He never dreamed of Cadillacs
While on financial skids
An Austin was sufficient for
His wife and seven kids.

His joy was all in simple things
If he had not renown
He had the admiration of
The man from Provincetown.

And when he was too old to work
That brought to him no fear
He had a princely pension of
One thousand bucks per year.

Bewail, ye winter winds, bewail
A breed that is no more
For scientists are waking up
Today they know the score.

When general practitioners
As all can plainly see
Can make twelve thousand bucks a year
They wonder, why can't we?

And if the goodly businessman
Is not destroyed by wealth
It's possible, if we had some
It would not harm our health.

For freedom from financial stress
Might let our ulcers heal
And keep our minds on scholarship
To aid the common weal.

So let us shed a passing tear
For the mighty men of old
And keep our minds on higher things
But get our share of gold.

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DDT Detoxification Product in American Cockroaches[1]

RECENT studies (*1*) on the detoxification mechanism of DDT in American Cockroaches have revealed that as much as 55% of DDT injected into the body of a cockroach was converted to an unknown compound which did not respond to the test Shechter's (*2*) used for detecting DDT, DDE, and some of their derivatives. In this laboratory, 2-C^{14}-labeled DDT with a specific activity of approximately 1.5 mc/mM has been synthesized (*3*) and administered to cockroaches by means of injection. Among 29 of the roaches injected each with 3 μl of ethanol containing 20 μg of radioactive DDT, 22 survived after 48 hr in a respiration chamber at 30–35°. The respiratory CO_2 collected in this period was found to be nonradioactive. Practically all the radioactivity in the pulverized roaches was recovered by 80% ethanol extraction. The ethanolic extract after removing the alcohol by distillation was in water and extracted with ether for 36 hr. Radioactive assay of the extracted water phase revealed that as much as 43% of the radioactivity remained in the aqueous phase and cannot be readily removed by continued ether extractions. However, upon refluxing with 20% sulfuric acid for 3 hr, the radioactivity in this fraction was completely extracted by ether in 4 hr. This finding has led the authors to speculate that the water-soluble radioactive principle in this case is probably a conjugated compound composed of a derivative of DDT and another fragment possible carbohydrate in nature.

Similar experiments carried out at lower temperatures further indicated that the formation of this water-soluble conjugated compound was reduced to 7% at 25–30° accompanying a higher mortality of roaches over the same length of time. This could mean that the formation of the "conjugate" is directly related to the detoxification mechanism of DDT in American cockroaches. The nature of this conjugated compound is currently under investigation.

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Academic Origins of AAAS Presidents and Recipients of AAAS Awards

SEVERAL surveys have been made recently on the academic origins of outstanding leaders of American science. Sixty-seven members of the National Academy of Sciences received their undergraduate training in liberal arts colleges (*1*). One in five of the presidents of the American Chemical Society since 1900 received his training in a liberal arts college, and the same ratio holds for the recipients of ACS administered awards (*2*).

The most interesting conclusion from the present study of leaders of the AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE is that the same ratio of one in five of the Association's presidents since 1900 has had a liberal arts background. The eight liberal arts institutions training AAAS presidents are: Augustana, Beloit, College of Wooster (2), Denison, Hanover, Oberlin, Ohio Wesleyan, and Wesleyan (2).

Only 10% of the recipients of two of the Association's major awards are graduates of liberal arts col-

leges. The colleges training recipients of the Newcomb Cleveland Prize and the Theobald Smith Award are: Earlham, Gettysburg, Kalamazoo, Richmond, and Wheaton. And only one liberal arts college, Wesleyan, appears on both the AAAS and ACS lists of leaders.

On the other hand, several universities appear on both lists of leaders of these two large scientific organizations. Harvard ranks first in the number of presidents on both the AAAS (10) and the ACS who selected it for their undergraduate training (*3*). Yale ranks second in the number of bachelor degrees awarded AAAS presidents (4), and third in the number of ACS presidents.

Harvard has awarded more earned doctorates to AAAS presidents (7). Princeton ranks second in this distinction with five.

Holders of the AAAS Cleveland Prize and the Theobald Smith Award showed a preference for Johns Hopkins (6), Chicago (4), and New York University (3), in this order, for their doctorates.

The AAAS Program-Directory of the St. Louis 119th Meeting has been used for the roll of AAAS leaders. Biographical data have been obtained from *American Men of Science* and *Who's Who in America.* The *College Blue Book,* 6th Edition, has been employed to determine the liberal arts status of the colleges.

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CORRECTION: In the paper by Haley and Rhodes that appeared on page 139, SCIENCE, February 6, there is reference to the compound Win-2299. This compound is known chemically as 2-diethyl-aminoethyl cyclopentylhydroxy-2-thienylacetate hydrochloride.

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Book Reviews

Isotopic Tracers in Biochemistry and Physiology. Jacob Sacks. New York–London: McGraw-Hill, 1953. 383 pp. Illus. $8.50.

The emphasis in this book is on the increasing knowledge and understanding resulting from the use of isotopes in biochemistry and physiology and not upon the actual techniques of their use. That isotopes are powerful tools is not to be doubted, and the author properly emphasizes their power by his selection of subjects and by his organization of material. He emphasizes, too, that the results obtained using isotopes must never ignore results obtained by "ordinary" (nonisotopic) techniques, but that the two must be fitted together.

After sixty pages devoted to brief accounts of the elements of nuclear physics, measuring techniques, and other background material, the author turns his attention to various fields of biochemistry and physiology in which isotopes have been used to establish new facts or elucidate mechanisms. The subjects covered in separate chapters include metabolism of carbohydrates, of lipids, of proteins and amino acids, of nucleic acids, purines and pyrimidines, of mineral elements, and of phosphorylated compounds, migrations of ions, iodine metabolism and the thyroid, and photosynthesis. The author's treatment in each case is in terms of broad outline rather than experimental detail although details are considered where they bear on interpretation. A selected bibliography accompanies each chapter, and the book includes subject and author indexes.

Some of the discussions seem likely to confuse rather than clarify. The discussion of citric acid and its orientation on an enzyme comes very close to saying that two stereoisomers of citric acid exist. It is the lack of asymmetry in citric acid which makes the Ogston three point attachment useful. Asymmetry arises through the interaction of substrate (citric acid) and enzyme.

As a consequence of the approach adopted by the author, this book will have its greatest value for those who bring a working knowledge of the general subjects to its reading. It serves to emphasize what can and what cannot be done with isotopes as experimental tools and should help in the assimilation of the mass of new material obtained by use of isotopes into the sciences to which this tool is applied.

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