Manchester *confères* as a topic for discussion in this Section of our meeting. The operation of transfusion has had a checkered career, and, after being forgotten or neglected for long periods, is again attracting much attention.

From a sketch of the history by the late Mr. Pettigrew and others, we learn that the earliest experiments in transfusion were made in France about 1658 by Hansheau. Lower performed the operation in this country in 1665. M. Denis, satirically described as a physician "plus occupé des jeux de hazard, que des jeux de la machine animale", subjected a man to the experiment about the same time. Biva and Manfredi in Italy, and Sinnibaldus in Flanders, repeated the experiment only a few years later. The first four volumes of the *Philosophical Transactions*, which cover the years from 1665 to 1704, contain records of several, but all unsuccessful, cases.

After this time, the practice seems to have fallen into abeyance, although Dr. Harwood of Cambridge published a thesis on the subject in 1785, and endeavoured to rouse attention to its importance. It was not until 1824, when Dr. Blundell of Guy's Hospital reopened the question, that it gained distinct vitality. Dr. Blundell showed, by a series of experiments, that blood may be transfused with success and safety from one animal to another, provided they are the same species; but, if from one animal to another of different species, the result is fatal. MM. Prevost and Dumas in France, and Bischoff in Germany, believed they had afterwards verified Dr. Blundell's conclusions; but Dr. Brown-Séquard has shown that there were fallacies in these experiments, and that, under certain conditions, the blood of other animals may be injected into the human body without danger, while he holds with Dieffenbach that defibrinated blood answers as well as fibrinated blood.

Dr. Blundell performed the operation of transfusion eleven times with his own hand; in ten of these cases there was pressing danger from loss of blood, and in only four of these did he succeed in restoring the patient.

The sparing results attained by Dr. Blundell did not encourage the adoption of the practice by medical men generally. The operation was regarded as delicate, difficult, and uncertain of success, and it languished, although from time to time new instruments were devised and fresh suggestions were made for perfecting the process. In later days, Dr. Hamilton of Ayr, Dr. Graily Hewitt, and Dr. Aveling have each suggested modifications of apparatus. Dr. Aveling's method of immediate transfusion was at once so simple and practical that its introduction gave a new impetus to the operation in this country.

In limine, it may be said that, as increasing attention is paid to the subject, and apparatus becomes more perfected, greater promise is afforded and favourable results are gradually growing. The late Professor Martin of Berlin recorded fifty-seven cases, in which forty-three were completely successful; Dr. Higginson of Liverpool fifteen cases, in which ten were successful; and Dr. McDonnell of Dublin, de Belina of Paris, with others, have published interesting cases.

It will be in the recollection of many members that, at the meeting of the British Medical Association in London, there was a discussion on transfusion, and a lively debate took place between the advocates of *mediate* and the supporters of *immediate* injection.

Just now new life has been imparted to the subject by the appearance of M. Roussel, demonstrating the utility and simplicity of his method for direct transfusion. This subject is obviously a study of deep and increasing interest, as the introduction of the practice in a perfect and simple form may be the means of saving many from the very jaws of death. I commend it to your careful consideration, and, at the appropriate time, to your earnest and dispassionate discussion.

WORTLEY UNION.—This is nominally a rural district; but the bulk of the population are miners or metal-workers inhabiting very large villages, which are much too crowded, and devoid of proper water-supply and means of drainage. Bronchitis and pneumonia caused the largest number of deaths; whilst the mortality from phthisis was below, and that from zymotic diseases was above, the average. The population in 1876 was estimated at 14,880, and the number of deaths 300. The death-rate in 1874 was 20.0; in 1875, 21.7; and in 1876, only 18.6 per 1,000 population. The death-rate under five years of age was 9.4, and above five only 8.93; so that more than 50 per cent. of the deaths occurred amongst children under five, which certainly does not indicate good or even ordinary care of the young. This excessive mortality of children is a common feature in all mining districts, and is usually attributed to carelessness, want of proper food during infancy, and neglect as regards proper clothing and medical attendance. The nuisances abated were 189, but notices were served in thirty cases which were not removed on December 31st.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF PUBLIC MEDICINE,

*At the Annual Meeting of the British Medical Association,
in Manchester, August 1877.*

BY F. DE CHAUMONT, M.D.,

Professor of Military Hygiene, Army Medical School, Netley;
President of the Section.

