

callus after a fracture, a pleuritic or peritoneal adhesion, or a fibroid patch in the heart muscle?—all which are new formations in the strictest sense of the term. Something more is needed to separate these from the true tumors, and that is to be found in the etiology alone.

Among the hypotheses which have been advanced to explain the origin of tumors that of mechanical irritation, traumatism, has played an important part, and the number of cases is considerable in which a locality, the seat of a new growth, had been injured. Böll, in 344 cases operated upon in Langenbeck's Clinic, was able to trace a traumatic origin in 42, *i. e.*, about 12 per cent., and about the same percentage was found in the 574 cases treated in the Charité Clinic during the past ten years; that is to say, in 86 per cent. of all cases, in which special attention was directed to this subject, no trace of traumatic origin could be ascertained! Cohnheim concludes that hypertrophy and inflammatory products may follow traumatism; true tumors never. The view of the infectious origin by means of a virus has been supported by some writers, but experiments have shown that cancer is not communicable from animal to animal, or from man to man.

The embryonic predisposition (or design) affords by far the most plausible explanation, and has already been urged by certain pathologists in the case of the dermoid cysts, but not for tumors in general. Cohnheim states his theory in the following terms: The simplest way of representing the matter is to suppose that at an early stage of development more cells are produced than are necessary for the construction of the affected part, so that a cell mass remains unused, probably of extremely limited dimensions, but, on account of its embryonal nature, of very great productive activity. The period of this superfluous production of cells must be placed very early, possibly between the differentiation of the germinal layers and the complete formation of the ground-work of the individual organs; at least, so it seems best conceivable why from the error, not a general hypertrophy of a part takes place, but only a tumor—an excessive growth of one of the tissues of the part.