

# "The Field: Knowledge in Computerized Societies" (1979)

Jean-François Lyotard

Our working hypothesis is that the status of knowledge is altered as societies enter what is known as the postindustrial age and cultures enter what is known as the postmodern age. This transition has been under way since at least the end of the 1950s, which for Europe marks the completion of reconstruction. The pace is faster or slower depending on the country, and within countries it varies according to the sector of activity; the general situation is one of temporal disjunction which makes sketching an overview difficult. A portion of the description would necessarily be conjectural. At any rate, we know that it is unwise to put too much faith in futurology.

Rather than painting a picture that would inevitably remain incomplete, I will take as my point of departure a single feature, one that immediately defines our object of study. Scientific knowledge is a kind of discourse. And it is fair to say that for the last forty years the "leading" sciences and technologies have had to do with language: phonology and theories of linguistics, problems of communication and cybernetics, modern theories of algebra and informatics, computers and their languages, problems of translation and the search for areas of compatibility among computer languages, problems of information storage and data banks, telematics and the perfection of intelligent terminals, to paradoxology. The facts speak for themselves (and this list is not exhaustive).

These technological transformations can be expected to have a considerable impact on knowledge. Its two principal functions—research and the transmission of acquired learning—are already feeling the effect, or will in the

Source: Lyotard, Jean-François. 1979/1984. In *The Postmodern Condition*. Manchester, U.K.: Manchester University Press.

what  
Lyotard's  
understand  
of knowledge  
can produce  
change  
knowledge  
transmission

what kind of  
knowledge is not  
translatable into  
information?  
↓  
subjective/  
qualitative?

## TECHNOLOGY AND

future. With respect to the first function, genetics provides an example that is accessible to the layman: it owes its theoretical paradigm to cybernetics. Many other examples could be cited. As for the second function, it is common knowledge that the miniaturisation and commercialisation of machines is already changing the way in which learning is acquired, classified, made available, and exploited. It is reasonable to suppose that the proliferation of information-processing machines is having, and will continue to have, as much of an effect on the circulation of learning as did advancements in human circulation (transportation systems) and later, in the circulation of sounds and visual images (the media).

so genetics is  
a result of  
cybernetics research

revolution in  
knowledge circulation  
↓  
transportation  
↓  
mass media  
↓  
computers

The nature of knowledge cannot survive unchanged within this context of general transformation. It can fit into the new channels, and become operational, only if learning is translated into quantities of information. We can predict that anything in the constituted body of knowledge that is not translatable in this way will be abandoned and that the direction of new research will be dictated by the possibility of its eventual results being translatable into computer language. The "producers" and users of knowledge must now, and will have to, possess the means of translating into these languages whatever they want to invent or learn. Research on translating machines is already well advanced. Along with the hegemony of computers comes a certain logic, and therefore a certain set of prescriptions determining which statements are accepted as "knowledge" statements. → computers redefine what 'knowledge' is

→ data-driven

We may thus expect a thorough exteriorisation of knowledge with respect to the "knower," at whatever point he or she may occupy in the knowledge process. The old principle that the acquisition of knowledge is indissociable from the training (*Bildung*) of minds, or even of individuals, is becoming obsolete and will become ever more so. The relationships of the suppliers and users of knowledge to the knowledge they supply and use is now tending, and will increasingly tend, to assume the form already taken by the relationship of commodity producers and consumers to the commodities they produce and consume—that is, the form of value. Knowledge is and will be produced in order to be sold, it is and will be consumed in order to be valorised in a new production: in both cases, the goal is exchange.

transition:  
knowledge as a  
part of a mind  
or an individual  
↓  
knowledge outside  
the individual  
as a commodity,  
with producers and  
consumers

→ Knowledge ceases to be an end in itself; it loses its "use-value."

consumed in order to  
be sold/traded/commodified

on has exchange  
value

It is widely accepted that knowledge has become the principal force of production over the last few decades; this has already had a noticeable effect on the composition of the work force of the most highly developed countries and constitutes the major bottleneck for the developing countries. In the postindustrial and postmodern age, science will maintain and no doubt strengthen its preeminence in the arsenal of productive capacities of the nation-states. Indeed, this situation is one of the reasons leading to the conclusion that the gap between developed and developing countries will grow ever wider in the future.

white collar  
vs blue collar

link to  
states — states  
must increasingly  
produce knowledge  
as their  
principal good

states must produce knowledge?