SCIENTIFIC RESEARCH IN RELATION TO SANITARY PROGRESS.

GENTLEMEN,—It was with feelings of great gratification that I accepted the flattering invitation of the Council to take the chair in this Section, but it was not without some diffidence that I did so. Tempting as it may be to assume that it is a personal honour, I think I ought the rather to take it as a compliment to the institution I represent, the more so as the chair I hold is one that is inseparably connected with the loved and honoured name of Parkes. To him, and to many others of the medical officers connected with the public services of the Crown, a great debt of gratitude is due, both for the work they actually did and for the start they gave to the great principles of sanitation. The opportunities furnished by our troops and seamen for observations on an extended scale have been of great value, and have, I venture to hope, not been neglected; whilst the vast field of observation in our Indian empire has been productive of a great mass of sanitary knowledge. I may refer to the works of two eminent observers—Dr. Timothy Lewis, of the British Service, and Dr. D. Douglas Cunningham, of the Indian Medical Service—who have been employed for a number of years as special commissioners, primarily for the investigation of the causes of cholera, but secondarily for various other inquiries, which have proved of marked importance. Their appointment to this work is greatly to the credit of the Indian Government, and the productive character of their labours has been most encouraging. Among these, I may cite their valuable contributions to the history of cholera, in the course of which they have cleared away much that was of an untrustworthy and misleading character; their researches on the nature of the soil, air, and the ground-water fluctuations of Calcutta; the observations on the suspended matter of the atmospheric air; the discovery of the *Filaria sanguinis hominis*; and their more recent researches on the Madura foot, the Delhi ulcer, and upon Indian leprosy. It is not, of course, my object to praise one class of medical men as sanitarians above another; and, indeed, it would be unbecoming in me to do so; but my desire is twofold: first, to point out the advantages to the community of special scientific inquiries on an independent basis; and, second, to vindicate to some extent the position of our profession in sanitary work.

With regard to the first point—the encouragement of special scientific research—this touches the much vexed question of the "endowment of research", about which so much has been said and written in late years. To a certain extent, the principle has been recognised by the Government in the admirable series of inquiries first carried on under the enlightened direction of Mr. John Simon; but, excellent as these were, and as those still are which are continued under his successor, they are far too limited in scope for the requirements of the age; and it would have been a movement particularly appropriate for a Government whose motto was, "*Sanitas sanitatum, omnia sanitas*," to extend such inquiries in a much wider circle, and so encourage investigations which can seldom be adequately conducted by means of private resources. In private life, those who have the means sufficient have rarely the knowledge or the inclination proper for such researches, whilst "chill penury" too often "represses the noble rage" of those who could most effectually carry them out. Such men as Cavendish are rare, of whom his French biographer said, "*Il était le plus riche de tous les savans, et le plus savant de tous les riches*". But it does seem a strange anomaly that almost unlimited sums can be obtained for experiments on "Woolwich Infants", torpedoes, and the like—in short, anything that will most effectually destroy the human family on the largest scale; whereas there is untold difficulty in getting the most modest amount if the experiment be merely for the purpose of *saving* life. Of course I know it will be said that this is a trite complaint—one that has been made over and over again; also that upon the efficiency of our torpedoes and big guns depends our existence as a nation. Well, I can only answer that, if the complaint is trite, it is all the greater reason that the evil should be redressed; and that, if our exist-

