habitants we find a "number of hotels, inns, and other licensed public-houses, amounting to 107", or one to about every 78 persons, including children. Such a number is out of all proportion to the requirements of the community. I am no Good Templar; I do not believe that a people can be made virtuous by Act of Parliament, or that sobriety can be invented; but I think it is urgently demanded that the number of these places should be restricted, and judicious rules enforced for regulating the sale of all intoxicating drinks. We have in Sweden an example of the good that may be thus effected.

Hereditary taint—insanity inherited from parents—is a more difficult matter to deal with than even intemperance; yet it is certain that much may be accomplished in decreasing the numbers who suffer from it. Lord Bacon tells us that "man commands nature by obeying nature". Let us, then, examine the lines laid down by nature for checking the growth of hereditary insanity, as shown in the three following histories.

1. A man, A. B., of congenital weak mind, has six children; three die during childhood; the other three, one male and two females, are imbecile, and at the ages respectively of 40, 42, and 44, are sent to an asylum. The male previously married, but had no children; the females have had no issue. This family, therefore, becomes extinct with the present generation.

2. A man, C. D., labouring under dementia, whose first wife died insane, had by her a large family, four of whom, two sons and two daughters, inherited mental unsoundness. The two daughters have had no children; one of the sons is unmarried; the other is married and has had four children, all of whom died in childhood. But C. D., by his second wife, who also is insane, has had six children. Of these, five died young, and the survivor is mentally defective.

3. E. F., while insane, committed suicide. His history, on the maternal side, is as follows. His mother was insane, and her sister died in an asylum; his grandmother was insane, and his grandfather was drunken. On the other side, his father is "eccentric", a morose recluse; his uncle is extremely morbid, and has had a drunken son, who committed suicide. The other members of this family are, as far as I have ascertained, without offspring, and unmarried.

These cases are examples of what is at present taking place around us. The insane are allowed to propagate their kind with scarce an effort made to check so deplorable an event, though the thorough working of the lunacy acts would certainly impose the needed limit. Our duty is as clearly to endeavour to prevent insanity as to endeavour to cure it when it exists. Though the laws of Nature doom to extinction families thus saturated with madness, it is only after they have endured misery and suffering for generations, and have exercised a proportionately deteriorating influence on the surrounding community. There is a feeling, shared by many, which has its advocates even amongst our leading specialists, that chronic lunatics should not be detained in an asylum unless they are dangerous to themselves or others; and this feeling operates strongly in keeping the so-called harmless insane at their homes. Hard it is, doubtless, that a wife, though insane, should be separated from her husband, who is able and willing to take care of her; but it is harder still that they should procreate, with the almost certainty that their offspring will inherit the mother's disease, and be the possible agents of extending the fell malady to other and untainted families. There are rights of society as well as individual rights, and to allow an insane person to beget children is not liberty but license.

Some of the accumulation must also be attributed, at least in this district, to the manner in which the insane and the idiotic are disposed of. The majority receive no treatment whatever, but are "boarded out" with neighbours and others, who receive for their care and maintenance a sum of 2s. 6d. or 3s. 6d. weekly. We cannot suppose that such people receive into their homes one or more lunatics from benevolent motives; their pecuniary wants would not allow it: we must, therefore, believe that a certain margin of profit is derived even from that miserable amount. The result is—must be—that the unsound in mind so disposed of are ill cared for, ill fed, ill clothed; that they are dirty and neglected in every way. But they do not suffer alone—they inflict a penalty on society which neglects them, that is none the less real for being seldom directly felt. Let me mention in illustration some cases that have recently come under my observation.

T. F., aged 26, one of three idiotic brothers, living together with their father, was sent to this asylum after having made a most persevering attempt at rape. He cannot see a woman without behaving in a grossly indecent manner.

C. P., aged 23, lived with his mother, shared her bed, and had frequent marital intercourse with her. He was in the habit of chasing and indecently assaulting the girls of the neighbourhood.

