would not be complete without some mention of the strong and usually successful measures taken by the governments of these countries to prevent the spread of science in them. These measures are seldom known to the stay-at-home American scientist, or to the casual visitor. While inhibitory policies exist in all aspects of science, the ones applying to tangible goods such as scientific instruments are the most easily and objectively treated. A prime tool is the import tariff, which can run 200 to 300 percent. Underdeveloped countries do not produce any significant variety of scientific instruments themselves, so almost everything used must be imported. Hardly anybody ever pays such tariffs, of course; the rest do without, or spend a lot of time lobbying to get an exemption. Only a few exceptionally energetic or prestigious individuals in a few leading institutions succeed with the exemptions, and frequently wait years even then.

Another effective tool is currency controls, which can add several hundred percent in cost, years of delay, and kilograms of paperwork. These often apply even to people who have the tariff exemption.

A third tool for the exclusion of scientific instruments from the underdeveloped country is much less obvious but comparable in effectiveness: the restriction of importers and dealers in such goods. The scientist in a large advanced country, who can get a surprising amount of sophisticated instrumentation into his lab for purchase or trial tomorrow by a phone call today, and most of what he needs in 30 days, finds it hard to imagine a situation where no example exists in his country of an instrument he wants to see, where he has to buy it irrevocably just for a look, where purchase may take years if it is possible at all, and where he has to fix it himself if it misbehaves. The manufacturers are eager for stock, demonstration, and repair, and a number of dealers in such countries are able and willing, but both are prevented by government regulations. How do you even learn the existence of new instruments under such conditions?

Such inhibitions on the tools of science lie on a continuum, with a rank order which correlates closely with degree of underdevelopment. At the top we find countries like Sweden and Switzerland, with modest tariffs generally under 10 percent, free currency convertibility, and strong distribution organizations with stock for sale or demonstration, and repair. Just below we find the United States, differing only in somewhat higher tariffs, up to 25 or 50 percent, but with automatic exemptions for many institutions. Further down lie Spain and Italy, where each item must be imported directly by the user in his own name, under letter-of-credit terms, but where the dealer structure is still strong and most unpleasant details are handled promptly and expeditiously by them. Further yet, in most of Latin America, we find the wild tariffs, incomprehensible currency controls, willing but impotent dealers, very little equipment, and scientists helpless to do the work they want. At the bottom, in Asia and Africa, only the most sensitive antennae pick up any signal at all, and any purchase of modern instrumentation has more to do with miracles than with science, even though the country may be shelling out plenty of hard currency for other commodities, have institutions for research and higher learning, and have some educated people in it.

If the governments of the countries concerned could be persuaded just to get out of the way, the needed equipment would flow in.

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## Sophistication, Old and New

Let Engel and Catchpole (Letters, 25 March) come into the 20th century. All their examples of the pejorative use of the word "sophisticated"—by Burke, Dryden, Emerson, Disraeli, and, with a final flourish, Pope—are certainly enjoyable, but they are linguistically as dead as their distinguished authors. The *American College Dictionary* gives as its first definition of "sophisticated": "(of a person, the ideas, tastes, manners, etc.) altered by education, worldly experience, etc.; changed from the natural character or simplicity; artificial." As its second: "adapted to the tastes of sophisticates: *sophisticated music*." And only as the last: "deceptive; misleading." The one antonym listed is "naive."

Dear Messrs. Engel and Catchpole, leave archaisms lie; or, better yet, leave them to the unsophisticated.

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