ence depends upon our means of defence against a foreign enemy, it depends tenfold more upon the efficiency of our defence against a host of enemies, most of whom we carefully nurture in our own homes, and to which a foreign army is mere child's play. Preventable disease kills annually in this country not less than a quarter of a million—a number more than ten times greater than the “horrible and heart-rending” loss which our army sustained in the Crimean war—a loss which stirred the feelings of the country from one end to the other. It is true that ours was an invading army, and that the sufferings of an invaded country are greatly enhanced. The siege of Paris cost the city fifty thousand lives; but, even with this large number, the whole losses of that great war were probably little more than perish in a year from preventable disease. War, besides, is a rare occurrence in a country; whereas our other foes are always with us, hardly ever ceasing from their destructive work. While, therefore, admitting that war is a gigantic evil, against which every precaution ought to be taken, it cannot be too often repeated that there are other even greater evils constantly in our midst, against which at least equal precautions ought to be provided for, but which have as yet, unfortunately, failed to impress the governing classes with their immense importance. It is not that we would stop the attempts to keep ourselves in the van of science as regards war, but that we should devote more time and money to other matters too, so that, while the one thing is done, the other shall not be left undone. It is true that much has been accomplished—more, perhaps, than might have been expected not many years ago; but still so much of our legislation in sanitary matters remains merely permissive, that a great deal less is really done than might be hoped for from the machinery. For true sanitary progress, we require an accumulation of facts and observations, as well as an organised series of original researches and investigations, such as can only be done on a great scale by State help and authority: a Department of Health, in fact, which shall be looked upon as equal in importance to any of the other great departments of the Crown.* Part of its duties ought to be to organise a system of extended and continuous investigations into the conditions of the soil, the air, and the water of the kingdom, such as could not fail ultimately to add vastly to our sanitary knowledge. As regards water, much is being done by individuals in different places, chiefly in the way of chemical analysis; but the microscopical examination is comparatively little studied, whilst anything like a systematic method of inquiry has still to be organised. Of course I do not forget the large mass of information collected by the Rivers Pollution Commission; but that is by no means enough. There is no “rest and be thankful” in such a matter. As regards air, a step in the right direction has lately been taken by the establishment of a section of sanitary meteorology in the Government Meteorological Office; but chemical and microscopic investigations are also necessary, and ought to be continuous and in a multiplicity of stations. For the soil, we may say that nothing is being done. It is true, we have many details about its geology, so far as its solid constituents and their arrangement go; but the study of the soil-atmosphere and its variation under different conditions has been hardly even touched upon in this country.

Another most important inquiry has been much urged of late upon the attention of the profession and the authorities; namely, the registration of disease. Without the information that would thus be obtained, it is hardly possible to know the history and etiology of maladies—points so essential to a true knowledge of their means of prevention. Almost the only records of the kind are those of the army and navy, and they give information only about certain classes and ages, in numbers too small to have more than a limited value. Still, from them much information of a valuable character has been obtained. I may cite the important statistics of the influence of the Contagious Diseases Acts, which up to the year 1873 gave much valuable information. The unfortunate concession to pharisaical clamour in that year—viz., the infliction of a fine upon soldiers suffering from venereal disease—has done much to vitiate the returns as true statements of its amount. At all events, it has unfortunately given a handle to the opponents of the Acts, of which they have not been slow to avail themselves. Still, the statistics that are even now published, notwithstanding the somewhat modified value which must be attached to them, are, let us trust, sufficiently instructive to render the repeal of the Acts improbable. Few pieces of legislation have, to my mind, been more successful; and it would be a lasting pity if the good were arrested by the well-meaning but misguided efforts of its opponents. At the same time, the preposterous way in which the latter handle statistics makes them no more formidable than the anti-vaccinationists, at

least so long as our legislation is conducted by people of ordinary sense and perception, who will be content to deal with facts and not with fancies, and not make or repeal laws in a fit of hysterics.

