

and, we may say, selfish" method of growth similarly characterizes some specific diseases. After indicating some likeness between innocent and cancerous tumors and stating that they have every degree of intermediate relationships, he states as his belief that the term *malignant* is the first and permanent essential difference. "In the qualities which the name 'malignant' indicates are those far more distinctive, more surely diagnostic, of this group of diseases than are the minute structure and chemical composition of the diseased parts, or even than the method of their growing." The breaking from the hard and fast lines laid down by the old cellular pathology is here evident; and it will not be surprising if in a few years carcinomata, sarcomata, gliomata, epitheliomata are relegated to the limbo where have passed *pannus*, *noma*, *chancre*, *cancer aquaticus*, etc., as applied to cancers.

He states that by the term *specific diseases* we usually mean those in each of which the phenomena of common diseases, that is, of such as might be produced by various injuries or external irritations in any healthy person are modified in some definite and constant manner, which gives them what we call specific characters. Hence, "each specific disease is due to the influence of a distinct morbid substance on some part or parts at which the characteristic signs of the disease can be and are manifested. Two conditions must coincide in each; the one general or diffused in a morbid material in the blood; the other local, in some part with which this material produces disease." With these considerations and their evident relations to the *microbe* theory in view, Paget boldly announces his belief "that micro-parasites or substances produced by them will some day be found in essential relation with cancers and cancerous diseases." To-day the term *specific disease* has become greatly extended beyond *eruptions*; and along side of the zymotics, syphilis, tuberculosis, glanders, leprosy, malaria, Paget would place in their affinities cancerous diseases. Certainly a tuberculous mass such as one may find in the brain, a syphilitic gumma in a muscle, or still more, an actinomycosis in the jaw, has more of the characteristics of a tumor than any rodent ulcer has, or many cancers of the lip or tongue. All of these vary in their modes of growth and appearance but not more than many so-called cancers.

Both these and cancers tend to degeneration of tissue and subsequent ulceration, and also produce

secondary infection by extension and transmission of abnormal products. Creighton well illustrates this by stating after his study of the cells products of secondary tumors of the liver, that they stand related to primary tumors as offspring to a parent. "The extraneous influence, therefore, which is necessary to explain the origin of the secondary tumors, is to be compared to a spermatoc influence produced in some unknown manner by the parent tumors."

We may with reason assume the origin of the cancerous diseases to be conditioned by the degree of that vital resistance, referred to in a recent article in MEDICAL SCIENCE on "The Theory of Immunity from Contagious Diseases." We are aware that glandular tumors in the scrofulous, begin or return when the vital powers have been reduced by any cause; and in treatment we direct our energies to restore vigor of constitution. Similarly, cancerous disease of the breasts is most common when their vital energy is low, or as has been said, when, relatively for them, senile decay at climacteric has begun, or, as in unmarried women, at even earlier periods. As Salmon has suggested, cells in normal activity may keep oxygen so completely removed from blood that microbes cannot live in it; but as noted by Zuelzyer, Hiller, etc., let this vitality or normal activity be lessened by a poison (e.g. atropia or a ptomaine) then microbes, as has been proved, overcome a local resistance by multiplication, and infection becomes general.

The lecturer made a most ingenious and apt illustration of the origin of tumors by a reference to vegetable pathology. He indicated how from aborted buds local tumors arise in the trunks of trees, and how numerous varieties of galls occur, through insects, on the leaves of trees. Always is there a local irritating influence creating abnormal products.

The point that each locality of the body has special susceptibilities is well illustrated by the writer by tetanus, in which the cause, undoubtedly a bacillus, appears harmless for a length of time until it invades some portion of the spinal marrow. Similarly with the specially affected parts in scarlatina, typhoid, diphtheria, etc. Regarding the possibility of cancer lying dormant in the system, or of its hereditary character, we have the illustrations of syphilis lying dormant in the system for years,