle, was placed in a room contiguous to a well into which carcases of horses and dogs were thrown, in order to poison him with their effluvia; but the poor monarch would not die, and his entrails were burned with red-hot irons. Yet a sanitarian would know that not only the king, but all in the castle were in jeopardy by the foul experiment; for a single particular microsome of a fatal disease might have planted itself on the filthy soil and multiplied exceedingly.

Even the septic living germs of disease may be wanting under certain conditions; but more generally they are present to attack the bodies of the living and to corrupt the bodies of the dead, if they find a filthy soil suitable to their growth. Though the royal captive escaped the deadly effects of his exposure, prisoners before the time of Howard were notoriously victims to like influences. Tennyson, in his recent drama, thus describes the effects of filth on captive heretics.

"In breathless dungeons over steaming sewers,
Fed with rank bread that crawled upon the tongue,
And putrid water, every drop a worm,
Until they died of rotted limbs; and then
Cast on the dunghill naked, and become
Hideously alive again from head to heel,
Made even the carrion-nosing mongrel vomit
With hate and horror."

Independently of all theories of causation, we know that diseases require filthy surroundings in the air, water, food, clothing, and soil before they become permanently located. A great wave of an epidemic may pass over all our sanitary barriers, though the ordinary and lesser waves are broken by them. The greater and lesser epidemic waves are, like storms in the air, beneficent remedies of a disturbed equilibrium; for pestilences, in relation to whole populations, resemble that angel of mercy who stood in the way of the prophet armed with a sword, ready to smite if he had not turned from his evil course. So, when mankind allows itself to be sapped and undermined by the insidious consequences of sanitary neglect, so that the members of a community lose their manly strength, their morality and liberty, then pestilence falls upon the degenerate society and rouses it to a sense of their danger. When the sanitary neglect is general, an epidemic gathers itself up in a wave and sweeps along till it meets with some barrier, like an outstretching headland, to break it in its course. Certain diseases, in their epidemic form, appear to break up entirely under the improvements of civilisation, or at least cease to travel in their former force. Instances of black death and sweating sickness are still said to appear in remote parts of India and Persia, but, like the typhus gravior of our large towns, are unable to accumulate into the waves which some centuries ago used to sweep all over Europe. The plague of the East, which still gathers itself up into a frowning crest, breaks before the sanitary barriers which the civilised communities of modern Europe have raised against its progress. But as yet these have been insufficient to meet the cholera wave which every few years threatens to pass over us. We have lately seen it pass with more or less strength over our continental neighbours; but it has broken upon our own shores, and has not traversed the country. Is this due to our sanitary improvements? It would be premature to answer in the affirmative; for at the present moment we see another threatening cholera wave gathering itself up in the East, and we will have more reason for confidence if it again break innocuously on our sanitary barriers. The recent serious epidemic of small-pox should teach us that, though we may be better prepared than other countries for such visitations, yet our preventive medicine has much to do before it has exhausted its powers for the protection of the people. It is because I earnestly desire that our State authorities charged with the care of the health of the people should constantly inform us of their successes and failures that I have, through you, to-day urged the necessity of a national audit of death and disease. But this audit should not be a mere central one. The Local Government Board ought, of all administrative departments, to develop a system of local government as distinguished from a central bureaucratic government. When improved local organisation of authorities renders that possible, the Central Board should more and more exert a guiding rather than a controlling influence. Registrars of sickness and death must first be made useful in each locality, for they stand small chance of accomplishing their work of prevention of disease if the whole responsibility for using them be thrown upon the central authority. Thence should emanate the scientific knowledge necessary to apply facts to a general system of useful application; but unless the medical officers of health are trusted by the local authorities as their immediate sanitary advisers, and are encouraged to use the knowledge of sickness and death, gathered in the locality, for the prevention of disease, local government will con-

tinue to be looked upon as an unpleasant machinery for augmenting rates, and not as one for economising the life and resources of communities. And so, in my opinion, not increased central administration, but more effective organisation of local authorities, is the crying want of sanitary progress.

An improved organisation would enable local authorities to obtain more highly qualified medical officers of health than they can possibly obtain at the small salaries frequently offered. Although many of them were appointed without adequate knowledge of public hygiene, there has been much growth of technical knowledge among them, and already about nine hundred furnish specific reports of their labours to the central government. Many of these are characterised by great ability, but their influence extends little beyond their own locality, and hard-won experience is lost for the public good. When local organisation is improved, and the central authority is brought into more effective scientific relations with it, we may see an immense impulse given to preventive medicine.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF PSYCHOLOGY,

*At the Annual Meeting of the British Medical Association,
in Edinburgh, August 1875.*

By WILLIAM H. LOWE, M.D., F.R.S.,
President of the Section.