I have said that I proposed, in the course of this brief address, to vindicate to some extent the position of our profession in sanitary work. It may seem to many somewhat strange that this should be at all necessary. One would have thought that, if sanitarians were to be drawn from any profession, it would certainly be from the medical; yet it is remarkable how strong a tendency there is in some quarters not only to disregard the advice and counsel of medical men, but even to shoulder them out of the work altogether. Were medical men now-a-days, as used to be said of them formerly, merely givers of nasty pills and nauseous potions, with but a limited knowledge of disease itself and a blank ignorance of its causes, the opposition might have some fair ground; but, in the present day, even our sarcastic enemy Montaigne, who implored that he might get no physic until he was well and strong enough to bear it, might have looked with some favour upon a profession whose motto is not merely “Venienti occurrere morbo”, but “Principiis obsta”, whose most strenuous efforts are towards the prevention, and even, if possible, the extinction of disease. Again, in how many instances has our profession in vain called attention to sanitary evils and urged their remedy, with no other result than being sneered at first, and finally having their labours quietly appropriated, and the glory given to another? There are several forms which this opposition may take. The first is the purely *Philistine*, which from time to time finds its expression in local governing bodies when the necessity for a medical officer of health is gravely questioned. In one instance, it was objected that it was a waste of money to pay a salary for the office at all, on the ground that there was nothing so cheap as science, and that you might get one for nothing. In another case, it was gravely said that all that was wanted was a good inspector of nuisances, sanitary work consisting merely in the removal of dung-heaps, clearing out privies, and the like. The second form of opposition I may call the *obscurantist*, which in some points differs but little from the former in practice. This would resist the appointment or co-operation of any one who did not hold the particular view which they especially favour, who would, like the grammarian that cursed his opponent for his theory of irregular verbs, introduce what I may call an *odium aitiologicum*; and from participation in this form of opposition our own profession is, I regret to say, not altogether free. The third form is one which is a little complex and rather difficult to name in a single expression; it is partly “rest and be thankful”, combined with a spirit of resentment against the medical profession as that which especially troubles their Israel, and partly an extreme timidity in the matter of expenditure. It is this that induces local authorities to give the Poor-law doctor an annual ten or fifteen pounds as health-officer, really as a retaining fee to make him hold his tongue, instead of appointing a competent officer, who should have no interest in anything except keeping his district in the highest state of sanitary efficiency. It is this spirit that induces high official persons to disregard the sanitary counsels of medical men, and, if possible, to compass their exclusion from sanitary work, on the plea that they are *impracticable*. Being *impracticable* usually means that the recommendations of the individual so styled will lead to the expenditure of money—a thing generally abhorrent to the official mind (unless it be for its own particular job). But it is farther asserted that mistakes are made, and that things directed to be done at one time are disapproved of at another, so that changes are rendered necessary, to the hindrance of true progress and (of course) waste of public money. But, I may ask, are mistakes peculiar to the medical profession? Do no others ever make them? Are there never any legal or engineering mistakes; no military, naval, or political mistakes? Considering all things, it seems rather wonderful that the mistakes have been so few; and that may be taken as a proof that the teaching and habits of thought of the medical profession form an excellent training for sanitary work. At all events, we may safely say this, that, many as the mistakes may be that can be laid at our door, they would have been many times greater had the work been entrusted to any other class of men. If we have slain our thousands, they would have slain their tens of thousands. I am very far from being forgetful of the fact that many distinguished sanitarians have come from ranks non-medical; but I do uphold that it is from our ranks chiefly that sanitarians must and ought to come, for in no other profession is that class of knowledge acquired that best fits a man for sanitary work. Not that I wish by any means to exclude members of other professions. We require the assistance of all, and desire the co-operation of all; but to attempt to work sanitary reform without the medical profession would be like making wine without grapes; it might be wine of a sort, but it would only be gooseberry after all. We are not without illustrations of the results of

* In reference to this, I may recall the eloquent address of Dr. B. W. Richardson, F.R.S., at the opening of the Sanitary Institute of Great Britain.