D. D., aged 21, wore no clothing, lived with his mother, two sisters, and a brother, who all slept together. He occasionally wandered about the village in a state of complete nudity.

T. T. and M. G., females, not unattractive in personal appearance, each aged 29, were in the habit of wandering about soliciting and indecently exposing themselves to their neighbours.

We have no reason for supposing that these cases are at all worse than others that still remain at home, or are "boarded out". If the number of female idiots who have borne children could be ascertained, I think it would astonish our philanthropists. But, apart together from this consideration, the effect on the morals of a community from having persons of such habits wandering about in their midst must be deplorable in the extreme, and cannot be correctly estimated. The mere fact that such indecency is tolerated indicates a deadening of that natural modesty which is virtue's great safeguard.

Since writing the above, I have received a copy of "Asylum Notes", by Dr. Yellowlees. One of these notes, bearing on the question we are considering, I will quote *in extenso*. "Every county has special circumstances which may affect both the character and the amount of the insanity which it produces. The wealth and prosperity of Glamorganshire are largely derived from coal and iron, and any arrest in their production and export is immediately and widely felt. During the last six months of 1871, and the first three months of 1873, the mines, and consequently the docks, were deserted by reason of 'strikes', and the effect of these strikes on the insanity and crime of the county was most marked and instructive.

"In the first six months of 1871, 47 men and 30 women were received as patients into this asylum, but only 24 men and 26 women in the second six months of the year. In the last three months of 1872, 21 men and 12 women were admitted, but only 10 men and 12 women in the first three months of 1873. It is thus shown, by a double proof, that during a strike the male admissions fell to *half their former number*, the female admissions being almost unaffected.

"This decrease is doubtless mainly due to the fact that there is no money to spend in drink and debauchery. On inquiry at the county prisons, I find that there was a marked diminution in their male admissions during the same periods, so that the production of crime as well as of insanity is greatly lessened while the strikes continue.

"What the effect of a very prolonged strike would be I trust we may never know, but to these results of the last two strikes I would earnestly direct public attention. They are among the most sad and significant facts of our social life, and seem to prove that high wages, without wisdom to use them, are a curse rather than a blessing."

EXTRACTS FROM THE PRESIDENT'S ADDRESS.

Delivered at the Annual Meeting of the Lancashire and Cheshire Branch.

By CHARLES WHITE, Esq.,
Surgeon to the Dispensary, Warrington.

IN offering a welcome to the Lancashire and Cheshire Branch, on its first meeting in Warrington, a short description of the chief features of the town may be expected, or at least excused. Situated on the Mersey, here the boundary between the two counties, by far the larger portion stands on the Lancashire side. It occupies a remarkably low site, at the highest being little more than fifty feet above the datum level of high water at Liverpool, and at the lowest not more than twenty-three feet. At thirty-four feet a well-marked terrace, the bank of the ancient estuary, runs through the town, which is built chiefly on estuarine sands, deposited in various thicknesses on the boulder clay. The wells, which are bored through the clay into and through the mottled sandstone, are usually free from organic impurities, but contain large quantities of saline matter in solution, and in some instances are absolutely brackish. The general water supply of the town used to be principally surface water, collected on the high ground to the south-west of the town. Happily, another source has now been obtained by the Water Works Company, in a deep boring, three miles to the north, right through the bunter and lower mottled sandstone, to a depth of three hundred and fifty feet, to the representatives of the Permian system. This is an excellent water, but rather hard for domestic purposes, but filtered through so many series of sand-rocks, its purity may be safely assumed. In passing, I may mention the river Mersey as a curiosity in its way. For the length of its course, and its volume of water, it possibly receives more sewage matter than any river in the world. South Lancashire, North Cheshire, with Yorkshire and Derbyshire, combine to form the unpleasant mixture which flows past our doors. It is a pure chemical compound. No trace of animal or vegetable life is found in its waters; hence, perhaps, it is, that according to experience, it is innocuous in its passage through Warrington. I never detected in the houses built on its banks any form of disease peculiar to them, or in excess of what might be found in other parts of the town. Perhaps the

