SCIENCE

VOL. 86 FRIDAY, JULY 2, 1937 No. 2218

SCIENCE: A Weekly Journal devoted to the Advancement of Science, edited by J. MCKEEN CATTELL and published every Friday by

THE SCIENCE PRESS

New York City: Grand Central Terminal

Lancaster, Pa. Garrison, N. Y.

Annual Subscription, $6.00 Single Copies, 15 Cts.

SCIENCE is the official organ of the American Association for the Advancement of Science. Information regarding membership in the Association may be secured from the office of the permanent secretary, in the Smithsonian Institution Building, Washington, D. C.

THE BIOLOGICAL BASIS OF INDIVIDUALITY[1]

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WE apply the term "individual" to a living organism to emphasize the distinctive, unique features which such an organism possesses. In individual human beings we note their appearance, motor reactions and psychical expressions and certain inherited or acquired structural or functional peculiarities, such as nevi, allergies. There are in addition two very fine modes of distinguishing one human individual from every other one. These are the individual scents attaching to different areas of the body, representing in their totality a characteristic by means of which a dog can distinguish one individual from every other one; and there are the patterns of the skin ridges in the palms of the hands and in the fingers, which are now so commonly used for identification. Recently it has been stated that also the changes in electrical potential in certain areas of the brain are characteristic of an individual and are relatively constant in him (Hallowell Davis).

All these individual characteristics which we have mentioned so far are localized in certain areas of the organism, in special organs or tissues; they are either structural or functional peculiarities of these tissues and organs. If we consider the individual as a mosaic of many tissues and organs, each one functioning and metabolizing in its own peculiar way, we may consider this mosaic of separate parts as the biological basis of

[1] Read before the joint meeting of the Federation of American Societies for Experimental Biology in Memphis on April 22, 1937, and representing the abridged fourth annual Arno B. Luckhardt lecture of Phi Beta Pi of the University of Chicago Medical School, delivered at the Billings Hospital of the University of Chicago on March 30, 1937. The recent investigations reported were carried out with the aid of a grant from the International Cancer Research Foundation. References to the literature up to the year 1930 may be found in an article by the author on "Transplantation and Individuality" in *Physiological Reviews*, 10: 577, 1930.