INHERITANCE OF A BI-LOBED EAR

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In a family in which a bi-lobed ear has been transmitted through four generations, only the right ear shows the characteristic in question. The line of separation does not parallel the vertical axis of the body, but tends to follow the posterior margin of the ear. There is no regularity in its manifestation so far as generations are concerned, and it appears in either sex, and in both sexes in the same family. Its appearance is not constant, for it may skip one or even two generations and then be present.

In the individuals designated in the chart by A there is a very marked deep cleft that is of considerable length, while in those marked by B the cleft is not so well marked, and in the case designated by BB it is so slight as to be nothing more than a furrow. In the individuals B1 and B2 there is a deficiency in hearing in the bi-lobed ear, while in the others there is no apparent deficiency of any kind. No information is obtainable as to when this strange anomaly was first noticed in the family, but in each individual affected the trait is as pronounced at birth as at any other time, and it does not increase with the age of the person. Each case charted has been seen by the writer except the female shown in the first generation. The cleft probably originated as a mutation, though nothing definite can be said in this regard; and from its mode of transmission it appears to be an imperfectly dominant trait.

In the Journal of Heredity, December, 1916, there appeared an article by A. E. Jenks, "Pitted Ear Lobes of Congenital Origin," in which a condition is described similar to the present case. The author evidently thinks that there is at least a possibility of the trait being the result of a mutation which first appeared three generations previous to the one he has described. The character, like the present one, appears to be transmitted as an imperfect dominant.

In the case at hand there is exhibited a variable inheritance which ranges from the deep cleft in one instance to the slight furrow in another individual. The imperfection of dominance may well be explained by the variability of the potency of determiners, or perhaps as the result of environmental factors.

OUTLINE OF EAR

Although every individual affected did not present quite the same characteristics, the above drawing shows graphically the striking division of the lobe. (Fig. 19.)
A Study of Bud Variations in Coleus

One of the most valuable recent contributions to the study of evolution is that of A. B. Stout, director of the laboratories of the New York Botanic Gardens (Carnegie Inst. Washington Pub. 218). He started with a single variety of Coleus, an ornamental plant much used for bedding and in pots for indoor display. This was propagated by cuttings and showed both gradual fluctuations and abrupt mutations, sixteen distinct and characteristically different color patterns being eventually produced. The results are interpreted by Dr. Stout to mean that slight variations, arising either suddenly or gradually, can perpetuate themselves, as Darwin supposed but as some recent biologists have denied. It is claimed that bud mutations in Coleus are common, result in numerous different types which may be vegetatively constant from the first or can be made so by selection, show development of certain types more commonly than others, produce reversions to parental types, give development of different degrees of variability among sister clons, and exhibit spontaneous changes in the fundamental color patterns and in the cellular and tissue patterns resulting in color patterns. Sexual and asexual reproduction are therefore believed to be not fundamentally different in respect to extent and range of variation.