

always recognized more or less explicitly that science deals with means, not ends; that the ends, not the means, are the finally decisive factors; and that the ends must be conceded to depend on a system of values which cannot be determined by scientific method but which rest on the nature, and immediately on the emotional nature, of man. Among these values, these emotions, these "instincts," that of self-preservation has usually been put at the head of the list. Suddenly, after several centuries of apparent freedom from this impeding or limiting consideration, even the physicist—the most disinterested of scientists—has found that self-preservation is as intimate and inescapable a factor in his cosmogony as it is in that of the humble rodent.

Science is only a means to an end. Ah, but to what end? Is that not the first question?

C. REINOLD NOYES

455 East 51st Street, New York City 22

#### Remarks on "Science and Man's Dilemma"

There is a point in Bruce L. Melvin's impressive article (*Science*, 1946, 103, 241-245) on which I venture to take issue with the author. He mentions *domination* as a type of social behavior, and in effect proceeds to say that war, the desire for huge fortunes, the urge to surpass others are all basic in our economic, political, and social *systems*.

It seems to me that much turns on this idea, and that the idea is erroneous. It seems to me that war, the desire for huge fortunes, the urge to surpass others are not basic in our economic system. I think that they are basic in the *practices* that prevail in the system, that these practices are essential to much of the personnel that now dominates the system and are deemed so to more of it.

I think that this personnel is fearful of its position, that it senses unworthiness in itself, and that it turns against the system antagonism that it knows should be directed against itself and its practices. Its fear is increased by knowledge that its practices are, in fact, not essential to the system, but rather are detrimental. It tries to change the public idea of our system and to change our system itself, to its own advantage.

Its fear is further increased by knowledge that its practices are not essential to the general welfare and happiness or to the development of the best that is in the world and in men. It tries to make its practices essential to the welfare of individual persons, in order to provide for the continuance of these practices. It fears practices other than its own, knowing well that these might be to the good of the system as well as to the general good. Its great ally is material want, and it seeks to maintain this or to substitute, as may be possible. It desires continuance or discontinuance of any system according to its own chances of continuing in these practices, in which it has found itself to excel.

It talks freedom, competition, patriotism, fearing them all, and it talks teamwork—hoping to continue to drive the team. It looks toward an end of these practices as toward its own doomsday, as something to be put off

as far as possible, come what come may. It wants freedom from fear—for itself only—and a beggar in our country would be more sure to have it.

CARL D. MILLER

327 Salem Street, North Andover, Massachusetts

#### Reply to Dr. Asmou's on Russia

It is surprising that in 1946 a letter similar to that of Vladimir C. Asmou's could appear in a scientific periodical (*Science*, 1946, 103, 281). It seems it does not contain facts but only feelings. In keeping with the tendency of the latter I should like to express the opinion, shared by many Americans, that the people whose language Dr. Asmou "does not understand" have saved his life, as well as those of 130,000,000 other citizens of this country. At least they have saved us great troubles. They did it with an unprecedented amount of sacrifice and an unparalleled development of science. And everyone, wherever he is in the world, who enjoys freedom and an opportunity to work in science, is indebted to the 20,000,000 Russians who lost their lives in defeating consciously the Nazi tyranny. Individual mistakes, failures, and tragedies are occurring everywhere and in all times. The leading article, "Science and Man's Dilemma," in the same number of *Science* contains many amiable answers to questions raised by Dr. Asmou. It is well known that the Soviet scientists and people have shown on many occasions sincere and friendly relations toward the American scientists and people. A letter like that of Dr. Asmou certainly does not contribute to the friendship of two nations.

In conclusion I should like to change the sentence of Dr. Asmou, "We are probably talking again different languages although we both were born in the same country," as follows: All three of us were born in the *same* country, talked the *same* language, and breathed the *same* air but we have *different* feelings (at least two of us). And is it not the commonest fact (often an evil) in this incoherent yet attractive promising world of the human race?

SERGEI GAPOSCHKIN

Harvard College Observatory

#### Rediscovery of Vitamin A

Dr. Smith's letter (*Science*, 1946, 103, 281) raises an important point, namely, the difficulty of scanning the immense literature of biochemistry well enough to know whether an observation is a new discovery. The difficulty is intensified when the early work is in Russian or Japanese, for instance, with a long interval before revival.

My own "discovery" in 1936 of the ester condition of natural vitamin A was due to unfamiliarity with the field, since I had recently emerged as a biochemist after a training in photography and high vacuum. In a later paper (*Chem. Rev.*, 1944, 34, 95, sec. II, line 1) I mention my mistake and give credit to the earlier discoverers of the ester story.

The moral surely is that we must all—authors, editors, and printers—be very careful, making first reports as