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Communication 890

The Transfer of Technology to Developing Countries

excellent discussion of TECHNOLOGY concept

COMMENTS ON

"THE TRANSFER OF TECHNOLOGY: A UNIVERSAL PROCESS"

ROBERT SOLO

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The basic concepts of Solo's paper are "technology", "transfer" and "universal". For the first, a definition is provided. The second is mostly explained by means of a model. The third is illustrated with examples.

Some difficulties are apparent with the definition and possibilities seem to exist to modify the model. This paper is concerned only with the definition. This emphasis is justified by the fact that the total comprehension of Solo's propositions and the full assimilation of the entire course itself must be dependent upon such definition to an important degree.

Solo's definitions of technology are the following:

1. "Here technology will be understood as <u>the organized capability of a social group to perform some purposeful activity</u>."(p. 1)

2. "<u>A technology is a way of organizing some purposeful activity</u>(p.40)

In both instances, the key terms refer to <u>organization</u> and to <u>purpose</u>. The author elaborates on the former but not on the latter, except in what refers to the scope of purpose. He says:

" Technology is an <u>organized</u> capability in the sense that it can conceivably be reproduced, duplicated, systematically perpetuated".(p.1)

It would appear the author equates organization(of a capability) with reproducibility(of a technology). He does not, however, describes how is it that organization accounts for such reproducibility. It may prove useful to speculate a bit about it.

Conceivably, a central component of organization is <u>order</u>; that is, the presence of some sort of non-arbitrary and non-accidental arrangement. If so, then that which is orderly is reproducible.

Closely.tied to order, another component of organization may be thought to be <u>purpose</u> itself. Something is organized under the deliberate orientation to meet a goal. Most human organizations, in fact, are built around intentions and objectives.

A third component of organization can be _consciouss design_; that is, will submitted to plans.

Putting together these three elements of the concept of organization, a technology could be conceptualized as _the orderly capability of a social group to perform a goal-directed activity that departs(stems) from consciouss design._

Doubts, however, arise at this point. They can be expressed by means of the following chart:

QUESTIONS	ILLUSTRATIONS
Could it not an _unorganized_ capability of a social group to perform some _purposeful_ activity be also regarded as a technology ?	Individuals in the "group" coming out of a theatre or stadium have the unorganized capability to spread away from that place of gathering. Yet they all perform the purposeful activity of moving themselves toward their homes.
If the central attribute of organization is _reproducibility_, is a _non-self perpetuating_ capability neccesarily not a technology ?	Residents of an apartment building set afire may suddenly somehow organize themselves as "group" with the purpose to scape into safety. Yet such a capability may never be reproduced for that group.
Could it not an _unorganized_ capability of a group to perform some _none-purposeful_ activity be also regarded as a technology ?	A group of "beatneeks" laying idle in Washington Square may constitute a case of "inactivity" taken as an "activity". They have the capability for it but it is not organized and it is apparently purposeless. Yet the _ways_ of "doing nothing" may be distinctively diverse.
Could it, on the contrary, an _organized_ capability of a social group to perform some _purposeful_ activity _not constitute a technology_ ?	A "group" of religious people have the organized capability to attend Sunday mass and such activity has the ostensible purpose of fullfilling spiritual needs and complying with societal demands. Yet perhaps attending to mass cannot be strictly regarded as a technology.

If these observations are tenable, the probably the author's definition of technology could be improved by doing something to avoid its two paradoxical handicaps: excesive broadness and excesive narroↃness. Broadness because, as it is stated, it allows for counting in many groups that have organized capabilities to perform purposeful activities and yet may not imply the generation of technologies. Narrowness because organization, as characterized solely by reproducibility, may lead to count out many goal-oriented and organized activities that are actually technolögies.

A further problem appears when trying to conceptualize in detail the process of technological transfer. What is it that is transferred? Is "technology" the objet of transmission? If it is, then -- by the author's definiton -- what is transferred is "the organized capability of perбórming some purposeful activity". Is that capacity, as such, wholy transmisible ? And, even if it is, does it not actually already exist -- at least potentially and its most general form -- in most any human aggregate ?

An alternate possibility is that the object of transfer is a technique, rather than a technology, unless technology becomes understood, instead, as a set of integrated techniques. The ordinary meaning of technology, in fact, is that| "the science or study of the practical or industrial arts."

The dictionary tells us that technique is (1) the method of procedure in artistic work, scientific operation, etc.; and (2) the degree of expertness in this.

More sohpisticated definitions are the following:

Marcel Mauss: "Technique is a group of movements, of actions generally and mostly manual, organized, and traditional, all of which unite to reach a known end, for example, physical, chemical or organic."

- <u>H.D. Lasswell</u>: "Technique is the ensemble of practices by which one uses available resources in order to achieve certain valued ends."

Jacques Ellul(*) formulates objections against these and other

definitions of "technique" but adds:

> If we recognize that the method of each person employs to attain a result is, in fact, his particular technique, the problem of means is raised. In fact, techniques is nothing more than <u>means</u> and the <u>ensemble of means</u>.

The above definitions of <u>technique</u> may lead to a definition of

<u>technology</u> perhaps as useful as that of Solo but, in addition, free

of the handicaps of broadness and narrowness that have been noted in

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* Ellul, Jackes, <u>The Technological Society</u>, New York, Vintage Books, 1967.

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