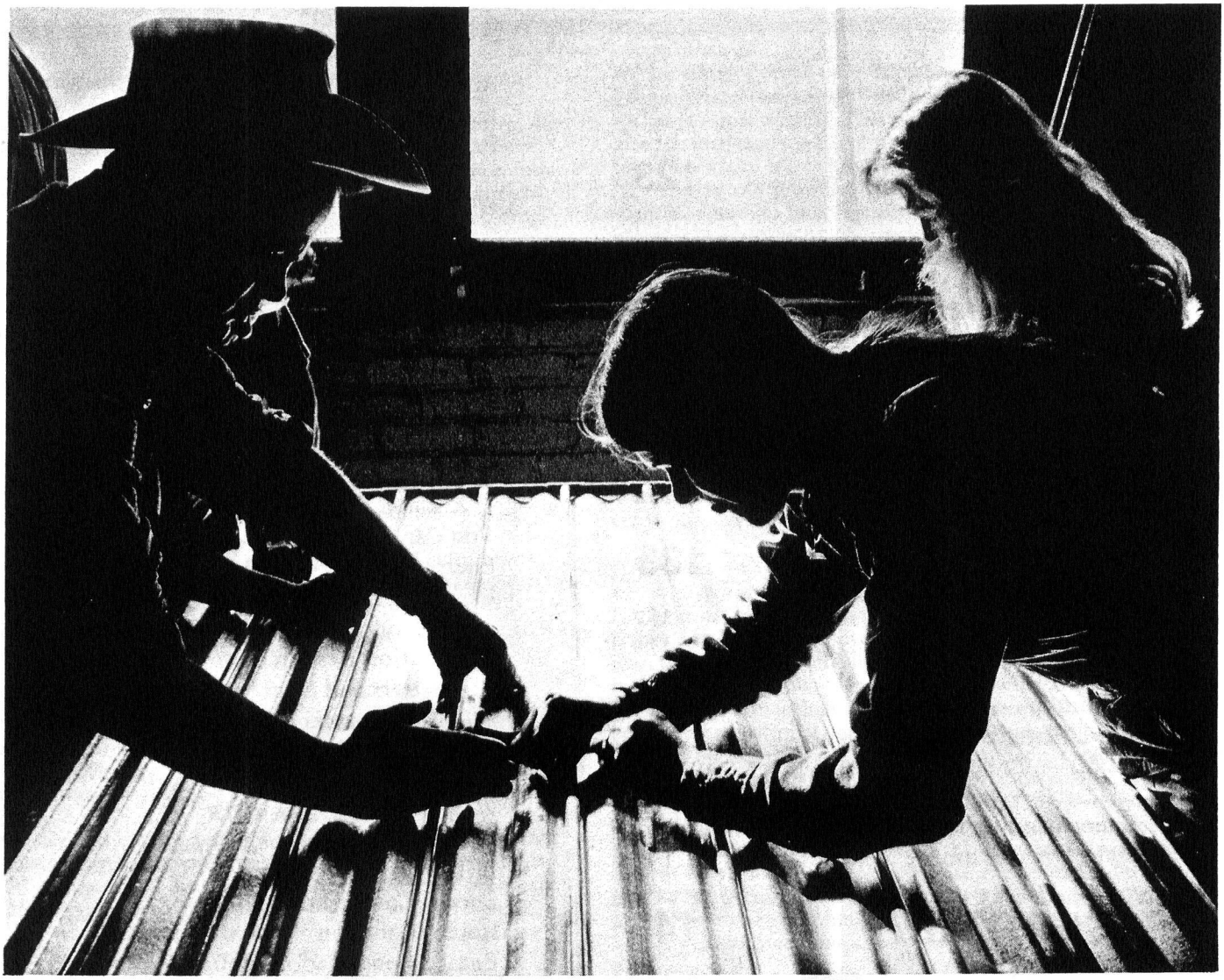

Borrowed Times

APPROPRIATE TECHNOLOGY

The development and demand for "appropriate technologies" today arise from the realization that our resource conditions are changing and that our present ways of doing things are inappropriate for the futures we face. They arise also from a realization that our present technologies serve ends which threaten the fundamental values of our society and new ways of doing things must be developed which support and evoke those values.

