

positively what kind of a tumor we had to deal with. If a few points were kept in mind we could easily determine whether we had to deal with a benign or with a malignant growth. The key to diagnosis was chiefly in the basis substance, whether fibrous, myxomatous, cartilaginous, or bony. The more of the basis substance present the more certain was the tumor benign; the less the basis substance the surer was the tumor malignant. Malignant tumors were of two kinds: 1. The kind belonging altogether to the connective tissue series, and termed sarcoma; and 2, the kind belonging to epithelial formations, and termed cancer. Further, if we saw slight basis substance without epithelial elements, and without alveolar arrangement, we could say that it was a sarcoma; while if we saw epithelia arranged in alveoli, without respect to size or shape, we made the diagnosis of cancer. In the latter case, also, a great deal could always be determined by examination of the connective tissue outside of the epithelium. The more abundant the connective tissue about the epithelial nests the less malignant was the cancer, while the more numerous the epithelia were, and the less abundant the connective tissue, the more certain we were that the cancer was a malignant one.

Again, there were present in the connective tissue itself a varying number of peculiar shining globular elements which, by recent examiners, had been considered as the product of a kind of inflammatory reaction from irritation of the epithelium. The more crowded those corpuscles were, the worse the cancerous tumor. If we wished to know whether or not the tumor had been thoroughly extirpated, it should be examined about its boundary. If the connective tissue was found provided with only a small number of inflammatory elements so-called, we might be sure that the cancer would return within a very short period of time.

COLORLESS BLOOD-CORPUSCLES AND PROTOPLASM.

Under this head the lecturer referred to the discovery which he made five years ago, regarding the anatomy of protoplasm, and its presentation before the Society three and two years ago. (See *MEDICAL RECORD*, Vol. XI., p. 322, and Vol. XII., p. 94.) He then claimed that protoplasm of any description invariably contained a net-work of threads and granules, that held in its meshes a fluid, and that the threads and the granules constituted the living matter. To-day, more than a dozen of the best microscopists abroad had accepted his discovery, although it had not been recognized in this country. That the reticulum was present, no one had a right to doubt; but that the threads and granules were living matter had as yet not been acknowledged. That it was living matter he had to prove, which he felt himself able to do by the recognition of two well-established facts.

The first property attributed to living matter was

motion; and the second, *capacity for reproduction of its kind*. As evidence that this matter was living, was the motion which could be seen in it, and it was enough to establish its reproductive power to know that the granules increased in size and number during the inflammatory process. Transferring the idea to the study of the human body, Dr. Heitzman reasoned that these corpuscles should contain more living matter in the healthy and strong individual than in the broken-down and scrofulous person. Acting upon that supposition, he began, three years ago, to study pus-corpuscles in the urine in connection with clinical histories, and reached the conclusion that the constitution of the person from whom they came could be determined in that manner. Having settled the question that pus-corpuscles from a healthy person contained an abundance of living matter, an abundance of granules, while those from a debilitated person contained granules which were very small and a very marked net-work, it occurred to him that perhaps by examination of the colorless blood-corpuscles he would be able to tell directly what the constitution of the individual was from whom the blood was taken. So it was, and he had found that when the colorless blood-corpuscles, examined with moderately high power (800 to 1,000 diameters), were found to contain an abundance of granules, it was evidence of a first-class constitution; on the other hand, if only fine granules were seen, and the entire body of the corpuscle was pale, it was evidence of a poor constitution. He had very often noticed that the number of white blood-corpuscles was considerably increased after a single sleepless night, so much so, that it might be determined whether a man had been kept from his rest or not, by examination of his blood. It could also be determined whether a man was to have acute diseases, or whether he was to suffer from the slow processes of disease incident to a strumous diathesis.

These facts being determined, they might exert a very great influence upon the entire question of life assurance. Not only that, but they might exert an important influence upon the question of marriage. To know something of the general condition of our patient was very important. If that could be determined by an examination of a drop of his blood, we had learned much with regard to his future welfare, and a new field was opened worthy of the investigation and study of every physician.—*Medical Record*, January, 1879.

TREATMENT OF TYPHOID FEVER.

In a lecture by Dr. Alonzo Clark, reported in the *N. Y. Med. Record*, he remarks: I may safely say to you that a case of typhoid fever of average severity needs no medicine except for the relief of