two compounds contained considerable amounts of solid matter which probably rendered the determinations inaccurate. The tetradecanoyl and stearyl compounds also gave turbid distillates, the solubility of the solid matter being too low to permit a quantitative determination by the method used. The N^4-dodecanoyl compound showed no turbidity in the distillate and seemed to have little if any volatility with steam.

Thus it appears that N^1-acylsulfanilamides with 8 carbon atoms or fewer in the substituent group have little or no volatility with steam, while with 10–18 carbon atoms in the substituent group, the volatility is high enough to cause serious losses when extracts of biological (or other) materials containing small amounts of the drugs are heated in open vessels. Conversely, it is quite possible that small amounts can be recovered completely by steam distillation. This may offer a useful procedure for the determination of the concentrations of such compounds in body fluids, following their administration. No further work is planned in this laboratory, but we suggest that an investigation of the steam volatility of N^1- and N^4- substituted sulfanilamides may be of importance in connection with the determination of such compounds in biological materials.

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AVAILABILITY OF CHEMICALS NOT SOLD COMMERCIALLY

THE Chicago Branch of the American Association of Scientific Workers is considering the following project, in which it requests the cooperation of the reader.

The availability of unusual chemical compounds, pure enzyme preparations, etc., which are not obtainable from commercial sources, is often a matter of the greatest practical importance in determining the feasibility of a research project. Unless the research worker happens to know of an individual or laboratory which has such a compound, he may be forced to undertake a long and laborious synthesis or preparation which is merely incidental to the real problem he hopes to attack. At the same time there may be ample quantities of this material in other laboratories, as an incidental by-product of certain work, and for which the originator has little use.

We would like to collect information as to the existence and availability of the above materials throughout the country, and as to the needs of any investigator for specific substances. We have in mind the establishment of a central filing system where contact might be made between any qualified investigator and the individual or laboratory where the above materials might be obtained.

A canvass of local research circles has drawn forth considerable enthusiasm for the project and an almost uniform expression of opinion as to its potential value. However, from our limited contacts we are unable to estimate the extent of interest and cooperation which we might expect from the research workers of the country as a whole, or the magnitude of the practical aspects of this undertaking. We, therefore, solicit answers to the following questionnaire from individual research workers, from heads of research departments and from any other interested individuals or organizations:

(1) Do you favor the proposed effort to establish a central information agency for the above purpose?

(2) Do you now have or do you have from time to time any unusual chemical compounds or pure enzyme preparations which are not available commercially, and which you would be willing to supply either gratis or at cost to qualified research workers? Please list names of these materials if possible.

(3) What unusual chemical compounds or enzyme preparations, which are not available commercially, do you need for your work at the present time or from time to time?

If the response to this letter warrants it, the Chicago Branch of the American Association of Scientific Workers will be glad to publish an analysis of the answers it receives, defining the apparent scope and potential usefulness of this project. It will also be glad to undertake the execution of the project if the latter does not appear to be too great an undertaking for its personnel and financial resources. In the latter case, our organization will attempt to interest some other national scientific organization or foundation in the matter.

Please address your replies to the undersigned. It is suggested that the secretaries or other officers of interested scientific organizations could help a great deal by drawing this letter to the attention of their memberships and urging them to communicate with us.

SAMUEL SOSKIN,
Chairman, Committee on Rare Chemicals
MICHAEL REESE HOSPITAL,
CHICAGO, ILL.

A PROPHECY FULFILLED

ON March 1, 1941, I wrote as follows to Dr. W. S. Adams, director of Mount Wilson Observatory:

Could you send me prints showing the visual and calcium spectroheliograph appearances of the sun? The dates desired are: Aug. 18, 19 and 20, 21, 1929, or 27 days thereafter; also Dec. 4, 5 and 6, 7, 1929, or 27 days thereafter; also March 21, 22 and 23, 24, 1930, or 27 days thereafter; also July 7, 8 and 9, 10, 1930, or 27 days

thereafter; also Oct. 23, 24 and 25, 26, 1930, or 27 days thereafter. . . .

I have reason to think that such photos when compared with our results will show a very remarkably interesting sequence of events.