reason may be found in the action of the metallic oxides poured in from the numerous dyeworks, or the mills on the river or its tributaries. Whilst they produce the dark and unwholesome appearance, yet they check the festering fermentation of the organic substances so liberally contributed by the large towns. To readers of medical journals for the last few years, it was evident that in many minds there was a strong counter-current to specialism, which was supposed to be carried to an extent which was beneficial neither to the patients nor to the profession; but it was reserved for the medical orator at the General Meeting of the Association at Birmingham, boldly and openly to depreciate specialism of all degrees, and to avow his belief that the best practitioners of all were the general practitioners. With all due deference to so distinguished a physician, I cannot accept such a compliment paid even to my own order. Believing in the principles of the evolution of society, as laid down by Herbert Spencer, it seems to me, that if you have real life in the profession, you "must have a change from the homogeneous to the heterogeneous. Development, no matter of what kind, exhibits not only a multiplication of unlike parts, but an increase in the distinctness with which these parts are marked off from one another." Take it that the general practitioner is the present phase of the majority of the medical profession. This condition has its use, or it would not exist; but it would be as absurd to predict its permanence as to insist on its antiquity. The medical Minerva did not spring all-armed from the brain of Jove. In the progress from a state of barbarism to that of modern civilisation, the art of healing must have always had its representatives; but, doubtless, in primitive eras, our predecessors, like the ancestors of the *nouveaux riches*, were not personages of great distinction. I never see the humble herbalist culling his simples without considering him the aboriginal precursor of the physician; whilst the term "barber-surgeon" sufficiently indicates the personal attendant, who wielded, alternately, the razor and the lancet; and who, in the gradual expansion of his sphere of duty, left unpractised the parental tonsorial office. And to this day, just as in the scale of animal creation, we find in the higher members rudimentary evidences of the transitional development from the lower, so in the two divisions of the profession, attentive observation may note certain peculiarities, or abnormalities, which disclose alike the humble origin and the process of evolution by which this change has been effected. Nor can I conceive any cause for regret at the numerous species of either physician or surgeon, whose origin we see before us. The dentist, the aurist, the oculist, etc., devote themselves to the exploration of the minute details of their respective departments with as much advantage to the general practitioner as to themselves. We might as reasonably ask for a law to confine all microscopic study to the use of the one-inch objective, as attempt to put down the specialists, who are the higher powers by which we obtain a deeper insight into the mysteries and arcana of disease. Their labours meet with a grateful recognition from the outer world, and a similar success awaits the physician who intensifies by concentration his study of the maladies of any organ. The doctors for consumption, or gout, or the kidneys, have no reason to complain of the unprofitable nature of their particular adaptation, whilst it is matter of common report that they who attend zealously to the uterus and its appendages are clothed in purple and fine linen, and fare sumptuously every day.

But the differentiation must not be carried too far. In the language of Spencer, again, "Science has become highly integrated, not only in the sense that each division is made up of mutually dependent propositions, but in the sense that the several divisions are mutually dependent—cannot carry on their respective investigations without aid from one another." There must always be a common bond between the different specialities, and in the desire of the dentists to possess the surgical diploma I see the natural expression of the feeling, that even in that apparently extraneous department, vitality can only be maintained by union with the parent stock.

At the present time, another specialist is being detached, or is about to be so, from the general body of the profession, in the medical officer of health. Instead of a professor of hygiene in a few medical schools, we shall have one in every town or rural district, whose duty it will be to instruct the public in the tenets of preventive medicine. Not one moment too soon. The way in which the subject of zymotic diseases is treated by the general public at the present day, will form a very curious chapter in the history of our races. It will seem hardly credible to the reader of the future, say Macaulay's New Zealander, that the spread of diseases which are fraught with most important consequences to the present and succeeding generations, should not only not be met by all possible means of repression, but even treated as a matter of indifference. Every one before me is acquainted with almost innumerable instances of the unprohibited transmission of infection in cabs or railway carriages, or in schools or laundries, etc., and any other mode of human munication. Contrast the alarm, and the discussions, and the