GENTLEMEN,—Allow me, in the first place, to thank you for the honour you have done me by placing me in this chair—an honour, I beg to assure you, I very highly appreciate. I must, at the same time, say, as I glance around me, I feel that you might easily have selected one who would have more ably fulfilled the duties now devolving upon me. As, however, it has been your good pleasure to elect me your President, it only remains for me to do my best to merit your choice. As I have only now for the first time become a member of the British Medical Association, I hardly know what may have been customary by my predecessors in office; but, in the face of this fact, that our secretaries, instead of having to beat up for papers to be read, are, on the contrary, rather embarrassed by their riches, and find it difficult to assign time for the perusal and due discussion of a variety of highly interesting topics, my own remarks will be extremely brief.

I have often contemplated that which I think must be admitted as an indisputable fact; viz., the fashion which obtains in medicine, what I may term the ebb and flow of medical opinion, both as to remedial agents and methods of treatment. For example, it is not long since the familiar antimonial wine was almost universally prescribed; now how little it is employed. Warm plasters to the loins, strengthening plaisters to the chest, cupping and dry-cupping, and fifty other things easily remembered, were considered invaluable. I will not say the trade of the leech is gone; but certainly leeches now are scarcely sold; and, to point to a more recent instance of the caprice to which I allude, podophyllum was introduced within the easy recollection of us all by a practitioner of high and well deserved repute, and yet I am told by the druggists that at present it is rarely made up. Even cod-liver oil, as Dr. Bennett reminded us, was not a new remedial agent, only one revived after being out of fashion for an indefinite time. These medicines were not inert, nor the remedies inefficacious; nay, many of them were valuable, and amply bore out the reputation given by those who originally introduced them; still we see they have their day, and are then shelved and forgotten until, by a turn of fashion, they again appear. Nor will anyone, I think, deny that this fashion, this ebb and flow of opinion and practice, has not obtained in that particular branch of medicine which we call the Psychological School. At one time, Indian hemp was said to do wonders; at another, ergot of rye. A few years ago, we heard a good deal of the pack-sheet and Turkish baths, and very many other things we all know have from time to time been extolled, and then, without other reason, as far as I can see, than no longer possessing the charm of novelty, have fallen into disuse, or taken their place as measures to be occasionally resorted to by the intelligent physician; and who dare say but that chloral and bromide of potassium, our sheet-anchors at present, will not in turn give place to remedies themselves to have their day? I am not in the slightest degree depreciating either the remedies or practices to which I have alluded, but only ask how this perpetual revolution of opinion is indicative of progress, and I believe we shall be inclined to admit that ebb and flow may take place without advance; and yet this was all we had arrived at apparently until a few years ago, when something more than a tem-

porary fashion in psychological medicine might be seen to dawn on the horizon. It was, in this country at least, from the slight but brilliant scintillations which emanated from our venerable friend W. A. F. Browne at Dumfries that a truer and more lasting course of study was inaugurated. Psychology is only now in its infancy; happily, the infant is a vigorous one. I hardly know what our venerable friend already alluded to, Dr. Browne, will say to my having thus, in the evening of his days, affiliated upon him this promising infant; but I think we shall all be ready to acknowledge the paternity, and that it is one the distinguished father need not be ashamed of. I need not trace how the little rivulet from these small beginnings has swollen into the stately river, increasing year by year in volume and power; indeed, it would be impossible for me, in these hurried remarks, to trace the progress of psychology from those early shreds of information up to the present ample and systematic course of instruction which is now presented to the student; but those who have thus contributed to this great end are all known to you, and their well deserved merits are reiterated, and fondly reiterated, year by year; for who does not love to record and to dwell upon the successful labours of those so lately passed from among us? If to Dr. Browne belong the first steps in psychological instruction, can we forget the more recent and more systematic teaching of our late friend Dr. S. Rae? But the registration of undoubted facts in pathology, or the observations of experimental physiology, no wave of fashion can obliterate, no ebb and flow of opinion efface; and it is to these the psychological student of the present day applies himself, convinced that aberrations of mind must be connected in some way with lesion of the brain, or at most the nervous system. He devotes himself to these, content, perhaps, with small results, if only the facts observed be true. A very few years ago, the now well recognised disease of general paralysis was scarcely known; now, alas! how little is treatment available, except to prolong "a wretched existence"; but who shall say to what results the pathological observations of that disease, first made, I think, at the Royal Edinburgh Asylum by my friend Dr. Howden, may presently lead? At all events, let us contrast the value of such researches with the speculations and practices of a former generation, when we floated on the opinions of the day, guided by little else but phenomena of the cause of which we were entirely ignorant: with the pathological observations and microscopic structural examinations which now occupy the psychological student. Let me for a moment state what I can recollect, and what is now the case. It is even in my day, and in the remembrance of many here, that our asylums were, many of them, dens, or at best only receptacles for lunatics; they are now, throughout the country, a credit to our humanity and civilisation; and, instead of being dens or mere homes for the insane, each one may be regarded as a School of Psychology. Instead of psychology being tacked to the end of the course of medicine in the lectures of our university professor, public lectures and clinical teaching are provided for any who may desire to cultivate this most important branch of medicine.

