in question was the basis of the laminar film hypothesis, it was 14 years before the question of the discrepancy between the two tables was raised.

The self-correcting mechanism may have worked, but it was rather slow. I suspect it might be even slower in this era of mission-oriented research, where financial support to check other people's results would be hard to get.

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Evaluating the Social Sciences

As a sociologist, I appreciate William D. Carey's defense of the social sciences in his editorial of 1 May (p. 497). However, it might be worth a pause to consider what, in fact, the social sciences have contributed toward answering "questions that need and are worth studying." I am afraid the record is a poor one.

To put the question properly, we must acknowledge that a great deal of what we know about important social problems has been contributed by people who are not social scientists. These include novelists, journalists, political activists, and perhaps even one or two politicians. What, *in addition*, has been contributed by professional social scientists?

If you ask several different social scientists this question, you will, as usual, get several different answers. (Perhaps what we contribute is a diversity of viewpoints.) We do not have any theories that allow us to predict events with more accuracy than intelligent laymen. Nor do we have any theories that allow us to construct better social systems—schools, police forces, cities, nations—than can be constructed by laymen. Most of us do not understand the society well enough to extract a particularly good living from it, compared to other Ph.D.'s, and we do not even understand microsocieties to the extent that sociology departments run better than other academic departments.

This is not to say that we are wholly ignorant of society and social behavior. To the contrary, we understand these things fairly well. The difficulty is, so does everyone else. I suspect that if we made a list of social problems and then discussed them with random samples of sociologists, physicists, and journalists, the sociologists would not come out any better than the other groups. If we went to sociologists *specializing* in these problems and asked them to predict relevant events over, say, the next 2 years, then I bet they would not do any better than a group of journalists who wrote about these problems. If we asked sociological specialists to suggest solutions to these problems, then I bet (i) that they would not agree among themselves, and (ii) that their suggestions would not look particularly good.

I would not go so far as to say that professional social science has made no contribution at all, but what has been made is a little hard to find.

Do not expect too much from the social sciences. We are trying but it is very hard work. Perhaps, in a few years, we will have better theories and make better predictions and design better systems. Perhaps not. It would be nice to have research support so that we can continue trying.

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OSHA Policy for Laboratories

I wish to call the attention of *Science* readers to a request for information related to protection of laboratory workers from toxic exposures. The Occupational Safety and Health Administration (OSHA) needs additional information in order to make initial policy decisions on what regulatory approach would be most appropriate for laboratory work with toxic chemicals.

In the *Federal Register* of 14 April 1981 we specified some of the issues OSHA will need to consider, including the basic issue of whether either (i) a general mandatory laboratory standard or (ii) general laboratory guidelines which would be mandatory only for general industry would be preferable to the substance-specific health standards for general industry that are currently applicable to laboratories. Other options which may be suggested and are consistent with the Occupational Safety and Health Act will also be considered.

We are also seeking comment, including economic and technological feasibility information, on a number of other issues. These include exposure monitoring, medical surveillance, ventilation specifications, and certain work practices for handling toxic chemicals.

Requests for a copy of the *Federal Register* notice may be sent to Lucile Adamson, Room N3718, Department of Labor–OSHA, 200 Constitution Avenue, NW, Washington, D.C. 20210.

We hope that the laboratory community will take advantage of this opportunity to contribute to national policy development in this area.

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More History of Calculus

In a recent letter (20 Mar., p. 1258) Kondo points out that a Japanese mathematician developed the calculus independently of, and probably somewhat earlier than, Newton and Leibniz.

Kondo does not mention the much publicized recent discovery of documents in the Cistercian monastery of Stams in Tirol which makes it virtually certain that priority in developing the calculus belongs to a brilliant Austrian monk, Johan Jakob Tschurtschenthaler (1630–1670) from Thaur, a small village near Innsbruck. Tschurtschenthaler, a farmer's son, had run away from home and was educated by the enterprising brethren of the Stams monastery, who quickly realized the intellectual powers of the young boy. The novice showed his gifts by constructing elaborate wind-driven waterworks, a famous clock, and many other mechanical devices. He also invented a new method of triangulation which was used for measuring the heights of mountains with hitherto unknown precision. Tschurtschenthaler was a very skilled mathematician but he seems to have been interested mainly in practical applications of this science. There can be no doubt that his manuscript "Eyne eynfache Methode mithülfe der Gnade des Allmächtigen aus dem Allerkleinsten das Allergrösste zu kalkulieren," which can be dated to the year 1660 or 1661, contains all the ingredients of the calculus as they were developed independently by Newton and by Leibniz a few years later. There is no indication that the manuscript ever left the Stams monastery. Tschurtschenthaler died (by drowning) before he could find any practical use for his ideas.

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