vigorous action, that followed the invasion of the cattle plague, with the languid interest with which are perused the reports of the Registrar-General on the ravages of what for thirty years have been termed "preventable diseases," and the logical inference would be, that the lives of cattle are of far more value than those of human beings. What severe sarcasm is there in that word "preventable," when we reflect on what has been done in the way of prevention. Are we, as a profession, blameless in this matter? How many generations of practitioners have gone to their graves whose attendance on these very diseases has been lifelong. And is there now extant a complete and perfect account of their natural history, an accurate description of the phenomena exhibited in their course? Granted that there may be considerable divergence of opinion on so speculative a question as their causation, yet is there not even an unanimity as to their periods of incubation, whilst only last year was it proposed to this society to obtain from its members an authoritative exposition of the duration of infection? If we cannot furnish incontrovertible dogmas to the laity, how shall we expect from them a lively faith, or corresponding good work?

If the principles of English liberty forbid our acting up to the dicta of the plainest common sense, let us transfer the venue to Utopia, and ask what our plan of action would be there. Suppose us living in some fair town in that happy country, where yet, alas! these wandering plagues are allowed to appear. Our ideal government would be a board of health of well-educated men, competently advised by their medical officer. The board would provide itself with an ordnance map of the large size, where every house is marked. On this would be dotted, in different colours, the instances of occurrence of different diseases, so that, in a few years, we could mark off the districts which were dangerous, and ascertain why they were dangerous. As soon as any case of fever appeared in the town, the doctor in attendance would immediately inform the board. Then, if the house were not large enough to allow a complete isolation of nurse and patient, the latter would be removed to the hospital for infectious diseases, and retained there until the period of infection, accurately defined by Dr. Ransome's committee, had passed away. Our principle of action would be, that a person once infected should have no chance of communicating it to any other. Of course the house would be thoroughly examined as to its sanitary deficiencies, and completely disinfected. The other members of the family would be kept in quarantine until the time for the longest period of incubation, also accurately determined, had passed away.

Whether or not we admit the claim of Mr. Hutchinson, that syphilis shall be included among the exanthemata, we may study the latter by the light of the former, and in its prolonged periods of secondary and tertiary phenomena, find the key to many of the affections of special organs, which follow in the wake of the zymotic action of the popularly supposed evanescent poisons. It has been wisely said, that every child recovering from one of these attacks is in a state of struma. Such a term aptly describes the utter prostration and depression of the vital force, when hardly any function is rightly performed, and when the reparative or healing process is reduced to its lowest ebb. But the state of struma after each particular poison has not been accurately defined. Too often we have got no further than the old woman's observation, "It is a weakness left after the measles, etc." The invasion and actual struggle with poison being in each case different, it is surely logical to affirm, that the pathological changes which subsequently occur, before recovery is effected, are equally distinct. But whoever speaks of the tertiary symptom of measles, or whooping cough, or enteric fever, further than to class them under the vague term sequelæ, about which as little reason can be given for their supervention as for their disappearance? It seems to me, that unless you can thus accurately define these secondary phenomena, unless you possess an entire and complete history of these diseases, from beginning to end, it will be impossible to determine, with the confidence of truth, your period of infection. In all probability, the facts that are being accumulated to throw light on the one, will illustrate equally the obscurity of the other, and I most sincerely trust that success will attend the efforts of this Branch, as it already enjoys the distinguished honour of being first in the field to prosecute an inquiry of such enormous practical value.