attempting to act without, or contrary to the advice of, the profession. Let the history of the Crimean war serve as an example. Perhaps the best abused man of that time was the late Sir Andrew Smith, the Director-General of the Army Medical Department; and yet, when the true story of the war came to be told, it was found that he had foreseen only too well the breakdown that must occur, and proposed measures which, had they been adopted, would have at least greatly mitigated the terrible evil. The French Government were not more wise than our own, for they disregarded the warnings of their medical staff in the autumn of 1855, when it was plain to the eye of science that a terrible invasion of typhus was imminent. The ruling powers were deaf, the blow fell, and many of the unfortunate doctors fulfilled their prophecy in their own persons. Look at the history of the last Arctic Expedition and the present Indian famine, and say whether dire disaster might not have been averted had medical counsel been listened to. On the other hand, we have the history of the campaigns in China in 1860, in Abyssinia in 1868, and in Ashanti in 1873, in which medical counsel was sought, and, still more, acted upon; and what do we find? A series of triumphs won at a cost that was positively insignificant; a sanitary success that was little short of perfect, even in the terribly trying climate of the Gold Coast. This last was appropriately called a doctors' war; and it will be golden wisdom in governments to try and make all other wars more and more doctors' wars, as well as to listen to their counsel in times of peace, whether they deal with soldier or civilian. To attempt to do without the doctor now is hopeless, although it is possible to conceive a time when such a consummation may arrive. Indeed, the progress of medical science has been constantly tending towards abolishing the necessity for the physician; so that, in a remote future, a physician will be honoured less for the uses men may have of him than because by his preventient science he renders it unnecessary to use him as a physician. And this is a healthy sign of progress. Every pursuit has its own mission to fulfil; and, if it do it well, its highest point of aspiration must in many instances be its own effacement. When the prophecy is fulfilled, the mission of the prophet is accomplished. All the world holds his secret, and he passes away out of notice; the time and place know him no more. Thus, as I have said in a former lecture, "State Medicine will have both reached its perfection and extinguished itself when both sanitarian, as differentiated from the community generally, and State, as a controlling and interfering influence, shall have ceased to be; the one, because every member of a perfected community will be a sanitarian in the best and truest sense of the word; and the other because, from the very condition of the community, State interference will have become perfectly unnecessary". (*Lectures on State Medicine*, 1875, p. 6.) But, gentlemen, this is an ideal time, and, for the present at least, an Utopia; between it and us lies a wide and stormy sea of doubt and difficulty, across which our profession will unquestionably furnish the most trustworthy pilots. The saying of Descartes is still true, that, "if the perfectibility of man be possible, it will be through the medium of the medical sciences".

BRIGHTON.—The mean temperature of 1876 in Brighton was 51.1 deg. Fahr., the rainfall 34.64 inches, and the relative humidity 80. There were 934 marriages, against 843 in 1875. The annual birth-rate was 34.8, and the death-rate 19.6, against 21.0 for England. There were 3,021 births to 1,977 deaths, of which as many as 207 were of non-residents. If these were deducted, they would reduce the death-rate to 17.6; but it is clear that all should not be taken off, as there are at all times visitors in Brighton. Of the total deaths, 34.8 per cent. occurred amongst children under five years of age, and 23.2 in infants under one year. There were 15.9 per cent. of deaths under one year out of the total births, that of London being 16.0; so that in this respect Brighton does not compare favourably with large suburban districts of London. The mortality from the seven principal zymotic diseases was unusually low; viz., 11.9 per cent. of the total deaths, and 2.3 per 1,000 population. The deaths from diseases of the respiratory organs, including phthisis, were 26.5 per cent. of the whole, which is lower than usual. The same occurred in most other localities last year, but we do not consider it at all satisfactory to have phthisis grouped with bronchitis and pneumonia. The proper drainage of houses proceeds very slowly in the borough, which certainly surprises us, when we consider how much Brighton depends on its visitors. Dr. Taaffe says that, including 775 connections which have been made during this year with the sewers, there are only 11,432 out of 17,980 houses which are thus connected, so that nearly one-third of the houses are still practically undrained. Dr. Taaffe also says that he must again press on the sanitary authority the necessity of providing a hospital for infectious diseases, of establishing a public *abattoir*, a mortuary with *post mortem* room, and a chemical laboratory.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF PSYCHOLOGY,

*At the Annual Meeting of the British Medical Association,
in Manchester, August 1877.*

By JOHN CHARLES BUCKNILL, M.D., F.R.S.,
Late Lord Chancellor's Visitor; President of the Section.

