

is sound and most important, and that this meeting cordially assents to the proposal that the British Medical Association shall act upon this principle at its future meetings;" also a letter from Dr. Hodgkin, recommending for consideration the subject of the weights and measures to be used in medicines.

Discussion on those subjects was deferred till the following day.

## ON THE OCCURRENCE (HITHERTO UNNOTICED) OF MALIGNANT PUSTULE IN ENGLAND.

ILLUSTRATED BY A DRAWING AND BY NUMEROUS FATAL CASES.

BY WILLIAM BUDD, M.D., CLIFTON,  
HONORARY AND CONSULTING PHYSICIAN TO THE  
BRISTOL ROYAL INFIRMARY.

In France, Germany, and other parts of the Continent, under the significant name of Malignant Pustule, a disease has long been familiarly known and described which proves fatal every year to a large number of persons. Beginning as a minute vesicle, which is seated *always on some uncovered part*, its special character is to excite a peculiar form of gangrenous inflammation, which, spreading rapidly from the point first affected to the neighbouring tissues, gives rise to local changes of very uncommon aspect, and finally destroys life by general infection.

A disease calculated by so much that is striking to arrest attention has naturally been made an object of inquiry by many eminent observers. A long list of German, French, and Italian writers might be cited, each of whom has added some thing to its history. The following important points appear to be established by their investigations:—

1. That the malignant pustule in man is identical with and derived from the fatal and eminently contagious disease which, under the name of "charbon," or (in sheep) "sang," has prevailed from time immemorial on the Continent in oxen, sheep, horses, and other animals.
2. That the disease may be communicated to man from the animal in the following ways:—
  - a. By direct inoculation, as in the case of butchers, herdsmen, drovers, and others, in whom accidental inoculation with the malady appears to be an event of not unfrequent occurrence in the countries in which "charbon" most prevails.
  - b. By means of the skin or simply the tainted hair of diseased beasts—modes of communication of which many decisive examples are on record.
  - c. By eating the flesh of animals killed while affected with "charbon."
  - d. And, lastly, by the bite of insects which have been in contact with the bodies or carcasses of diseased cattle—a mode of inoculation obviously difficult to demonstrate, but in proof of which numerous cases, and some apparently entirely free from ambiguity, have been recorded.
3. That the malignant pustule, when contracted by man, may be communicated by contagion to other men, or back to the animal by inoculation.

In whatever way the disease may have been contracted, it is at the outset local only, the general poisoning which ensues being due to the after-diffusion of the morbid changes and products engendered in the part first affected.

From this summary it appears that this remarkable affection has not only been closely studied by a great number of Continental physicians, but that their published observations upon it amount to a considerable body of medical literature. This being the case, it is certainly a very curious fact, whatever the explanation, that the profession in England are almost entirely silent on the subject. Mr. Drnutt, in his "Vade-Mecum," and Dr. Copland, in his "Medical Dictionary," are, as far as the author has been able to ascertain, the only English writers who have treated of it at all. Both speak of it as being all but unknown in England, and both, professedly, derive their account of it from the French. In the long list of writers on malignant pustule appended by Dr. Copland and by Virchow to their respective articles on the subject, no English name appears.

From this one of two things is clear, either that a malady which is unlike any other, and which, in all respects, is one of the most remarkable to which man is liable, has hitherto escaped recognition here, or that the malignant pustule (except, perhaps, as a thing of extremest rarity) is never met with in England. This last alternative, if true, would be very difficult to explain, inasmuch as the "epizootic" from which malignant pustule is derived, so far from being unknown here, has from a very remote period caused every year a large mortality in the live stock of the English farmer. The "joint murrain," "black quarter," or "quarter evil," and "the blood," (the name by

which the malady is known in the sheep.) are the same disease as the "charbon" or "sang" of the French, and the "milzbrand" of the German writers. That a disease which is known to be communicable to man should abound here, and yet never be communicated to him, would be a strange, if not an unaccountable thing.

It was one of the objects of this paper to show that the fact is not so, and that the true reason why the disease in question has not been noticed by English writers, is that it has hitherto been confounded with other maladies which offered some points of analogy with it.

In proof of his position Mr. Budd related nine cases of malignant pustule, in which all the most striking characteristics of the disease were present in the highest degree. Of these nine cases, three were under his own care; the notes of the remaining six were furnished to him by personal friends.

In all the cases which were watched from their commencement, the disease first showed itself as a small red pimple, attended by severe itching, or by a hot stinging sensation, which was described as very peculiar. In this stage it resembled the bite of a gnat, to which it was likened in more than one instance; and in two of the number it seemed to be the actual result of the bite of that insect.

In the course of a few hours the pimple was seen to be surrounded by a minute vesicle, containing a little reddish-yellow serum. These first appearances were soon followed by more characteristic changes. The first in order was a blackening and hardening of the immediately surrounding and subjacent tissues, which, rapidly extending itself, ended by invading a large area. This process was attended by wide-spread swelling and infiltration of the neighbouring parts, which put on the aspect of malignant erysipelas. In several cases, chains of inflamed lymphatics were seen passing from the seat of the disease over the forehead and down the neck. In one, severe double pleurisy occurred as a result of the general infection.