If such be the progress made even in the remembrance of myself and many now present, is it too much to predict that, ere many years have passed, we shall see not only extramural teaching, but, in this University, a Chair of Psychological Medicine? This subject will never be justly estimated or fitly taught until this important step is gained. The present professor of medicine, Dr. Laycock, whose efforts have ever been directed in forwarding the science of psychology, will not, I know, be the one to retard its progress.

Were every commissioner in lunacy and every physician of an asylum compelled to produce his diploma in psychological medicine, and were the class at the same time, open to the general student, who can doubt but that this great measure would be realised, and, more, be self-supporting? Perhaps there are those now present who smile at my thus going into detail respecting a chair *in nubibus*; but, if our psychological infant have advanced in thirty or forty years' course of time to present such an aspect as he does this day, and to occupy in this great medical Association a distinct and definite position, constituting a special section in its comprehensive scheme, I believe I am neither too enthusiastic nor too sanguine in believing that in much shorter time than has accomplished the present hopeful state of things the imaginary chair I have sketched out will be attained.

Before sitting down, I shall beg to make one other observation of rather a practical character. It was recently remarked to me by an intelligent and well-educated physician, who had been listening to a discourse on insanity, that he had been deeply interested in it, and regarded the lecture as a most valuable one; but he added, impatiently, "Why can't the man speak in English? I was so occupied in endeavouring to give the just meaning of some of those long words, that I

continually lost the thread of the discourse." I am well aware it is not easy to discuss a scientific subject in words merely Saxon, and that we are driven to employ a few terms more than our mother-tongue has taught us; still, is the exponent of science more learned because he shrouds his subject in language so obscure that his professional brethren cannot readily apprehend it? Will it further a subject, or tend to its more favourable reception, if it can only be understood by the aid of a glossary? At all events, I think we may take the hint from the gentleman alluded to, and refrain from the use of a Græco-Latino-German word where one of plain English will suffice.

With these few and imperfect remarks, we will pass on to the business of the day; viz., a most promising paper by Dr. Clouston, our metropolitan physician, as I will call him, of the asylums in Scotland.

REPORTS AND ANALYSES

AND

DESCRIPTIONS OF NEW INVENTIONS

IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

HAWKSLEY'S NEW ETHER-INHALER.

THE apparatus consists of a glass chamber (A) capable of holding ten ounces of ether. The sliding tube of the inlet valve (B) is graduated into ounces for the purpose of measuring the consumption of ether. The pipe (C D) conveys the ether-vapour to the face-piece (F), the edge of which is surrounded by a water-cushion, for the purpose of more closely

fitting the face. The shutter-valve (E) is for regulating the admission of air either at the beginning of an operation or during its progress. The pipe (I) and the valve (H) convey the expired air to the floor. The glass vessel (A) is half immersed in water, heated to 100 deg. Fahr., in order to promote a more rapid and equable evaporation of the ether. For this purpose, the metal case in which the apparatus is carried is used as a bath, the glass vessel being placed in the cell and surrounded by the warm water. The ether boils at about 90 deg. Fahr.; but before the quantity contained in the chamber (A) has reached that point, the temperature of the surrounding water has fallen; and, even were the temperature of the water sustained, the constant circulation of the external air prevents the boiling of the ether. The time required to produce insensibility to pain is from three minutes and a half to four minutes, and about an ounce of ether is used in a quarter of an hour.

This apparatus has been used with great success for nearly three years at the Middlesex and St. George's Hospitals, as well as at various county hospitals and infirmaries, and large numbers have been sent to Australia and America. At present, the apparatus is chiefly made for hospital use, and is capable of containing sufficient ether for five ordinary operations without being replenished.

The expiratory tube has proved of great advantage, for the expired air and vapour being heavier than the atmosphere, remain at a lower level than the air breathed by those about the patient. The inlet valve can be readily observed by the administrator, and indicates whether the patient be breathing or not, and also the number of respirations. By a judicious use of the shutter-valve, the majority of patients become insensible without that violent struggling so often witnessed when chloroform or ether-vapour, insufficiently diluted, is used.