Another of the lines on which the profession is moving is the increasing precision in the pharmaceutical treatment of disease. This is a subject on which I enter with the greatest diffidence; but, in going over the general ground of the evolution and development of the profession, it cannot be overlooked or passed by. That medicine should at the onset be merely an empirical art was necessary, but after many hundred years of experiment it is surely time that we had arrived at accuracy, if not certainty, in the adaptation of our means to desired ends. That the art of prescribing is still a tentative art, everyone knows. The mental condition of the greater part of the public is no further advanced than to regard disease as a distinct entity which may

be added to or removed from the body;—a state of things analogous to the old demoniac possession. Every disease is supposed to have its remedy—every bullet has its billet, and if the practitioner called do not supply the required cure, it is because he will not or knows it not, not that it does not exist. The poet may write—

“What drug can make
A withered palsy cease to shake?”

But hope is eternal, and a friend is always ready to say—“Try Dr. So-and-So.” He is tried, and the patient, if not the disease, is attacked with a zeal and vigour that merit the highest success if it had only been attempted to compass the possible. Of course failure is inevitable, but what then? Blot out that word impossible from the dictionary, said Napoleon, and in a similar spirit. Another confidential friend whispers—“In these cases there is none equal to Dr. Thus-and-Thus.” But a more effective reason for the present condition of our art is that, by the regular administration of several or many remedies at the same time, we have made the problem of recognition of the separate action of each insoluble. The human body is the most highly organised and perfect machine in creation, and being so, it is the most complex. Now, when a physician is called in to correct some deviation from the normal condition of function or organ, what does he do? He orders a change in the action of the mind, change in the position and motion of the body, change in the diet, change in the habits, and then a combination of more or less active remedial agents, from two to twenty in number. If after that he can apportion to each its proper share and merit in contributing to the cure, he is a wonder of judicial discernment, imitation of whom with me would be perfectly hopeless. The effects are disastrous to the profession. The attempt to get precise knowledge is never made. It is said—“What does it matter if the patient be cured? Articles of diet are given mixed, why not those of pharmacy?” The fallacy is palpable, but from age to age the ignorance is perpetuated. The very fault against which the tyro is also warned on his entrance into the profession, that he must not believe that *post hoc* is *propter hoc*, is inculcated by the practice of the oldest practitioner. That the system is artificial and not natural, is proved by the fluctuations in the favour with which different remedies are regarded.

“Multa renascentur quæ jam cecidere, cadentque
Quæ nunc sunt in honore.”

To judge of the value of treatment by the more broad result of the case, is to put ourselves in the same category with the charlatan or heretic. Here I again join issue with the medical orator at Birmingham, who said that the best doctor was he who was most successful. Best, certainly, as far as his own interests are concerned; but we all have duties to our profession. I should say that he is the best doctor who most accurately connects cause and effect, and who applies no more remedies than he is certain of obtaining distinct results. Unfortunately, the regular as well as the irregular practitioner, is ever ready to credit his appliances with the body's return to health, really due to other causes, or to its own inherent powers. In truth, the natural tendency of the body to revert to the state of health after exposure to poisonous agents, or morbid conditions of life, has never since history began been studied without remedial interference. Among tribes of savages, so rude as to have no knowledge of the Deity, there is yet found the medicine man, to whom the treatment of disease is entrusted. And it seems one of the most distinctly inherent instincts of humanity that that office shall be perpetual. What, it matters not; but some system there shall be, and nature shall never have the *κῶδος* of working out her own salvation.

What might not be the effect of commissions of competent persons to report on the evidence of disputed questions, and what happy results might not ensue, if instead of being the stepping-stones of professional success, scientific investigation were made the sole lifelong occupation of those philosophical temperaments fitted for such pursuits. But our inquiries are left to haphazard or to energies of such associations as our own; and the only wonder is that so much is achieved when the opposite difficulties are so great and the temptations to desert so seductive. The history of the introduction of a new remedy puts the weak points before us of fortuitous individual effort. Started with a few dexterous puffs in the medical journals, the little stranger flies with progressively increasing speed over the whole medical world. The stately hospital gives its letters of recommendation to the humble dispensary, the consulting-room to the rural surgery. The inevitable reaction sets in. The too confident expectancy is doomed to disappointment in case after case, until at last it is well if the real properties of the remedy are not denied because it has not proved the panacea it was once supposed.

