"""" "CUTTENT COMMENTS"

International Science Requires
Cultural As Well As Economic "Imperialism."

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When I was growing up, the ethical value of a scientific career was never questioned. Somehow, I knew that all science and all scientists were good. The villainy of the "mad scientist" bent on destroying the world in Saturday afternoon movies never disturbed my awesome regard for pure science. I knew intuitively that the "mad scientist" was an impostor and in truth only a berserk applied technologist.

But alas I could not know at the age of 12 that a Professor Stark was expounding in *Nature*¹ a "pragmatic spirit" of science which led to an international holocaust. Nor could I foresee the use of science to develop atomic and biological weapons of mass destruction.

Because of my limited dealings with scientists as people, I "knew" scientists were good, altruistic, above all petty concerns of family, community, party politics, or national rivalry. I even interpreted their imputed agnosticism as a laudable lack of concern for personal salvation. But most of all, scientists were internationalists, at home in any country among their distinguished peers, sharing an allegiance to science's betterment of mankind. One wonders

if such naivete ever wears off. For even after I was grown up, I continued to assume that scientists not only need, but want to communicate with each other. To do so, they would have to speak the "same" language. It even helped to explain why the scientist in the Saturday flicks so often spoke English with a thick foreign accent. It was some time before I learned that scientists, like everyone else, can use the same language without speaking in it.

At the age of 14, while at Stuyvesant High School in New York, I acquired a copy of J.D. Bernal's Social Function of Science.2 Until that time, the notion that science is intrinsically good was commonplace. The process of questioning this, for me and others, began about 1940, when Bernal offered his interpretation of science as just one more expression of social and economic competition. Indeed science could become the very implement of imperialism, far removed from the drive for pure knowledge I had liked to imagine it had always been. The scientist as the heroic Galahad had left the stage as quickly as his feet of clay would carry him. The scientist as villain of the Saturday matinee had to go with him, for he was seen now as no more or less wicked than the supranational corporate executives, generals, or dictators who encouraged him. It is not surprising that at that very moment I left a science high school to concentrate on foreign languages at DeWitt Clinton High School.

The extreme view of science almost exclusively as a lever of imperialism did not last, but it is interesting how recent events have revived the image. From such a viewpoint any international effort can be interpreted as "imperialistic." Thus my views on English as the international language of science have been twice attacked as cultural imperialism.3 Any effort to standardize scientific terminology or methods of communication and information retrieval can be regarded as a form of intellectual imperialism. The promotion of the metric system is regarded by many businessmen as economic, intellectual, and cultural imperialism combined.

ISI®'s attempts to internationalize the use of its services is a form of economic "imperialism" not unlike that of corporate giants like IBM. Over 50% of our readers and subscribers reside outside the United States, as would be the case for any member of the information or publishing industries catering to science. Fortunately we have not yet been seriously accused by anyone of scientific chauvinism, even though our journal coverage might at times seem to give evidence of it.

Perhaps the most gratifying development in the internationalization of science is that it has led to a mutual dependence which is not the case for computer manufacture, for example. The threat of cutting off information flow from the United States would rapidly lead to a similar action abroad. Recent developments in international cancer and space research efforts are merely extensions of what has been going on in information science for many years.

- Stark, J. The pragmatic and the dogmatic spirit in physics. Nature 141:770-72, 1938.
- Bernal, J.D. The Social Function of Science. (London: Routledge & Kegan Paul, 1939; Cambridge, Mass.: MIT Press, 1967).
- 3. Garfield, E. "Cover-to-cover" translation of Soviet journals; a wrong "solution" of the wrong problem. Current Contents No. 29, 19 July 1972, p. 5-6.