

cancer alongside other diseases which we are agreed to call constitutional, such as gout, syphilis, scrofula, and tuberculosis. Gout may make its appearance in the joints, skin, bronchial tubes, or lungs respectively of different members of the offspring of a gouty subject, and so with the other diseases enumerated. The effect of injuries on the production of cancer is in favour of its being included in the class of constitutional diseases. In a very large number of cases cancer follows an injury, and that so distinctly that the two occurrences cannot be disconnected. Now we know the limits of possible effect of an injury on a tissue as well as we know anything in pathology—inflammation, induration, overgrowth, and so on, or, at most, the production of some tumour like the tissue injured. When there is a decided deviation from this recognized course, we say there is some constitutional element at work. If a knee-joint suppurates instead of healing after a moderate injury, we say the patient is scrofulous. So in injuries to bones; so in gouty persons; and so in syphilitic subjects. This is as certain knowledge as any we possess in pathology. It is but the reading of the same fact with altered terms in the case of cancer. We say it is a constitutional tendency, and this opinion is much strengthened in those cases where we know there is a cancerous inheritance. Thus, a cancerous mother has a son; his lip is irritated by the pipe, and the ulcer becomes cancerous. The production of cancer by an injury is therefore a second reason for maintaining its constitutional nature. The next circumstance which indicates strongly the constitutional element in the origin of cancer is its recurrence after complete removal. Mr. De Morgan spoke of its "almost constant" recurrence; but Sir James Paget would say that the cases are not more than 1 in 500 the constitutional predisposition may be exhausted, or other cause come into play. We do not say a person is not scrofulous if after amputation of a limb he has no fresh local outbreak. After all, however, the question is the contrast of cancer in this respect with other tumours. Now, these do not reappear after operation in more than one in 500. The case is a very strong one; and we must remember that in our statistics we include all the records of strange cases. At the Pathological Society, for example, cases of simple tumours are brought forward more frequently when they happen to recur. Now, suppose one were to make a series of experiments, and perform vivisection—which such operations really are—500 times, he would be considered a bold man if he thought it necessary to repeat his experiments because the five hundredth case gave a different result from the others; and that all the more if he performed a second series of the other kind. He would not use the single exception to overthrow the rule. But this is also true in regard to the manner of reproduction. Some tumours which

are not cancerous recur after removal. The tumours which Sir James has called "recurrent fibroid tumours" recur again and again, and cannot be extirpated but by the removal of the whole limb which is their seat. He had himself once removed a tumour for the eighteenth time in seven or eight years from the thigh of a young woman. She died of pyæmia; but had she lived the growth would probably have required removal again and again until the limb was sacrificed. Now, there is no such case in the whole history of cancer. He had removed another tumour for the seventh time; and a third and fourth time may frequently occur. But such is never seen in cancer; it would recur in distant organs. It is vain to attempt to explain this difference of seat of recurrence by any facts of difference of the physical condition of the tumours. It had been referred in this discussion to "mobility of cells." Now, if there is one kind of cancer that propagates faster than another, it is osteoid cancer, and yet no variety is so hard. Scirrhous is as hard as fibroma; yet there is no comparison of their tendency to recur. On the other hand, recurrent fibroid tumours are as soft as possible, and yet they do not propagate themselves in distant parts. For this reason also, therefore, we must assume an essential difference between cancer and other growths. These circumstances impress us that we must not depreciate the constitutional element in the production of cancer. Yet Sir James is anxious not to depreciate the local element. Were he compelled to give an opinion, he would say that of the two the constitutional element is the most important. But it might be urged that cancer would thus come to be considered a blood-disease. Now, whether there is a morbid element in the blood or not, Sir James would not say. Yet, as in other constitutional diseases, we do well to hold that cancer owes *part* to the condition of the blood. If we name various tissues we have a difficulty in imagining in which of them it can exist—as muscle, nerve, etc. Sir James cannot conceive the disease as existing in the all-pervading connective tissue; he thinks it safer to say in the all-pervading blood. Analogy is in favour of this view. We have all-pervading blood-diseases which we know well, and it is to them that the likeness is found. Senile diabetes is an example in point; the production of a carbuncle from this is singular,—it is the indication of the diseased blood of diabetes. So in cancer. The same applies in scurvy, and in what is called uræmia—all are blood-diseases. But it has been said that if cancer is described as a blood-disease, there are certain conditions that cannot be understood. These have been enumerated by Mr. De Morgan. But his objections apply to all or any other blood disease. First, that the poison should exist in the blood, and yet no indication be observed previous to the local outbreak. But does not the same occur in gout? Who feels so well as