CONFESSION: THE PHYSICIAN AND THE PRIEST.

GENTLEMEN,—This occasion seems opportune for speaking on a subject of great and general importance to us as specialists, namely, whether the customary practice of our specialty does not frequently tend to impair our usefulness, by limiting our field of observation and by narrowing our view of men and of society. Certainly, we are not unfrequently accused of the prejudices born of narrowness and one-sidedness; and quite recently, it has been asserted by the highest and most revered authority among laymen, whose judgment upon us is as kindly as it is conscientious, that the power of certifying insanity ought not to be exclusively entrusted to those who have deeply studied the subject, because they would be most inclined to find half mankind of unsound mind. "I confess I should be very much alarmed," said Lord Shaftesbury to the Select Committee on the Lunacy Laws (Question 11,347), "if there were persons who kept themselves exclusively to that (giving certificates of lunacy) without knowing all the special circumstances which beset lunacy; all the social and ten thousand other circumstances; and all the eccentricities which are developed by men who are not mad, and who yet, under the discrimination of science, would be put down as being in the way of being mad."

There can be no doubt that all special employment leads to narrowness of mind, and that the learned professions suffer from this tendency most notably. This, indeed, was long ago pointed out by Archbishop Whateley in his work on *Rhetoric*; and there can be no doubt that there is a legist's narrowness, and a priest's narrowness, and a physician's narrowness. It will be very useful to ask ourselves whether, within the latter, there is not also a mental physician's narrowness, tending to explain natural varieties of character and natural courses of conduct, upon the assumption of morbid deviations from an unknown standard of sanity. For, like the old king, who, when he heard of crime or misfortune among men, always asked "Who is she?" are we not somewhat disposed, in all human follies and miseries, to ask "What is the insanity?" and are we not often tempted to parody Carlyle's cynical description of this realm, as a fair country, containing thirty millions of men, mostly lunatics? If this criticism be too wide and general, it is surely not wholly without foundation, and may well be taken by us as a warning voice against a danger incident to our very peculiar calling in life; for, if you think of it, the study and care of men with diseased minds is a very peculiar calling, distinguishing us from all the rest of the world, which carries on all the business of life on the assumption that men are reasonable beings. Society rubs along, believing in the rule of reason as it does in the law of gravitation; and although we may enjoy vastly more credit than the levitating spiritualists, we scarcely stand on a less distinct foothold from the common faith which actuates the daily conduct of our fellow-men; and the greatest caution is needful that, as the companions of the insane, we do not become too much associated with them in their modes of thought. The learned author of the *History of Civilisation* maintained that the characters of men are developed from their objective surroundings, so that the men of the mountain, of the plain, of the forest or the desert, differ from each other in consequence of the great features of nature by which their character is fashioned, and which they reflect in mental and bodily peculiarities. This, no doubt, is in great measure true; but it is even a more weighty truth that the individual man reflects his fellow-men, and that man is the creature of his social surroundings, and the due consideration of this most important factor of mind is the great addition which Mr. Herbert Spencer and his followers have added to modern philosophy. Mind as subject and nature as object does not explain, as used to be said, the whole field of thought and things to be thought of, of feelings and things to be felt. There is an addition to this: the minds of other men, the manifestations of which are objects, but which in themselves are not objects, but what Professor Clifford, with his keenest insight and appreciation, proposes to call *ejects*; and these minds of other men it is which really and effectually mould us to what we are. To be moulded by the best minds is the greatest happiness, to be fashioned by the worst is the greatest mis-