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Homi Bhabha and the Underdeveloped Nations

No thoughtful person can take the plight of the less-developed countries casually. Quite apart from the sympathy the humane individual may have for those who live under deprivation and hardship, it is a simple fact that no relatively advanced society can be free to fulfill its own destiny as long as widespread misery exists on our globe. Our own country in particular, which is looked to for help and leadership throughout so much of the world, cannot possibly be free to pursue its own way as long as its standards of well-being differ so much from those of other peoples. The fact that the average income per person in India is only about 2 percent of that in the United States must inevitably weigh us down.

As Homi Bhabha stated clearly in his address to the International Council of Scientific Unions, reproduced in the 4 February issue of *Science*, science and its interplay with technology will be deeply involved in the process of raising the standards of living in any nation. No underdeveloped nation can hope to go far on the road toward advancement unless it is prepared to develop science and technology along lines which match its resources and needs. In fact, the Western Europeans who generated the technological revolution also, along the way, transformed the relatively primitive science they inherited from the Arabs and Byzantines into the powerful and revolutionary tool that it is today.

There are occasions when all of us involved in science and public policy find it convenient to take the view that the development of science is the principal ingredient needed to achieve technological advancement. There is no doubt that only the scientifically advanced nations can expect to be in positions of leadership in the present world. On the other hand, it is easy to be convinced that one can go very far by borrowing pure science from other nations and putting it to work. Our own country really did not pull abreast of Western Europe in creative science until the second quarter of this century, by which time it was technically advanced by any standard. Its level of living was among the highest in the world well before it challenged Western Europe in competition for Nobel awards.

What was exceedingly important in our national history was the conscious will of those who settled here to meet at least halfway the opportunities our land offered. To that end both the immigrant and the native-born labored with remarkable devotion, perhaps losing along the way more of esthetic and cultural value than they should have.

To return to the Western Europeans, a study of their history shows that well before the Crusades in the 11th and 12th centuries, when they first became conscious of science, they had already won an enormous victory over the obstacles posed by the temperate regions north of the Alps. The technological surge the Europeans started more than a thousand years ago continued unbroken into the days of the caravels and on into the age of coal and steel. Science stood in the periphery during most of this time.

One must conclude that, as in the case of the United States, the primary source of advancement in Europe lay in the will of its people to improve their lot. Science became useful because men of will reached out for it.

We have a solemn and urgent duty to help the less-developed countries on their way by providing both knowledge and materials. The success of this partnership, however, will ultimately depend on the extent to which those in the less-developed lands are willing to sacrifice themselves and their way of life to the pursuit of technological development. One of Homi Bhabha's great contributions to India lies in the willingness he had to mold old traditions to new patterns of development.

—FREDERICK SEITZ, *National Academy of Sciences*