

the Sanitary Corps. Requests should be forwarded to Adjutant General, U. S. Army. Civilians, warrant officers and enlisted men will be given direct appointments as officers in the Sanitary Corps. Applications should be made in writing to the Officer of the Procurement Service in the Headquarters of the Service Command in which they reside or to the Office of Procurement Service, Washington 25, D. C.

A SYMPOSIUM on "Trends of Thought in Chemical Education and the Postwar Era" will be held by the American Chemical Society in New York City on Tuesday, September 12. The symposium is part of the three-day program sponsored by the Division of Chemical Education. Dr. L. L. Quill, of the University of Kentucky, chairman of the division, will preside. It is announced that the rubber division of the society has cancelled its meeting because of war-time conditions.

THE National Metal Congress and War Conference Displays will be held at Cleveland during the week of October 16. Societies represented include the American Society for Metals, sponsor of the congress; the Iron and Steel and the Metals Divisions of the American Institute of Mining and Metallurgical Engineers; the American Welding Society; the Society for Experimental Stress Analysis, and the American Industrial Radium and X-Ray Society.

THE Upjohn Company, Kalamazoo, Mich., has made a grant of \$5,900 for the continuation of studies on better methods for the production of penicillin started a year ago by the Industrial Science Research Institute of the Iowa State College. A similar grant was

made by the same company at that time. Two other grants have been renewed—one of \$4,000 from the Refrigeration Research Foundation, for research on the retention of nutritive properties of foods by refrigeration and on refrigerated storage of poultry, and one of \$2,500 from the Poultry and Egg National Board for studies on the nutritive value of egg proteins. Studies on the analysis of gases will be continued also under a grant of \$1,000 from Aeration Processes, Inc.

A RECOMMENDATION from the scientific director and the Scientific Advisory Committee of the Nutrition Foundation to publish a Latin-American edition of *Nutrition Reviews* was approved at a recent meeting of the executive committee.

THE Committee on Medical Research of the Office of Scientific Research and Development has announced the publication of a weekly journal entitled *Summary of Reports Received by the Committee on Medical Research*. The circulation is restricted to selected members of the Medical Corps in the United States, Canada and Great Britain. The journal is being edited and published under the direction of Dr. Kenneth B. Turner, assistant professor of medicine, who is on leave of absence from the College of Physicians and Surgeons of Columbia University.

THE Atlanta-Southern Dental School has been made a part of Emory University. This merger leaves only a few dental schools in the United States that are not integral parts of university groups. It is the aim of educational leaders of the dental profession to have all schools so associated.

## DISCUSSION

### FURTHER COMMENTS ON COMPARATIVE STUDIES IN HUMAN BIOLOGY

In a recent note in *SCIENCE*<sup>1</sup> Professor Herskovits criticizes an article by Professor Dice which appeared in an earlier issue.<sup>2</sup> His criticisms concern primarily the loose usage of such terms as "psychological" and "race," but he also takes exception to certain implications which pertain to racial differences.

Although the author of the present note is in perfect accord with Professor Herskovits relative to the loose usage of terms, especially when they involve highly controversial issues, he is not so certain that he is in agreement with him relative to some of his statements which pertain to more important issues. Professor Herskovits is not very specific, but he leaves the impression that he is of the opinion that no physio-

logical differences and no inherent response differences exist between major subdivisions of the human species. If primary human stocks (Mongoloid, Negroid and Caucasoid) and if subdivisions of these major groups ("races") have any validity at all, and the author believes that Professor Herskovits will admit that they do have some, it seems almost inevitable that both physiological and inherent response differences must exist. It is true that we do not have very much specific evidence for the latter kind of differences, but there is considerable evidence that many physiological differences exist. One could cite a long list of human variations which have a physiological basis and which have been shown to be inherited according to clearly defined laws. Many of these variations have been shown to be represented by different gene frequencies within different primary stocks and even within groups recognized as races.

<sup>1</sup> *SCIENCE*, n.s., 100: 50-51, 1944.

<sup>2</sup> *Ibid.*, n.s., 99: 457-461, 1944.