The occasion came out of a visit from Dr. Brian O'Brien, of the University of Rochester, who told me that he found the correlation curve for the year 1915, published in my paper "On Periodicity in Solar Variation," Smithsonian Miscellaneous Collections, Vol. 69, No. 6, 1918, to his mind the most convincing type of evidence of the fluctuation of the solar constant of radiation. As I still find many skeptics on that question, I thought it good to obtain evidence, from more recent solar constant observations, that solar variation is associated with the rotation period of the sun.

After a little search among the newly revised solar constant values soon to be published in Volume 6 of our *Annals,* I found an interval from August 1, 1929, to January 19, 1931, when the same pattern of march of solar variation persistently accompanied each of 20 successive rotations of the sun. The largest amplitude of the fluctuation, occurring about April, 1930, was a little over 0.5 per cent. The pattern was barely distinguishable in August, 1929, reached a maximum amplitude about April, 1930, and faded nearly away in December, 1930. The correlation coefficient as between day 1 and day 27 for the interval November 11, 1929, to October 5, 1930, is 45.5 ± 7.5 per cent.

I anticipated that the sudden rise of intensity which occurred after the eighteenth day of the 27-day period, as I had chosen it, would be found associated with a well-marked increase in the disturbance of the sun's visible surface. Such a change might be evidenced either by the appearance at the expected time of a new sunspot group, just advancing over the sun's limb, or by the formation or sudden growth of a sunspot group somewhere on the disk. When writing to Dr. Adams I expected that the first two days of each of the five sets I requested would show no such visible change, but the third and fourth day of each set would show that such a change occurred.

Dr. Adams kindly sent original plates of five sets of four successive direct photographs each, covering the days in question, and an extra set covering the interval 27 days later than the set beginning December 4, 1929. These plates arrived at the Smithsonian Institution on March 12. I immediately examined them, and found my prophecy fulfilled in every case. On December 6 and 7, 1929, as well as 27 days later, large groups of new spots advanced over the limb. The same recurred on March 23 and 24, 1930, although the spots were now smaller. Again on August 5 and 6, 1930, new spots advanced over the limb. On August 20 and 21, 1929, occurred a very decided increase of size of spots already well advanced towards the center of the disk. On October 25 and 26, 1930, new spots were formed and grew rapidly beyond the center of the disk.

Dr. Adams also sent spectroheliographic plates of the same dates as the direct photographs. These show the increasing activity of the sun on the dates predicted still more strikingly.

C. G. ABBOT

SMITHSONIAN INSTITUTION

SCIENTIFIC BOOKS

HUMAN AFFAIRS

Why Men Behave like Apes and Vice Versa. By EARNEST ALBERT HOOTON. xxv + 234 pp. Illus. Princeton: Princeton University Press. 1940. $3.00.

FROM this series of Princeton lectures it appears that Hooton is genuinely interested in human affairs and confident that science can alleviate our wretched state. An introductory homily labeled "Harangue" closes with these words: "The future of our species does not hang upon forms of government, economic adjustment, religious or social creeds, and purely environmental education. The future of man is dependent upon biology. We must have fewer and better men, not more morons and machines." The theme of the lectures is "the extent to which the nature of the animal organism predetermines behavior" (p. 7). In turn, the primate order, the human family as a whole, the races of man, nations and ethnic groups and the individual are searched for evidences of body-behavior relations. The conclusion finally formulated, with special reference to man, is that "his own peculiar familial heredity, the idiosyncrasies of his own organic composition, and his own adaptive ability are the principal determinants of his behavior" (p. 192).

The most stirring chapter of all, because it presents a new method and theoretical schema for the description and classification of human physiques, is that on the individual. It is concerned mostly with individual form and physical constitution; only incidentally, and in terms of temperament, with facts of behavior. In contrast with such earlier systems as those of Viola, Kretschmer, Draper and Lombroso, Sheldon's photographic method of anthropometry and his postulated endomorphic, mesomorphic and ectomorphic components of body type and their corresponding viscerotonic, somatotonic and cerebrotonic components of temperament are summarily but clearly described, and discussed with favor. Hooton's is an illuminating word-picture of the results thus far achieved by at-