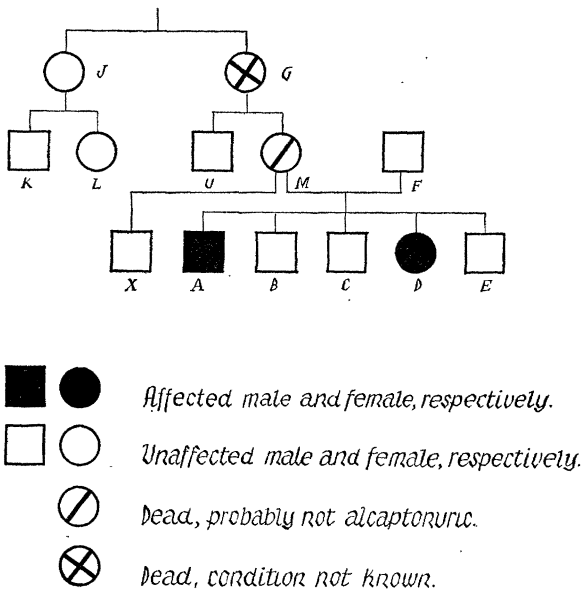


FIG. 1

examination, the urine was found to give the reactions characteristic of homogentisic acid: addition of 10 per cent. sodium hydroxide resulted in a brownish-black ring at the surface which gradually penetrated downward, ferric chloride caused a transitory blue color with each drop, and reduction of silver lactate and of ammoniacal silver nitrate proceeded rapidly at room temperature. The urine, as excreted, was amber, clear and acid. Quantitative analyses showed a concentration of homogentisic acid (Briggs's method[3]) in a random sample of 5 gm per liter with a homogentisic acid to nitrogen (H:N) ratio of 53.5:100. A larger sample, used for isolation of homogentisic acid, contained 4.4 gm per liter, and the H:N ratio was 45.1:100.

Investigation of the girl's four brothers revealed the fact that her eldest brother (A), 13 years old, also was excreting homogentisic acid. Qualitative tests were positive. The H:N ratio of a sample was 48.3:100. These ratios agree well with those given in the literature. The qualitative tests were confirmed by actual isolation of homogentisic acid from the lead salt obtained from the urine of both children.

The father (F) is not an alcaptonuric. Negative tests for urinary sugar on the mother (M), who died in the hospital in 1935, are considered evidence of the absence of any reducing substance in her urine. She probably was not alcaptonuric. The children's parents (F and M) were not related. The half-brother (X), 17 years old, the offspring of a previous marriage of the mother, is not an alcaptonuric. This would be expected if the error is a simple recessive character. It recalls the very interesting case of two alcaptonurics, brother and sister, whose parents later married others and had children, none of whom showed alcaptonuria.[4] The father's relatives are all in the Carolinas and thus unavailable for examination. The mother's brother (U) is not alcaptonuric. Unfortunately, the grandmother of the children (G) died one week before this study was undertaken. Whether or not she may have been alcaptonuric is not known. The grandmother's sister (J) and her children (K and L) are not alcaptonuric.

The two children (A) and (D) appear healthy and well nourished. They are typical American Negroes in every respect. That they have been alcaptonuric since infancy is attested by the fact that the father well recalls the staining of the bedding caused by the urine of these two children.

SUMMARY

A report of the occurrence of alcaptonuria in two children of a Negro family is presented. Other members of the family were investigated and found to be unaffected. This is the first evidence that this inborn error of metabolism exists in the American Negro.

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## HUMAN GENE SYMBOLS

IN no field of science is there greater lack of uniformity with respect to the usage of symbols and greater lack of adherence to conventional genetic rules than in the field of human genetics. For instance one finds in recent human genetic literature the statement, "the three allelomorphic blood group genes A, B, and R," and the statement, "the blood group alleles M and N." Such usages lack logic and clarity and are not in accordance with generally accepted genetic rules.

For a long time it has been the custom in dealing with the genetics of lower forms to give all members of a given allelomorphic series the same basic symbol and to distinguish one member of a series from another by capitalization or by a superscript. For instance, the piebald alleles of the house mouse are designated as S and s, and the albino allelomorphic series of guinea pig coat color genes are designated as C, $c^k$, $c^d$, $c^r$, $c^a$. These same rules should be applied to all human alleles.