In all, there was everything to show that at its onset the malady was purely local. At first, there was an entire absence of constitutional disorder, and several of the patients were well enough to follow their usual occupations for two or three days after the first appearance of the characteristic vesicle. When the general symptoms set in, they were chiefly marked by great and rapidly-growing prostration, by frequent pulse, hurried breathing, and other well known signs of septic poisoning. All terminated fatally, death occurring within a period ranging from the fourth to the eighth day.

When the disease began in the lip—which was the case in the great majority—the enormous prominence of the mouth, its hard and rigid state, and its almost black colour, caused a peculiar and hideous disfigurement, which was in the highest degree characteristic.

In all the cases that were narrowly watched from the first, a second crop of vesicles made its appearance as the disease advanced in the immediate neighbourhood of the first. In the patients that fell under Dr. Budd's own care, the breath exhaled a peculiar and most repulsive odour.

Taken in their whole succession, the phenomena here recounted are diagnostic of malignant pustule, and are met with in no other malady. They are identical in every minute particular with the phenomena which have been recorded in numberless instances in which the disease has been contracted by accidental but direct inoculation from animals affected with "charbon." In their fatality as well as in every other character they are also identical with the phenomena which this last-named malady exhibits in the beast.

In addition to the foregoing, the author had obtained some particulars of no fewer than fifteen other cases which have occurred within a few years in various parts of England, making twenty-four in all. In two of the twenty-four the affection was seated in the hand; in the rest it occurred in the face, and generally on the lip or in the immediate neighbourhood of it. In all, therefore, it made its appearance *on parts that are habitually uncovered*: a circumstance on the importance of which the French and Germans very rightly insist as significant of inoculation from without. In two of the series the pustule appeared to result from the bite of a gnat. In another it was caused by contact with the carcass of a sheep that lay dead in a field. The subjects of three other cases were persons whose occupations brought them into daily contact with a large number of sheep and bullocks. With these exceptions, nothing was made out in the history of the cases to give any clue to the origin of the disorder. As by the greater number of the observers its possible derivation from diseased animals was never once thought of, no inquiries were made of a nature to throw light on the subject.

In the absence of direct information, Dr. Budd suggests two different ways in which the poison might possibly be received: first, by eating the flesh of animals that have died of quarter evil or blood; and secondly, by the intervention of flies that have previously been in contact with animals affected with these diseases. As to the first mode, all that can be said is that the material conditions for it are not wanting among us. It appears to be only too certain that the flesh of animals which have died of quarter evil is largely sold in the English markets; and Dr. Budd has ascertained by experiments, which will form the subject of a separate paper, that the temperature to which meat is subjected in the operations of roasting and baking does not impair the powers of animal poisons. On grounds, however, which are fully detailed in the paper, the author inclines to the supposition that the virus is in the greater number of instances conveyed by flies.

On the subject of treatment he has nothing of his own to offer. By the experience of the French and Germans, the all-important fact seems to be established, that the disease, inevitably fatal as it is when left to itself, may be certainly arrested in its early stage by the use of powerful escharotics.

The paper concludes with some remarks on the subject of prevention, and on the desirability of a more systematic study of the diseases of our domestic animals.

The appearance of malignant pustule as it occurs in the lip was illustrated by a drawing from one of the cases.

### SOME REMARKS UPON REMEDIES, AND ON THE STUDY OF THEIR ACTIONS.

BY CHAS. HANDFIELD JONES, M.B., F.R.C.P. LOND.,  
PHYSICIAN TO ST. MARY'S HOSPITAL.

The subject on which I have undertaken to address you is so large, and the time allotted me is so brief, that I must dispense with all preamble and all ornamentation, and endeavour to interest you solely by the bare importance and worth of the topic.

It is, indeed, a poor truism that to cure or prevent disease is the great function of the medical practitioner; and though it be such, must we not acknowledge that this great aim has not been held so distinctly and steadily in view as it deserves? Refinements in diagnosis and in description of symptoms have too often turned away able minds from the great business of labouring to increase our mastery over the morbid actions with which we have daily to contend. It is well to describe clearly and accurately the phenomena which characterize a disease, or to distinguish between forms of disorder that have been previously confounded. But he has surely better earned his civic crown who has made known a new remedy, or a new and improved application of an old one; who has imparted some increased efficiency to the means we possess of staying the sad ravages of disease, soothing agony, and preserving life. How pleasant would be the consciousness at the close of our career that we had been enabled to increase, in some measure, the beneficent power of our art in favour of suffering humanity! It is true this high privilege is accorded to few; but may it not be that in proportion as our endeavours are set more earnestly in this direction so will be our success? "Seek, and ye shall find," is a word which we may, without irreverent presumption, take for our encouragement in this as in the highest lore.

