that three-quarters of the liver, for example, may be removed from the healthy animal with no pronounced disturbance of the bodily functions, that whenever one-fifth or less of the pancreas is left in the dog it may be weeks before diabetes shows itself, that only when fifteen-sixteenths of the thyroid are removed may the dog succumb. In this enormous reserve of material and force may truly be said to lie the secret of the continued existence of living beings. Thus the mere fact that the greater part of an organ is found wanting by the anatomist, or replaced by tissue of another nature, is not in itself absolute evidence that what remains of the organ is functionless or incapable of meeting the needs of the organism. So long as any considerable number of what may be termed the specific cells of an organ are to be determined we must proceed very cautiously in our reasoning; only when the destruction is absolute or nearly so are we on sure ground. Contrariwise, if the cells of an organ appear very slightly altered, while we are accustomed to argue that there has been but little disturbance of function, it is questionable whether we are justified in this opinion. So also if an organ like the thyroid be markedly hypertrophied, that is not in itself proof positive that there is accompanying increased activity and increased internal secretion. In the thyroid, for instance, the boundary line between pure hypertrophy and overgrowth of adenomatous nature is peculiarly vague. It may very possibly be that a simple adenoma of a ductless gland continues to supply an internal secretion; it is difficult to imagine that gland structure of almost perfect type can be present in the body without affecting the body at large.<sup>1</sup> Nevertheless we have no conclusive evidence that this is the case; hence, it is only after most exact and extensive histological study that we can advance any very secure arguments upon the existence of apparent simple hypertrophy, more especially of the ductless glands. The force of this statement will be seen when we come to discuss the bearing of disease of the hypophysis cerebri.

Another matter that has to be taken into account, one that has until now received scant attention, is the existence of vicarious activity. Because one organ is seriously diseased it does not follow that the organism as a whole exhibits disturbances commensurate with the lesions in that organ; other parts may vicariously fulfil its functions. We have the well known example of total extirpation of so important an organ as the spleen being succeeded for years by good health. Here,

<sup>&</sup>lt;sup>1</sup> It is noteworthy how frequently in attempting to co-ordinate the anatomical data in the class of diseases now before us we are brought to regard the possibility—nay, probability—that neoplasms are not functionless (as we are too apt to consider them), but afford, it may be an abundant, internal secretion.