

A consideration of these experiments, together with Mosso's results above mentioned on the fatigue caused by psychical action, would lead naturally to the conclusion that the poison of fatigue is elaborated from material lost during the period of work. In regard to this poison it can only be said definitely at present that it has an acid reaction but it is probably something midway between albuminose and a body closely allied to urea.

In connection with the above, the anatomical researches of the gray matter of the cortex of the brain of Ramon y Cajal are most interesting, giving us as they do a much more concise knowledge, especially of the Rolandic area, than those of any previous observer. Time forbids any farther mention of this work except that in the large pyramidal cells of the third layer he has found what he terms the *psychical* cells. It is precisely in these cells that we are to expect, with a very reasonable degree of certainty from the experiments mentioned above, the alteration in structure which underlies not only neurasthenia in its simple form, but also the insanity from over-exertion of the brain, which is only a more advanced stage of the process. This is farther borne out by the fact that in the very large majority of cases dying insane, a milky opacity of the arachnoid and visceral pia is seen over this area.

Hence, gentlemen, the discoveries mentioned above show the great stride which has been made (1) in placing mental disease on a firmer anatomical basis, and (2) in allowing us justly to conclude that since the nervous system presides either directly or indirectly over all the other organs or functions of the body, that any serious derangement in its action can necessarily influence the functions of these organs, and lead to the various disturbances we meet with in neurasthenia. In this regard may be mentioned the dyspepsia which is so common in nervous weakness. It has been said that this is caused by the absorption of toxines from the alimentary canal. That toxines may be so absorbed at a later period seems more than probable, and the trouble by this means be prolonged, but I think the primary cause is to be sought in the changes in the cortical cells of the brain, which cause an impairment of the digestive functions, and that it is only after these have occurred that the toxines play an important role.

In conclusion, let me add that instead of regarding mental symptoms as some obscure phenomena detached from the remainder of the human organism, I believe we should, on the contrary, regard them as the expression of an anatomically diseased organ, viz., the brain, just as much as we regard other signs, for example albumin, as indicating