Perhaps Professor Herskovits's conception of a stock or racial difference is that it is an all-or-none affair. This need not be the case in order to be an important difference. Two stocks or races may be considered significantly different if they differ markedly with respect to the frequencies with which a variation occurs. In fact most of the anatomical differences which have been used by anthropologists for the differentiation of stocks and races are proportional differences rather than total ones. Certainly many of the characters used for the differentiation of accepted subdivisions of species among lower animals are not of the all-or-none kind.

What seems important to emphasize in this day and age is not that there are not stock and racial differences (even physiological and inherent psychological differences), for they will in all probability be found to be numerous, but that there is no reason for considering one racial group inherently superior or inferior to another. The racial dogma of inherent superiority of one racial group over another has no basis in fact.

Perhaps the author of the present note has misinterpreted Professor Herskovits. If so he is apologetic. He wishes only to see the question of racial differences weighed in the light of existing facts. It would be unfortunate if the current racial dogmas which have created so much trouble should cause the pendulum of opinion to swing unduly far in the other direction.

HERLUF H. STRANDSKOV

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### INGESTED THIAMIN CHLORIDE AS A MOSQUITO REPELLENT<sup>1</sup>

THIAMIN chloride (vitamin B<sub>1</sub> hydrochloride) has been reported by Shannon<sup>2</sup> to relieve the itch of mosquito bites and to prevent further biting. A dose of 80 to 100 mgms on the first day and about 10 mgms per day thereafter was considered sufficient when taken by mouth. Military demands for a repellent taken orally justified further tests on this material at the Naval Medical Research Institute.

In preliminary experiments a subject ingested 505 mgms of thiamin chloride in three days. After taking 385 mgms he had a thiamin blood level of 6.9 gamma/100 cc. Mosquitoes (*Aedes aegypti*) were not repelled then or later when 505 mgms had been taken. In another test 100 mgms were ingested and the subject then exercised in an attempt to sweat the thiamin

<sup>1</sup> The material in this article should be construed only as the personal opinion of the writers and not as representing the opinion of the U. S. Navy Department.

<sup>2</sup> W. Ray Shannon, "Thiamin Chloride—an Aid in the Solution of the Mosquito Problem," *Minnesota Med.*, 26: 799, 1943.

chloride to the surface of the skin. While the mosquitoes did not bite on his control arm (covered with indalone), his other arm was readily bitten.

In a second series of tests (Table 1), three subjects

TABLE 1  
BITES PER MINUTE (SECOND SERIES OF TESTS)

Test subjects	1st day	2nd day	3rd day	Average
1	3.2	61.5	16.2	26.9
2	55.0	72.6	39.8	55.8
3	21.6	91.0	49.2	53.9
Controls				
1	88.4	96.0	...	92.2
2	76.0	63.2	39.8	39.7
3	96.0	...	59.8	77.9

ingested 120 mgms of thiamin chloride per day for three days (30 mgms four times daily). Repellency tests were started on the second day of treatment. Neither the rate of biting by the mosquitoes nor the subject's reactions to the bites differed materially from the controls.

These results have been confirmed by subsequent tests undertaken by the U. S. Department of Agriculture and the National Institute of Health.

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### PRUNE DWARF AND THE CHERRY VIRUS COMPLEX

STUDIES begun in 1935 and carried on for approximately nine years on the cherry virus complex now indicate that several viruses are present in the sour cherry—yellows, ringspot, green-ring yellows, rosette and (?) mottle—and two in the sweet cherry—ringspot or tatter leaf and chlorotic spot or mottle. In addition, strains seem to exist in some of the viruses. For example, two strains of the cherry yellows virus are readily distinguishable based on the symptoms produced on peach seedlings.<sup>1</sup>

As the result of cross-inoculation studies repeated on three successive years it now appears that strain 1 of the sour cherry yellows virus and one strain of the sweet cherry chlorotic spot or mottle virus are in reality strains of the prune dwarf virus.

Comparative studies with prune dwarf virus, 10 different cultures of sour cherry yellows and ringspot viruses alone or mixed, and 2 different cultures of sweet cherry chlorotic spot virus on 12 different varieties or species of stone fruits (including sour

<sup>1</sup> E. M. Hildebrand, *Phytopath.*, 33: 6, 1943.