The Information Age: Evolutionary and Revolutionary Change


During the past year, we have seen a major change in the nature of the governmental structure of Eastern Europe and the USSR. Undoubtedly these changes will be analyzed for many years to come. Why did these changes come about? Were they all due to one man, Gorbachev, addressing an economic crisis in the USSR?

In this editorial, I argue that the Information Age is directly responsible for the political changes mentioned above. Then I explore the analogy between this and possible changes in our educational system.

The Information Age is often defined in terms of a change in the nature of employment. In the U.S. in 1956, the number of people holding white-collar jobs first exceeded the number holding blue-collar jobs. We were witnessing a major decline in industrial production jobs and a major increase in service jobs. Many of these service jobs involved working with information, in jobs such as teacher, nurse, bank clerk, and computer programmer.

However, this change in the dominant classification of jobs fails to capture the essence of what was going on. The Information Age is characterized by a number of simultaneous and continuing changes that are having a major cumulative effect. A few of them are:

1. Transportation. Jet airplanes and more air travel; more efficient transportation of goods via land, sea, and air.
2. Telecommunications. Rapidly improving telecommunications making use of microwave, fiber optic, satellite, and more conventional systems. Explosive growth of the television industry.
3. Computers. Massive improvement in our ability to store, process, and retrieve information; more cost-effective process control devices.
4. Automation. A continuing gradual increase in the productivity of blue-collar workers.
5. Education. More people receiving a higher level of education.
6. Research in science and technology. There have been major breakthroughs in understanding key ideas in science and applying this knowledge to produce goods and services.
7. Worldwide economic competition. This is facilitated by improvements in transportation and communication.

The Information Age changes are not affecting all parts of the world equally. Changes have occurred more rapidly in Western Europe than in Eastern Europe and the USSR. The people
living in Eastern Europe gradually became aware that there were major differences between their life style and the life style of those in Western Europe. The leaders of the Eastern bloc countries attempted to build a wall that would keep out information. The wall severely restricted travel, and that certainly helped keep out information. A few hundred years ago, that might have succeeded. In those days information flowed mainly via people either personally carrying the message (oral tradition) or via written letters.

Unfortunately for the Eastern European leaders, it was necessary to keep open some holes in the wall, and the wall could not keep out radio and television signals. Holes had to be kept open in order for Eastern European scientists to build on knowledge being developed outside their area. A certain amount of transportation and interchange of goods was necessary for economic reasons.

Perhaps even more important, a country that wants to prosper in the Information Age needs a highly educated citizenry. Education must stress problem solving and other higher order cognitive skills. Such education breeds people who challenge the system and who resist oppression.

To summarize, the factors underlying the Information Age led to a gradual change in the nature of life in Western Europe and other major parts of the globe, and a gradual increase of knowledge about this among people in Eastern Europe. The gradually increasing pressures on the economies and governments of Eastern Europe and the USSR could not withstand the onslaught.

Now compare this with our educational system. The question is, do we have a similar situation shaping up in education? We have the transportation and communication that allow key constituencies in our educational system to be aware of what others are doing, and of the outcomes. Thus, the issue is whether there are major stakeholders who can see other, similar stakeholders, who are "getting a better deal." Here are some examples of things to look for:

1. Students in one region-city, county, state or nation-getting a far superior education.
2. Teachers in one district enjoying a far superior set of working conditions, such as the level of respect, pay, work load, and the general nature of their students.
3. The members of one ethnic group being able to provide their children with a better education than is available to the children of another ethnic group.
4. The private sector in one region having access to a better trained pool of workers than the private sector in another region.
5. A nation and its government competing better economically and politically due to an overall superior educational system.

When big differences exist and the stakeholders become aware of them, there are several possible results. First, the stakeholders can say, "I am aware of these differences. I am not bothered by them. I am satisfied with the current state of affairs." Or, they might say, "That is not right. Something should be done about it."

In the latter case, we have a power struggle. Does the stakeholder who says "that is not right" have the power to do anything about it? If the overall system is oppressive to key stakeholders, the inevitable result will be a revolutionary change.
In my opinion, our educational system is poised on the brink. Massive change agents such as distance education, computer-assisted learning, transportation of students, and the corporation-run schools could lead to massive, relatively rapid, revolutionary changes in our current system.

Alternatively, our current system may change fast enough to accommodate the revolutionary pressures. There are a few signs that it is attempting to do so. Some states are developing voucher systems that give students a choice of what schools they will attend. Some states are passing legislation that facilitates increased use of distance education and of computer-assisted learning. Some regions are increasing the pay of teachers and attempting to improve their work conditions.

The outcomes are in doubt. It will be interesting to see what happens.