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MAN, THE GREAT INTEGRATOR¹

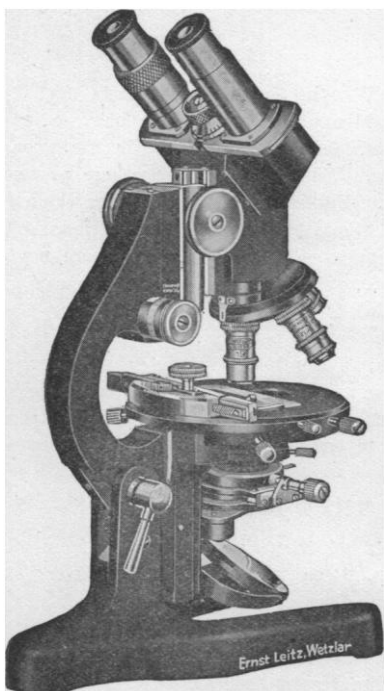
By DR. WILLIAM A. WHITE

SUPERINTENDENT, SAINT ELIZABETH'S HOSPITAL, WASHINGTON, D. C.

FROM the point of view of the circulatory system we may think of one of the higher mammalian organisms in terms of the systole and diastole of the heart. With the heart's contraction a powerful stream of blood is forced into the systemic circulation to find its way through vessels of ever-decreasing diameter to smaller and smaller areas of irrigation. In this way the oxygen carried by the blood corpuscles is distributed to the most remote portions of the body. Then when the force of this contraction has spent itself the heart pauses for an instant and during this pause receives from all these outlying districts of the body the blood which, having been deprived of its oxygen, has by another mechanism been circulated through the lungs to receive a new supply, and when this is done a further contraction sends this new supply along the

same paths as before. This constant pulsation which distributes the vital fluid is characteristic in a sense not only of all living matter but of everything organic and inorganic in the cosmos. Wherever we look we find motion, and wherever we find motion we find rhythm or periodicity of some sort. We might therefore reasonably expect, and as a matter of fact do find, that these same principles which control elsewhere are observable in the field of psychological phenomena. The particular aspect of these phenomena to which I would draw your attention are the systole and the diastole of human knowledge, which expresses itself in the constant tendency, so well manifested in the field of medicine, to the development of medical specialities and in the field of science to the separate development of the various sciences. It is the tendency to differentiate, on the one hand, and on the other the reciprocal tendency to bring together, into a common reservoir, as it were, by a process of co-

¹ Address at the opening session of the American Association for the Advancement of Science, Pittsburgh, December 27, 1934.



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