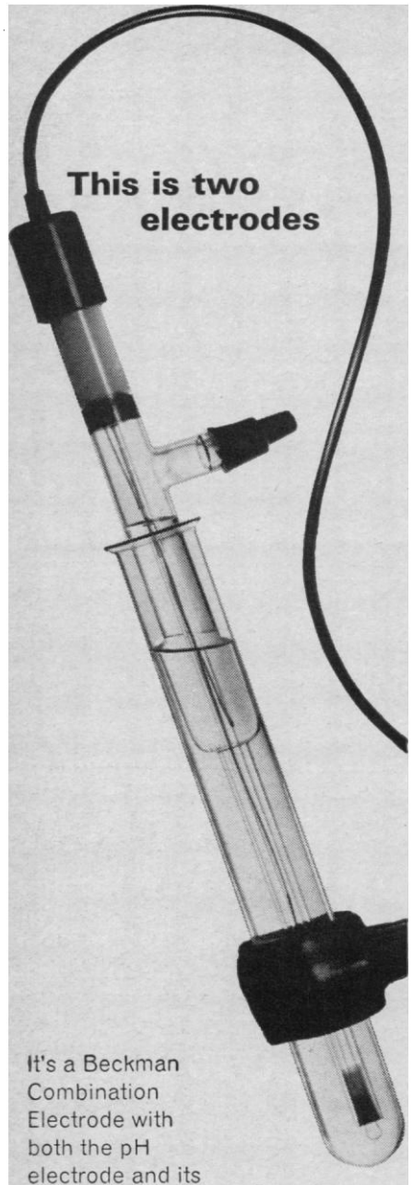


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called genetics any more, but he otherwise remains unbowed.

I think, too, of the younger generation of biologists. Geneticists are among them, and they are known as geneticists in at least three institutes (to my personal knowledge). The younger generation is better and better trained, alert, imaginative, and unafraid. I found that they were well educated in the liberal arts, too, not through formal courses but because they had read and listened. Certainly they will begin to appear at genetic congresses—and elsewhere!

The authors failed to note that a volume on *Genetics and Selection of Microorganisms* was published in the Soviet Union in 1964—not earth-shaking perhaps, but indicative of scientific adeptness and speed.

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## Making the Scene

Have we stressed molecular biology too much? In a recent examination on evolution, I asked the students to "list the five epochs of the Tertiary Period." One answer I received was: "Pliocene, Miocene, Oligocene, Eocene, and *Cytosine*"!

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## More on Metrics: Clocks, Compasses, Music, and Milk Bottles

. . . We count by tens because we have ten fingers. But twelve is a much better base, and its advantages are so great that duodecimal currencies, weights, and measures have, I suppose, paralleled the decimal counting system throughout history. Even in France, where the metric system has been longest established, the duodecimal system still flourishes; for example a dozen is used there as it is with us, and eighty is expressed as "four score"; and the divisions of the circle, of the year, day, hour, and minute, once decimal, have reverted to the duodecimal system. Book sizes, time division in music, and the intervals of the diatonic scale, in fact the physiology of the sense of hearing, are all incorrigibly nondecimal. I suspect that a little reflection would produce many other similar instances.

It seems to me that the French and Russian revolutionaries missed their greatest opportunity to improve the world: rather than adopting the minor improvement of a decimal system of weights and measures, they could have made a major improvement by adopting the duodecimal system of counting, and a consistent compatible system of weights and measures. . . .

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. . . Great numbers of persons are already using the metric system in the U.S., and conversion will be of importance to the scientist. But we have to realize that the whole population of the U.S. is not scientists, and the common man has always been very reluctant to change the units he is used to. In many countries the metric system was enforced by law, and there were fines and prison sentences for those not accepting it. To illustrate the slowness of change, I may cite an experience of our engineering firm. Here in Madrid, 100 years after Spain's adoption of the metric system, in a design project for a new highway the prices of the land were given to us for our counterpart of acres and square feet (which are different from the British and different even from those of other Spanish regions). Of course in our plans we have used metric units. . . .

To gain mass support for a conversion, I have proposed a metricized British system [M. Mateos, *Mech. Eng.* **85**, 50 (1963)]. In this system, by making the quart and the pound slightly bigger we could have 1 metric quart (1 m-quart) = 1 liter, and 1 metric pound (1 m-pound) = ½ kilogram; and by making the inch a bit shorter, 1 metric inch (1 m-inch) = 25 millimeters. This change should be made in stages over a period of at least 10 years. It could be done first as a trial by one big industry —for instance the milk or gasoline industry—in order to appraise the results.

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