We may be sure, I think, that remedies for disease were primarily bestowed, like most other good gifts of a beneficent Providence, on those whom, in their helplessness and need, were seeking after them. Some poor sufferer found relief from the means he employed, and told it to others, or recorded it in a votive tablet; and accumulated observations of this kind laid the first rude foundations of the science of Medicine. Long before correct ideas existed of the structure and functions of the human body, and of the various ways in which these are deranged in disease, remedies were used with a measure of success; but it never was intended that the rudimentary knowledge thus bestowed was not to be cultivated and developed, but that, as in all other cases, the talent given was to be improved that yet more might be added. You know by what hard work, by what slow and painful steps, anatomical knowledge, and physiological, and pathological attained their present goodly stature. If, as we must confess, therapeutical lags behind; if it is far too much now what it was necessarily at the outset—viz., mere empiricism, is the cause far to seek? Is it not a truth that we have not striven to improve our knowledge of the means to heal as earnestly as we have to comprehend and classify disease? Must we not acknowledge with something of shame that there are many grave questions

of practice as yet undecided, and that we have never set ourselves *unitedly* to ascertain what empirical proceedings are best in certain cases? Not only have we not rational knowledge of *why* we act so and so, but we are not agreed that *what* we do is right.

Now this being so, I want to employ your time for a few minutes in thinking with me whether we cannot do something in the way of good and worthy effort to obtain a better status. It does seem to me that if anything effectual is to be done in this direction it must be by combined action, and such combined action may surely be looked for from our Association. Look at the names on our muster-roll, and let anyone say if we have not a goodly number of men who have well proved their capacity for scientific and clinical research. Assuredly we have the workers, and as certainly we have the materials. Our members are widely dispersed all over the kingdom, in various and greatly differing fields of labour: some in large towns, some in rural districts; some in the cold bracing north, some in the more relaxing south, and some even in far-off foreign lands. Who, I ask, have better opportunities than we, numbering in our ranks, as we do, hospital physicians and surgeons, experienced self-relying rural practitioners, exact observers of vital phenomena, accurate chemical analysts, and practised experimental inquirers? Ought we not to do good work? I am told that nothing ever has been done in medicine by combined efforts; that attempts of this kind always result in failure; that you cannot get men to work together, &c. &c. I hear it all incredulously, and shall still do so as long as I see all around me such proofs of what is continually effected by the conjunction of the powers and means of many. The law of successful enterprise for man is co-operation, and there can be no sufficient reason that this should not hold true in scientific research as well as in industrial pursuits.

Let us come up a little closer now to the matter in hand. Two things, it seems to me, call for our efforts; and both are, I trust, sufficiently feasible. One is to ascertain, by continued, careful, patient observation, carried on for a length of time and over as wide an extent as possible, the best methods of dealing with various diseases. This is the perfecting of our mere empirical knowledge, and requires no special scientific training on the part of the observers. All that is requisite is that they should have unbiassed, truth-loving minds, and should take care to record none but clear, plain facts, and such results of their experience as have been verified repeatedly. The second comprehends elaborate inquiries into the mode of action of remedies, conducted by able chemists and physiologists; from which we may hope to learn the way in which these agents affect the various organs and vital processes, and how they come to be of efficacy in controlling morbid action. This knowledge is a step beyond empirical: it conducts us to rational therapeutics, and gives us a confidence in and a mastery over our weapons which the mere empirical practitioner can never have.

I will now proceed to give some examples of the kind of work I want to have done. Practitioners all over Great Britain have to deal with croup, cynanche trachealis—a well-marked disease. Let them take care not to confound the true inflammatory disorder with the imitative nervous affection (laryngismus stridulus), or the asthenic diphtheritic malady. Let them record for a series of years the cases they meet with, and the treatment which has been successful, or the reverse. At the end of a period (say five years) let the results be communicated to appointed secretaries, for arrangement, comparison, and publication in a suitable form. Many other diseases, appearing in distinct and easily-recognised forms, might be dealt with similarly. The records should be very brief, merely noticing the important points. I might sketch one or two as follows:—A. B.—, female, aged three, a robust child, attacked with symptoms of croup on the 10th of February. Leeches applied to the throat next day, and potassio-tartrate of antimony in quarter-grain doses every two hours given for two days, then less frequently. Convalescent on the sixth day. Health subsequently good.—C. D.—, aged eight months, a weakly child, attacked with rheumatic fever on May 7th. Pericarditis detected May 12th. Treated by salines and colchicum, with mercurials to slight salivation. Disease unchecked. Left side pleuritic on 16th. Death on May 20th.—The busiest practitioner would find but little difficulty in keeping such records, and their value, when grouped together in large numbers, would be exceedingly great. If, as I think it probable, it were found that there was a considerable difference between the experience of urban and rural practitioners, this would be a fact of considerable significance. The question of change of type in disease would probably be solved in half a century by steady per-