To indicate the genes responsible for the presence or absence of isoagglutinogens A and B and for the M and N agglutinogens the writer has used the following symbols: $I^A$—isoagglutinogen A; $I^B$—isoagglutinogen B; i—absence of A or B; $A^m$—agglutinogen M; $A^n$—agglutinogen N.

[3] A. P. Briggs, *Jour. Biol. Chem.*, 51: 453, 1922.

[4] A. E. Garrod, *Lancet*, 2: 1616, 1902.

These symbols seem appropriate and in agreement with general rules, and since, as far as the writer is aware, no other sets of blood group symbols have been generally employed, he suggests that the above symbols be considered for general usage.

Perhaps the time is ripe for the establishment of a committee or an organization of some kind to formulate rules for an international system of human gene symbols. However, the current international situation does not make this seem feasible at the present time. A less ambitious program is to attempt agreement among investigators in this country. If this were achieved, much would have been accomplished.

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## FEEDING BEHAVIOR OF A WATER SNAKE

ON June 4, 1941, in a swamp a mile northwest of Voorheesville, N. Y., I witnessed an interesting feeding procedure of the common water snake *Natrix s. sipedon* (Linnaeus). As I walked along the railroad tracks, at this point elevated about eight feet above the floor of the swamp, my attention was directed to a disturbance of the water in an isolated, shallow, muddy pool approximately two feet in diameter, 3 to 4 inches deep and about 25 feet distance. Cause for the disturbance was a water snake about three feet long. After partially concealing myself behind the base of an electric signal tower, I continued to view the proceedings from that vantage point—part of the time aided by 8× binoculars.

At short intervals the active reptile coiled, writhed and twisted its body vigorously as it moved round and round in the little pool, thus agitating the water but making no effort to leave the area. After a few seconds of this violent exertion it suddenly became quiet, usually with its head directed toward the periphery of the pool. Occasionally the snake crawled slowly about in the water apparently on the alert for small living forms that might have been dislodged from the bottom by its movements. Frequently the reptile struck at something in the debris surrounding its feeding place. This performance was repeated several times within the space of 20 minutes.

To the observer the energetic aquatic activities of the snake appeared to be *deliberate* and *purposeful* in that they served to free small animal forms from the mud and debris at least some of which fell prey to the reptile.

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# SCIENTIFIC BOOKS

## CHEMISTRY

*A Practical Survey of Chemistry.* By WALTER S. DYER. vii + 480 pp. 107 figs. New York: Henry Holt and Company. 1941. $2.80.

COLLEGE science has for many generations largely confined itself to exhaustive formalized courses in specific fields. Fundamental courses of this sort will always be required for training the specialist. Of late, however, there has arisen a demand for general scientific knowledge by the layman who never intends to specialize but who wishes to acquire an intelligent comprehension of scientific principles and facts.

One indication that this challenge is being recognized and answered is evidenced by the General Education Series of books, of which "A Practical Survey of Chemistry" is a new member. Dr. Malcolm S. MacLean, of Hampton Institute, and well known for his creative work as past director of the General College of the University of Minnesota, is editor of this series. In his preface to Dr. Dyer's text he states: "It is one of the first books in the field of the physical sciences in general education which offers a sound basis to the student. It will have the effect of diminishing the blindness and resistance of nonscience students to this study."

This book represents an excellent balance between theory and practice. The applications of chemistry to daily experience are so frequently and clearly presented throughout all the chapters as to make its perusal intensely interesting, even to the casual reader. Interest is further enhanced by the large and excellent selection of half-tones and line drawings. Yet fundamental chemical theory is introduced in support and explanation of facts. Certain chapters, such as those on the classification of the elements and atomic structure, are of necessity largely theoretical.

Dr. Dyer has skillfully chosen and coordinated his topics, ranging from the gas laws and the elements to plastics, foods and hormones. He supplements each chapter with a summary, review questions and a bibliography. Very recent developments of the science have not been overlooked.

In the effort to be practical scientific accuracy is occasionally sacrificed. We read of candy turning to sugar; of boiling an egg in a saturated solution of sugar; of the query "Why does a mixture of salt and ice get cold?" One wonders in reading the text to what extent it was sired by the pioneer book of Timm —once termed a pandemic text. Many of the cuts are taken from Timm. Frequently the order of subject-