ACADEMY STREET NETWORK

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PERSPECTIVE:

The Obstacles to Technology Transfer

During the late 80's and early 90's after the decline and fall of the Soviet Union the business landscape changed somewhat. Companies that had been built on high profile government defense contracts found that the well was running dry. America's universities had a similar, though not as devastating, experience with this as well. When a fundamental change in the way things are done occurs, such as this particular situation, it is to be expected that there will be a period during which those affected find a way to adjust.

Depending on what happens in the future, technology transfer may prove to be the response to the changes that have happened over the past few years. The phrase 'technology transfer' refers to the development, by universities, of technology which is patented by the university and then marketed. If that sounds a big vague to you, particularly the second part, then you would be right. That is but one of the problems with technology transfer. Others involve legal aspects to regulate technology transfer and the inevitable momentum in society that tries to move in the same old direction while a new idea, in this case technology transfer, is being worked out. I can't go over all the specifics of each problem even if I knew them all, but a description of some of these follows.

One of the first obstacles to be overcome is the one involving the definition of technology transfer. The general idea is there but the specifics have yet to be worked out. Some of the ideas involve licensing an outside company to mass produce the technology developed by the university in question, with the university getting a portion of the revenue generated since it holds the patent. Other ideas involve the university establishing a private company to create new companies to mass produce the new technology. There are still other ideas which are variations on this theme.

Other problems have arisen because of new legal questions that have arisen. It wasn't until 1980 that universities were allowed to profit from federally funded projects. Private companies then licensed that research and went from there. After a short while the universities wanted to try their hand at commercializing the new technology themselves. Enter technology transfer, and the subsequent arguments over conflict of interest and the opposition by those who stand to lose money if technology transfer becomes the way things are done in the future. There have been more than one project killed from these obstacles. Hence, many universities have been shy about implementing technology transfer programs.

There have been other problems with the universities themselves. Many would agree that universities and business tend to do things differently. Universities do not generally have the internal bureaucratic machinery (or perhaps they have too much!) to put a plan into operation and achieve results. This is understandable and should not be criticized, since universities are not around to turn a profit but to turn out highly educated professionals.

Then there is the problem of developing new technologies themselves. Most research yields only an incremental improvement in existing technology. Hence, it will be necessary to 'lump together' a number of technological innovations in order to reap a substantial return on the initial amount expended to bring about the new technology. What is required here is an understanding by those on the commercial end of technology transfer of the way research is conducted and what is reasonable to expect.

After a few years most of the problems will probably be worked out, assuming technology transfer catches on. Whether that happens remains to be seen. What technology transfer represents is a paradigm shift. Those in the computer industry will be familiar with the phrase. Roughly, it refers to a change in people's perceptions regarding how problems are not just solved, but how they are perceived and how their solutions should look. We go through paradigm shifts periodically and in different disciplines. Technology transfer, viewed in this light, is a reaction to a different environment and a potential improvement on that way things are done.

HOW MUCH ENERGY
HAVE YOU CONSERVED THIS WEEK?

Volunteer of the Month

Jean Wu

for her work with our displays

ACADEMY STREET REVIEW

Book review (Part II):

The Work of Nations

By Robert B. Reich 1992 by McGraw-Hill. Pub. by John Wiley & Sons, Inc.

The Work of Nations describes the future economy of the world, particularly as it regards the acendency of the symbolic-analyst in the U.S. labor force.

"Desire to end the relationship is rarely sufficient to accomplish the feat of secession. Secessionists must also undo the political and legal ties that bind them to their undesired compatriots. The latter can be expected to resist such efforts, especially if they have benefited from the compact. The politics of secession are thus rarely cordial." (pg. 282)

Yet, the widening divergence in their incomes, the growing difference in their working conditions, the regressive shift of the tax burden, the difference in the quality of primary and secondary education available to their children, the growing disparity in their access to higher education, the increasing difference in recreational facilities, roads, security, and other local amenities available to them-no part of this broad trend toward inequality has generated overt resentment from the majority of citizens.

Even if all these impediments did not exist, the lower four-fifths of the population would still be reluctant to press demands upon the top fifth. The reason is economic. The rest of the population is dependent upon how and where symbolic analysts decide to dedicate their energies and money. The dependence of in-person servers is direct; wealthy symbolic analysts in their midst attract money from the rest of the world and spend a part of it on local services. Routine producers, although not dependent on American symbolic analysts exclusively, nonetheless rely on the decisions of strategic brokers of whatever nationality to give them work and, hopefully, to train them to become more valuable and productive.

The dependency is not symmetrical. Symbolic analysts represent the most mobile part of any nation's work force. They do not rely on nearby factories (as do routine producers); nor do they depend on large numbers of customers in close geographic proximity in order to make their sales (as do in-person servers). Symbolic analysts can work almost anywhere there exist a telephone, xfax, modem, and airport. While symbolic analysts are likely to drew intellectual sustenance from the presence of other symbolic analysts in the special zone of the city or exurb where they work, they are not bound to work even there; there are other symbolic-analytic centers to which they might relocate.

In sum, because in-person servers and routine producers need symbolic analysts much more than symbolic analysts need them, the former have little political leverage over the latter. They cannot force symbolic analysts to share their incomes with them or to invest in their futures. The politics of secession are relatively peaceful, in other words, because the other side lacks any political artillery.— *Ri-Gui Dalia Liang.*

Thanks to
Dalia Liang
for analyzing and writing this series
on Robert's Reich's Work of Nations.

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