Appropriate technology demands that we ask, "Appropriate for what?" "Appropriate for whom?" No technology is value-free. Some technologies are appropriate for conditions of growth, vast resources and small populations. Others are appropriate for conditions of stability, plentiful labor and scarce resources. Some technologies increase the wealth of a few while impoverishing the many. Others tend to equalize wealth and power. Some technologies degrade and destroy the people using them, while others give opportunity for growth of skills, confidence and abilities. Some technologies consume energy, some provide employment. Some technologies produce goods, others produce good.

The existence of a technology does not require its use any more than the existence of a gun requires us to shoot. It only requires that we examine what happens if we don't use it and others do, and the effects its use would have on our lives.

Appropriate technology reminds us that before we choose our tools and techniques we must choose our dreams and values, for some technologies serve them, while others make them unobtainable.

Appropriate technologies can be simply defined but not so simply created. They are small in scale, conservative of resources, controllable, and wise. They extend and deepen our own capabilities and experiences and unify them with those of others and with our surroundings. This whole book is about such tools—this section is merely an introduction to some of the main ideas and resources.

Our primary concern in this book is technologies appropriate for overdeveloped countries such as the U.S. There are several reasons why we are concerned with that rather than with focusing on other countries that seem to need help more desperately:

* We need to live what we talk if we ever expect other people to take us seriously. You can't sell compost toilets to others if you won't use them yourself.
* We haven't been asked to solve other people's problems.
* We are a large part of poorer countries' problems. If we can get off their backs they have a lot better chance of working things out.
* Rethinking and changing the economics and culture we've spread throughout the world can have as broad an effect coming from our own culture as from any other.
* There's enough to keep us busy here!

Finding viable technologies for overdeveloped countries is in many ways a very different problem from poorer countries and provides a very different challenge. We don't need machines—we've got too many. Our needs aren't obvious (to us)—we're not hungry, and we seem to have everything, yet we're not particularly happy. In any case, the future promises big changes. We're going to have less wealth from fossil fuels, fewer of the rest of the world's resources and more economic, political and military competition from other countries.

As a result, the technology appropriate for changing conditions in the U.S. has several requirements:

* It must improve our quality of life. Any reduction in material well-being must be more than offset by improved well-being in other areas.
* It must eliminate need for continued use of fossil fuels and further extraction of non-renewable materials.
* It must reconnect us with the rewards of meaningful interaction with other people.
* It must deal with the *causes* of economic inequality in this country and between this country and other nations.
* It must convert work into a meaningful and rewarding process.
* It must convert our institutional structures to sustainable forms.
* It must help us realign our actions with our basic values.

Appropriate technology in these conditions is not merely a question of machines and tools, but of the nature of all the conceptual, organizational, political, physical and spiritual tools and techniques which we bring into play by our actions. And it is these "softer" tools that we lack the most—the tools with which to control our machines and actions.

It may seem wrong to categorize dreams and values together with machines and tools as "appropriate technology," but those very different things need desperately to be brought together. Action without vision and vision without action are equally impotent, but together they can perform miracles. And a shift of our concern from quantity to quality, from powerful to skillful tools, and from material and energy resources to human resources imples a shift toward such softer, less visible and more integral tools.

We are taking a broad view of technology here, for what "Appropriate Technology" adds to technology is the question "What is Appropriate?" That question requires that we get into the intricately interconnected web that links everything together—a web where a small change in something seemingly far removed can allow big changes in what you're concerned with. You have to look broadly enough to see whole shifts in patterns in addition to adjustments to what exists. Every step of the baking industry, for instances, may be marvelously efficient, yet when compared to baking at home, the whole process of sending wheat thousands of miles to be milled and baked and then setting up an intricate delivery system appears incredibly expensive and unnecessary. So things such as public interest accountants, community radio stations, maps, or bootstraps economics for communities all have their place in helping our large and intricate society make some major adjustments. Public access and use of many of these tools is a revolution in itself, and the missing element in many otherwise highly useful developments is an accounting skill or a sense of the territory where something can be useful.

New technologies, whether nuclear power or video portapacks, may not achieve their initial potential once their internal and external interaction is more fully understood. Xerox machines may increase the overload of useless information more than they increase availability of good information. Or they may just get us farther into being concerned with information about things rather than the things themselves. So we need to be concerned with the context as well as with the tool itself. Why has big business and big government been so receptive to appropriate technology? Do they not understand its implications, or do they see different potentials? A big equipment manufacturer in the Philippines openly admitted their expectations—small firms would develop the new technologies, work out the bugs, and develop the markets, then they would come in and take over. Is a.t. a "poor people's technology" that can permit us or our government from feeling any responsibility for inequality? Many questions remain, yet what has happened so far is good.