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THE DOMINANCE OF THE NUCLEUS.

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I take it that in opening this discussion I shall perform the greater service if I devote myself to a rapid review of the various findings which together compel the conclusion that the nucleus is the centre of cell activity, leaving it to those who follow me to enter more particularly into the evidence of one or other order.

Such a general survey is more especially demanded because, to my knowledge, it has not yet been attempted; or, more correctly, when attempted, what I regard as the inevitable conclusions have not been drawn. While individual workers have demonstrated the controlling powers of the nucleus in one or other respect there has been a curious disinclination to bring the various orders of data together and deduce their full significance. But here, as regards this morning's discussion, certain limitations must be introduced; the activities of living matter are to be divided into two categories, intrinsic and extrinsic, or vegetative and functional. The observations which have been made upon the nucleus in connection with vegetative activities, with cell multiplication and reproduction, are very abundant. To discuss these along with the data bearing upon the role of the nucleus in the functional activities of the cell would make this morning's debate altogether too diffuse. It has been thought wiser, therefore, to confine ourselves, save in one respect, in the main to the latter—the functional activities. Nevertheless, if I have correctly interpreted my duties as introducing the subject, in order to place in a clear light the controlling influence of the nucleus in the life of the cell, I cannot leave these vegetative activities out of account. As opener, I must as briefly as is possible, consistent with lucidity, bring forward the evidence of nuclear predominance as afforded by studies upon cell and individual reproduction. It was the studies upon mitosis that first revealed the high importance of this constituent of the cell.