“Oh, happy he who still can hope
Out of this sea of error to arise.
We long to use what lies beyond our scope,
Yet cannot use even what within it lies.”

As says the learned Dr. Faust.

The last feature in the process of evolution to which I shall allude is the elevation of certain members of the profession above the gross atmosphere of an empirical art to the pure empyrean of the savant or professor of science. Practitioners of medicine may be said to occupy the position of middlemen between the cultivators of abstract and natural science and the general mass of the public. Herein they exercise the useful function of being translators of a language unintelligible to the multitude, or, to speak technically, they are the media of dilution of scientific ideas. But at no time has the profession wanted members to hold the front rank amongst the pioneers of truth—the original thinkers and the workers among the hidden things of the heavens above, and the earth beneath, and the waters that are under the earth. What distinguished names at once rise to the lips when we dwell on this fact of those who have gone from amongst us not to return, but whose wholesome influence is felt through every rank of the profession at large.

Every year, every week indeed, furnishes evidence of the incessant intellectual activity which is being exerted towards some solution of the manifold problems of life; and though at present we may only have to admire the ingenuity and the beauty of the hypothetical speculation, we may rest assured that every discovery of truth will have its phase of practical utility. . . . It may be that the laborious investigations which are being carried on to elucidate the subject of spontaneous generation may also incidentally illustrate the abnormal condition of the blood, and that ready tests may be supplied by which we may be able to detect and exhibit the presence of foreign agents or poisons which now we can only recognise in their effects. It may be that our pathological theories may pass from the region of speculation through the discoveries perhaps already trembling to their birth, of the influence of the different portions of the nervous system over the blood-supply, and the share in the complicated phenomena of mal-nutrition and inflammation. It may be that the study of the causation of diseases may receive large aid from meteorology. For though in spite of the large accumulations of facts, the laws by which the phenomena of atmospheric change are regulated are not yet discovered, yet does it seem quite feasible to associate the simultaneous appearance of instances of disease with certain conditions of the atmosphere altogether independently of the more palpable changes produced by alteration in temperature. . . . The influence of the *savant* is, moreover, not only felt through the profession as a guide through unexplored regions, but there is an absolute gain in his companionship. We learn from his example and from his careful and precise habits of observation, to avoid hasty generalisation and that precipitate jumping to conclusions which has ever been the bane and disgrace of the art of medicine. Another lesson we may too learn, that with us as with him, there is no stage of completeness or perfection to be reached where we can stand still—no rest and be thankful—until waning powers and failing senses warn us that the time has arrived when we must hand over our task to our successors. It is better to avoid the complacent survey of the past and to look with humility on the vastness of the future, though the pride might be pardonable with which we pass in view the changes which the process of evolution has wrought in us, and the large spheres of activity, general or special, which we claim as our own in the right to diminish human suffering, and in counteracting the evils of modern civilisation to prolong human life. Lowly though our origin, we have almost reached in stature to the skies, nor need we fear comparison with any other profession in the purity of our intentions or the nobility of our aim. Most excellent of all is it that our success, our very existence is identified with progress, and that we can adopt as our motto the laureate's lines,

“Not in vain the distance beacons, forward, forward let us range,
Though the great world spin for ever down the ringing grooves of change.”

UNRECORDED CASES OF DEATH BY CHLOROFORM:

AND THE NEED OF A SUITABLE ROOM FOR INJURED
PERSONS IN CONNEXION WITH MINES AND OTHER
SIMILARLY DANGEROUS PLACES OF LABOUR.*

By WILLIAM BROWN, M.R.C.S.Eng., Callington.

MUCH has been said lately on the important subject of anæsthetics—on the comparative danger of the inhalation of chloroform as compared with that of ether. I shall not enter into this controversy. But, as is usual in all disputed questions, the disputants all follow one another in dwelling on the one aspect of the question first presented to public

* Read before the South-Western Branch at the Annual Meeting, July 3rd, 1873.