

Vincent). It will be convenient to discuss the cortex and medulla separately.

THE CORTEx.

The cortex is larger than the medulla and is composed of epithelial cells the structure of which suggests a high degree of functional activity; in Biedl's hands experimental removal of the cortex, the medulla being left intact, was followed by death of the animals; and it is stated that compensatory hypertrophy of accessory suprarenals, when this occurs, after excision of the main glands, is solely cortical. These considerations strongly suggest that the cortex has some important function and that it is essential to life, but in what exact way is as yet unknown. The most certain point about the cortex is that it is quite unlike the medulla. Its cells contain fat and lecithin, the significance of which is unknown, but do not give a green color with ferric chloride (Vulpian's reaction), or a brown color with chromic acid, as the (chromaffine) cells of the medulla do. Physiologically extracts of the cortex are quite inactive and do not raise the blood-pressure. Our knowledge as to the function of the cortex is very imperfect, but some arguments can be adduced in favor of each of the three following views, namely, that it may be concerned (1) with growth and development, especially of the sexual organs; (2) with neutralization of poisons, or (3) in some manner with the internal secretion of the medulla—adrenalin.

1. The relation of the cortex of the suprarenals to growth and development, especially of the sexual organs.—It is now known that there is a definite group of cases in young children, the peculiar feature of the cases being that a primary tumor of the suprarenal body (hypernephroma, mesothelioma, Woolley)¹ is associated with excessive development of the organs of generation, hair, and fat. Bulloch and Sequira² have collected ten cases, all but two under eight years of age, two in males and eight in females, showing this precocious development in association with a hypernephroma which, in some of the cases at any rate, was derived from the cortex of the suprarenal; future researches will naturally be directed to determining whether hypernephromas of cortical origin are, as suggested here, specially associated with exaggerated growth, while hypernephromas arising in the medulla of the suprarenal show no such association. Bulloch and Sequira have indeed collected twelve cases of hypernephromas in children who did not show any signs of premature development, and in some of these cases the tumors, described as sarcomas or lymphosarcomas, were definitely regarded as arising from the medulla of the gland. It must, however, be noted that in adults cortical hypernephromas, which are probably more often seen in the kidney (renal hypernephromas or adrenal "rest" tumors) than in