interest have been the senses and the intellect. Tests of intelligence, for example, have for some years been finding an important application in this field. The present paper, in contrast, is concerned not with intelligence but with emotion—an aspect of our mental life which may in the end prove to be highly important in determining the relative effectiveness of different races and nationalities. By a method described in detail in the *American Journal of Psychology* (Vol. 39, pp. 125–40), a gradation has been made of the anger reactions and the fear reactions of a considerable number of Caucasians in California. And of the same persons, measurements were made of the length and width of their heads, and observations made by which each individual could be classified as to the color of his eyes and the shade of his hair. Computations based on these data indicate a connection between the physical features which are often taken to be signs of race, and the intensity of the emotional reactions in the various groups. A group of persons with narrow heads, for example, may not show the same degree of emotion as does a group with a different cephalic index. And similarly of groups differing markedly in shade of hair, or in color of eyes. The general similarity in the environment of the various groups suggests that the emotional differences may in the main be innate, rather than due to training, and may be the result of a difference in the psycho-physiological endowment of different racial strains.

Inheritance in the tailed form of Chilodon uncinatus—a mutation obtained by use of ultra-violet radiation: MARY STUART MACDOUGAL (introduced by Lorande L. Woodruff). Seven modifications of *Chilodon uncinatus*, obtained by use of ultra-violet radiation, have been described. These include a triploid, a tetraploid and a tailed form which has lived for eighteen months. The homozygous strain, after thirty epidemics of conjugation, shows no reversion to normal. Twelve out of two hundred conjugating pairs of the heterozygous race became normal, and have never shown any sign of an appendage, while eight homozygous pairs were obtained. Two out of the two hundred pairs lost their tails, but retained the changed body shape and ciliation. They were weak, and died after three divisions each. Four out of two hundred pairs showed normal form and ciliation, but had a short tail. This is a hardy race, and, after two conjugation epidemics, no normals have been observed. In a mixed culture of the homozygous and normal races, it was observed recently that for the first time there was wholesale attempt at conjugation. One member of each of the fifty pairs isolated was already dead, though fused to the living member, and none survived the effects of conjugation. Attempts to cross the heterozygous and normal form with a tail with the normal form have been more successful, and these experiments are now under way.

The body temperature and heat regulation of large pythons: FRANCIS G. BENEDICT and EDWARD L. FOX. The large snakes, as other cold-blooded animals, have a temperature regulation entirely different from that of man or other warm-blooded animals. In the latter the mouth or trunk temperature is the highest and the skin temperature somewhat lower, but in practically all cases the body temperature is materially above the air temperature. With snakes the body temperature in the mouth and the cloaca is practically the same, in spite of the fact that it is a long, stretched-out animal. The skin temperature is a little lower than the body temperature. Under ordinary conditions when the snake is quiet and not digesting food, the body temperature and the skin temperature are somewhat lower than the environmental temperature. With activity, such as in the agitated, striking snake, there is a considerable rise in body temperature, because the snake can not lose heat as fast as it produces it. After such a period of agitation the body temperature is several degrees above the initial temperature. During digestion there is likewise a rise in temperature, especially noticeable over the lump where the body of the animal eaten is being digested. These studies show that the most important factor in the temperature regulation of snakes is the vaporization of water. Although the snake has no sweat glands, its entire body gives off water by diffusion. A considerable amount of water is thus lost, in addition to that in the breath, and the entire heat produced by the animal is used in vaporizing water. Indeed, in some cases, such as in hot climates, the snake may actually absorb heat from the air and use this heat to vaporize water. As a result, the snake may be compared in a way to the wet bulb thermometer, the temperature of which is lowered below that of the environment by the continual vaporization of water from the wet fabric around the mercury bulb. With warm-blooded animals about 25 per cent. of the heat produced is lost in the vaporization of water. With the snake and other cold-blooded animals practically the entire amount of heat produced is thus lost.

BOOKS RECEIVED

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CONWAY, A. W., and J. L. SYNGE, Editors. *The Mathematical Papers of Sir William Rowan Hamilton.* Volume I: Geometrical Optics. Pp. xxviii + 534. Cambridge University Press, Macmillan. $20.00.

FORD, ADELBERT. *Group Experiments in Elementary Psychology:* Students' Manual and Notebook. Pp. vi + 241. 55 figures. Macmillan. $1.25.

HEGNER, ROBERT W. *College Zoology.* Third edition. Pp. xxiii + 713. 568 figures. $3.50. Laboratory Guide for College Zoology. Pp. viii + 75. $1.00. Macmillan.

LYDE, LIONEL W. *The Continent of Europe.* Pp. xv + 456. Illustrated. Macmillan. $4.00.

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STAIG, ROBERT A. *The Fabrican Types of Insects in the Hunterian Collection at Glasgow University.* Part I: Coleoptera. Pp. xv + 110. 28 colored plates. Cambridge University Press, Macmillan. $8.50.

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