But this aspect of the problem should not be allowed to overshadow the other, which is complementary to it. Knowledge in the form of an informational commodity indispensable to productive power is already, and will continue to be, a major—perhaps the major—stake in the worldwide competition for power. It is conceivable that the nation-states will one day fight for control of information, just as they battled in the past for control over territory, and afterwards for control of access to and exploitation of raw materials and cheap labor. A new field is opened for industrial and commercial strategies on the one hand, and political and military strategies on the other.

knowledge becomes a limited resource

However, the perspective I have outlined above is not as simple as I have made it appear. For the merchantilisation of knowledge is bound to affect the privilege the nation-states have enjoyed, and still enjoy, with respect to the production and distribution of learning. The notion that learning falls within the purview of the State, as the brain or mind of society, will become more and more outdated with the increasing strength of the opposing principle, according to which society exists and progresses only if the messages circulating within it are rich in information and easy to decode. The ideology of communicational "transparency," which goes hand in hand with the commercialisation of knowledge, will begin to perceive the State as a factor of opacity and "noise." It is from this point of view that the problem of the relationship between economic and State powers threatens to arise with a new urgency.

learning as a process of State

learning as a process of the private sector

not quite the transition is

from an opaque, "State as the source of knowledge" system to a transparent knowledge marketplace

Already in the last few decades, economic powers have reached the point of imperilling the stability of the state through new forms of the circulation of capital that go by the generic name of multi-national corporations. These new forms of circulation imply that investment decisions have, at least in part, passed beyond the control of the nation-states. The question threatens to become even more thorny with the development of computer technology and telematics. Suppose, for example, that a firm such as IBM is authorised to occupy a belt in the earth's orbital field and launch communications satellites or satellites housing data banks. Who will have access to them? Who will determine which channels or data are forbidden? The State? Or will the State simply be one user among others? New legal issues will be raised, and with them the question: "who will know?"

Transformation in the nature of knowledge, then, could well have repercussions on the existing public powers, forcing them to reconsider their relations (both *de jure* and *de facto*) with the large corporations and, more generally, with civil society. The reopening of the world market, a return to vigorous economic competition, the breakdown of the hegemony of American capitalism, the decline of the socialist alternative, a probable opening of the Chinese market, these and many other factors are already, at the end of the 1970s, preparing States for a serious reappraisal of the role they have been accustomed to playing since the 1930s: that of guiding, or even directing,

GOOG, FB, CMCA

multinationals corporations who control the flow of knowledge

co-the on-trial em- this ween

State as the source of knowledge

State as the source of knowledge

## 302 TECHNOLOGY AND EDUCATION

information guides decisions, and is therefore the means of control — whoever controls the information controls the decision

investments. In this light, the new technologies can only increase the urgency of such a re-examination, since they make the information used in decision making (and therefore the means of control) even more mobile and subject to piracy.

It is not hard to visualise learning circulating along the same lines as money, instead of for its "educational" value or political (administrative, diplomatic, military) importance; the pertinent distinction would no longer be between knowledge and ignorance, but rather, as is the case with money, between "payment knowledge" and "investment knowledge"—in other words, between units of knowledge exchanged in a daily maintenance framework (the reconstitution of the work force, "survival") versus funds of knowledge dedicated to optimising the performance of a project.   
 payment knowledge — used to obtain goods  
 investment knowledge — realizes a return

If this were the case, communicational transparency would be similar to liberalism. Liberalism does not preclude an organisation of the flow of money in which some channels are used in decision making while others are only good for the payment of debts. One could similarly imagine flows of knowledge travelling along identical channels of identical nature, some of which would be reserved for the "decision makers," while the others would be used to repay each person's perpetual debt with respect to the social bond.

→ we owe knowledge back to the system?