

THE RELATION OF THE PSYCHE TO THE ENDOCRINE GLANDS.

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THE study of the relationship of the psychical and the endocrine mechanisms is made more difficult by the fact that the body does not react by separate systems, but as a coherent interlocking piece of machinery. Not only does the mind react on the glands and vice versa, but each gland reacts on the others to some extent. It follows therefore that one syndrome can be produced by two or more glands or by the mind and one gland. An example of the first is the adiposity, sexual dystrophy and hirsutism which make adrenal and pituitary syndromes so confusing, and of the second the difficulty in differentiating anxiety states from thyroid disease.

It seems probable that the psychical reactions stimulate the endocrine systems, and that deprivation of the psychical factor may in itself lead to interference with the glandular output. Perhaps the adiposity which appears in some cases of general paralysis, cerebral tumours and schizophrenia may be due to interference with the psychical stimulation, and not necessarily to direct pressure on the hypothalamus or pituitary. On the other hand, atrophy or destruction of the endocrine glands leads to a collapse of the emotional life, as we have found in cretinism and eunuchoidism.

The biological function of all animals is nutrition, protection and procreation. The investigation of psychical activities reveals that they are concerned with these functions. So are the endocrine glands—in fact they are inextricably combined.

There is a wealth of psychological evidence showing that interference with the nutritional functions may interfere with the protective ones (i.e., create a permanent state of fear), as well as produce sexual difficulties in later life. Similarly interference with the protective (fear-aggression) machinery produces irregularities in the sexual and nutritional spheres, and again derangement in the sexual life tends to produce fear and nutritional difficulties.

The importance of the psyche in the nutritional and metabolic sphere is shown by the fact that animals will not feed, digest their food, or (even if they do) put on weight if they are frightened. There is always a loss of weight in chronic anxiety, and the invariable concomitant of successful psychotherapy is an increase in weight. On the contrary, loss of weight through excessive

“slimming” appears to result in depression. The researches on flying men in the British Royal Air Force show that the plump tend to be free from neurosis and the neurotic is generally thin. There seems to be no dividing line between anxiety states and hyperthyroidism. Crile believes Basedow’s disease is due to activation of the thyroid by the adrenal, but it seems likely that the adrenal is activated by the psyche, and cases with exophthalmos, tremor, and raised pulse and basal metabolism have responded to psychotherapy.

The great increase of diabetes in women during the last twenty-five years (i.e., 117%, as compared with 20% in men), during which they have stood greater strain, suggests that diabetes is due to pancreatic damage following excessive and prolonged psychical strain.

The difficulty in dealing with sexuality is that it is divisible into physical and psychical functions. It is suggested here that the psychical sexuality is the result of conditioning both in the case of heterosexuality and homosexuality. Babkin has shown that castration diminishes the power of retention of conditioned reflexes. In the study of eunuchs and eunuchoids one finds a diminution of the capacity to love an external love object (i.e., the conditioned reflex has broken down).

The adreno-genital syndrome (which produces hairy women) seems in some cases to be initiated by strain, and undoubtedly removal of the larger of the diseased adrenals restores the psychical sexuality in many cases.

The menses have been believed to be capable of influence by psychical trauma. The older hypnotists claimed that they could cure amenorrhœa by suggestion. Cases frequently occur in psychotherapeutic practice where there is an alteration of menstrual function under treatment. These cases often have an unconscious fantasy of pregnancy, and occur in moral girls who have little chance of marriage.

In my view all hypersecretory endocrine disease in which there is no neoplastic disease is psychogenic, and where there is inhibition of the glandular functions the causation is often similar.
