tertainment (whatever happened to rouge and powder!).

The evening's entertainment was provided by a guitar rock band that used electricity instead of fingers, and by painting signs protesting the thermal pollution from the proposed new power facility on the north edge of the lake. (The thermal pollution from such a facility would be about the equivalent of that which my daughters and their friends contribute to the lake getting ready for a night out with their bathing, hair-washing, and clothes-washing.)

With more girls at home there should be an offset in power use. A few more things could be washed in one cycle. However, there is often a last-minute, second cycle of consumption by one of the others of some forgotten unmentionables. I can shower in 3 minutes with a few gallons of water. One of my daughters needs at least 20 minutes and at least 70 gallons of water for a bath or shower or whatever she does up there. I see little hope of retarding the growth of the residential power demand until scientists can apply highly skilled analysis to the female and the particular, unanalyzable, unscientific, uncontrolled phenomena of their power consumption. (I never hear them running the power lawn mower.)

Philosophically and financially I hope the authors are right that the "crisis" has been overestimated, but I hold out no hope whatsoever.

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Frog Health

Science has appropriately alerted its readers to the poor health of frogs available for research (see T. H. Maugh, Research News, 27 Oct. 1972, p. 387) and noted that septicemia and malnutrition are the predominant causes of death. Gibbs *et al.* (*1*) demonstrated how simple treatment with tetracycline and food was sufficient to eliminate these causes of death. Following their suggestion, we have treated frogs received from large midwestern and eastern suppliers by injections of tetracycline [5 percent, weight to volume, in water; 0.5 milliliter per frog (weight, 100 to 150 grams)] via soft polyethylene tubing (PE 90) into the stomach once or twice per day. Ninety percent survival is the routine result. In addition, if investigators refused to pay for frogs received dead, suppliers might investigate simple modes of treatment in the housing ponds to avoid the loss of captured stock.

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Latin American Development

In the last year, several *Science* editorials have dealt with Latin American development. Two of them by Philip Abelson (9 June 1972, p. 1077; and 6 Oct. 1972, p. 13) merit some comment.

As a Latin American, I cannot help noting the widespread misunderstanding of American engineers and scientists about the social, political, economic, and scientific problems of Latin American countries. I do not blame them, but rather find they have great difficulty understanding what underdevelopment really means. As Abelson correctly observes, "If the poorer countries are to develop, they must do so largely by their own efforts." Although in many of these countries the state has played a strategic role in promoting the development of the industrialized sector, internal structural conditions have oriented the production of goods to satisfy the consumption of the middle and upper classes. Moreover, as a new form of economic domination—the multinational corporation—is spreading throughout the world, the planning, decision-making, and financial, scientific, and technological knowledge are located in the industrialized countries (*1*). The result is a new form of the well-known "center-periphery" model (*2*), in which manufacturing activities are concentrated in industrial (center) countries, while the peripheral ones specialize in those products needed by the former for their economic expansion.

Abelson suggests that "The Latin American countries might try to utilize the bounteous resources of scientists and engineers in developed countries,"

although he also notes that there are 50,000 Latin American scientists and engineers not effectively employed in industry. What he probably ignores is that Latin American professionals "have no opportunities to use their knowledge in the established industries and even less chance to exercise their ability to invent, create and use their research qualifications to improve techniques and manufactured products. . . . The designs, the projects and the plans for manufacture of industrial goods in local subsidiaries arrive already fashioned from headquarters" (*3*).

In his editorial of 9 June 1972, Abelson refers to Brazil as an example of rapid economic change in recent years. Brazil is, in fact, an excellent example of a model of growth for the sake of some multinational corporations and for the benefit of a small minority (5 percent) of the population (*4*). Abelson does not refer to countries like Chile, Peru, and Cuba, which are trying, in spite of all sorts of difficulties, to change the economic and social structure of their societies in order to distribute the benefits of development to the majority.

In most Latin American countries, any attempt to tackle the problem of underdevelopment constitutes a threat to the state of economic dependence under which those countries are being allowed to grow; this sort of "economic growth" is a mischievous fraud. Most Latin American scholars are not even free to discuss in their own countries the problems related to the impact of science and technology on an underdeveloped society, as the universities which are the place to do so are forbidden to them (*5*).

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The efforts of Brazil's Executive Commission for the Economic Recuperation of the Cacao Region (CEPLAC) fit the "legitimate aspirations" mentioned in Abelson's editorial of 6 October 1972. Funded through a 10 percent tax on exported cocoa, CEPLAC is charged with the development of agriculture and the improvement of living standards in Bahia, where cocoa grows.

Logically, first priority goes to increasing the tonnage and quality of the cocoa crop for export through a traditional agricultural research and extension approach, but CEPLAC does not stop there. To get the crop to market, bridges and roads are built where needed, and dock facilities are nearing completion at the port city of Ilheus. CEPLAC is using cocoa money in a program of agricultural diversification aimed at changing the prevailing monoculture. Through CEPLAC, schools have been built and staffed, medicine bought, and rural towns have sewage systems and potable water for the first time. In June 1972, a new research laboratory was dedicated. Located within the CEPLAC compound near Itabuna, this facility ranks as one of the most complete and potentially productive centers devoted to tropical agricultural research.

Abelson comments about the small number of scientists and engineers in Latin America. He suggests that the "bounteous resources" of technical talent in developed countries fill the breach, but that this would require, among other things, "a willingness [by Latin Americans] to provide conditions that would permit effective tackling of problems." Such conditions prevail at CEPLAC, especially in the case of biological sciences. The forests and fields abound with exciting and intellectually stimulating challenges; and, with the new laboratory nearby, discoveries of great practical importance are now possible.

The Brazilians will eventually make it on their own. But CEPLAC is the type of indigenous organization mentioned in Abelson's editorial, where an infusion of scientific talent from abroad, in this case on a small scale, could accelerate the development process. CEPLAC is no ragtag outfit. It has forceful and effective leadership and the resources to get the job done.

As a postscript to all overburdened scientists who would like to get away from it all: at Itabuna the mail service is impossible, so there are no letters to answer; telephones work only about as far as you can shout; and the beach—well, it can be all yours, with nothing but sand and more sand, surf, and palm trees as far as the eye can perceive.

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