

"TECHNOLOGY AND THE HUMAN FACTOR"

SYNOPSIS

In the articles, "The Technology and the Society" [5] by Raymond Williams and "From Plans and Situated Actions" [6] by Lucy A. Suchman, Technology, Interactive machines and the human factor define the impact that new media has on this new digital world and characterize the effects of user-machine interaction in social change.

1. TECHNOLOGY CAUSES AND EFFECTS

"It is often said that **television has altered our world**. In the same way, people often speak of a **new world**, a **new society**, a **new phase of history**, being created." [5]

"If the **technology is a cause**, we can at best modify or seek to control its effects. Or if the technology, as used, is an effect, to what other kinds of cause, and other kinds of action, should we refer and relate our experience of its uses? These are not abstract questions. They form an **increasingly important part of our social and cultural arguments**, and they are being decided all the time in real practice, by **real and effective decisions**." [5]

"TELEVISION HAS ALTERED OUR WORLD."

"Television is again, in effect, a **technological accident**, but its significance lies in its uses, which are held to be symptomatic of some order of society or some **qualities of human nature** which are otherwise determined." [5]

"Television, like any other technology, becomes available as an element or a medium in a process of change that is in any case occurring or about to occur. By contrast with pure **technological determinism**, this view emphasizes other causal factors in **social change**." [5]

"TECHNOLOGICAL ACCIDENT."

"TECHNOLOGICAL DETERMINISM."



NEW SOCIETY

NEW WORLD

TECHNOLOGICAL DETERMINISM

SOCIAL CHANGE

2. HUMAN-MACHINE COMMUNICATION

"The idea of **human-machine communication** to some distinctive properties of computational artifacts, and to the emergence of disciplines dedicated to making those artifacts intelligent." [6]

"The computer's properties have inspired a practical effort at engineering **interaction between people and machines**. I argue that the description of computational artifacts as interactive is supported by their reactive, linguistic, and internally opaque properties." [6]

"INTERACTION BETWEEN PEOPLE AND MACHINES."

HUMAN-MACHINE COMMUNICATION

PEOPLE AND MACHINES

3. INTERACTIVE SYSTEMS

"The promise of **interactive computer systems**, in these terms, is a technology that can move instructional design away from the written manual in the direction of the **human coach**, and the resources afforded by face-to-face interaction." [6]

"Efforts at building **self-explicating machines** in their more sophisticated forms now adopt the metaphor of the machine as an expert, and the user as a novice, or student." [6]

"Face-to-face human interaction is the paradigm case of a **system for communication** that, because it is organized for maximum context-sensitivity, supports a response designed for just these recipients, on just this occasion. Face-to-face instruction brings that context-sensitivity to bear on problems of skill acquisition." [6]

"INTERACTIVE COMPUTER SYSTEMS."

INTERACTIVE COMPUTER SYSTEMS

"**INTERACTION** – in a sense previously reserved for describing a uniquely interpersonal activity – seems appropriately to characterize what goes on between people and certain machines as well. **Interaction between people and machines** implies mutual intelligibility, or shared understanding" [6]



[C]

4. COGNITIVE HUMAN ACTION

"**Cognitive science**, in this respect, was a project to bring thought back into the study of **human action**, while preserving the commitment to scientism. Cognitive science reclaims mentalist constructs such as beliefs, desires, intentions, symbols, ideas, schemata, planning, and problem solving." [6]

"**Human purposes** are the basis for cognitive psychology, but this time without the unconstrained speculation of the introspectionists. The study of cognition is to be empiricized not by a strict adherence to behaviorism, but by the use of a new technology: namely, the computer." [6]

"HUMAN PURPOSES ARE THE BASIS FOR COGNITIVE PSYCHOLOGY."

"HUMAN ACTION."

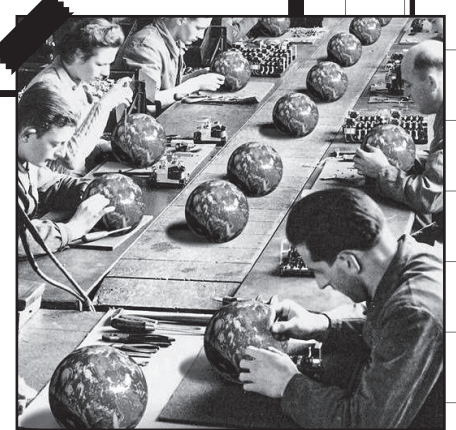
HUMAN ACTION

COGNITIVE SCIENCE

"If a theory of underlying **mental processes** could be modeled on the computer so as to produce the right outward behavior, the theory could be viewed as having passed at least a sufficiency test of its psychological validity." [6]

"MENTAL PROCESSES COULD BE MODELED ON THE COMPUTER."

MENTAL PROCESSES



[D]

5. USER-MACHINE INTERACTION

"The attribution of purpose to **computer-based artifacts** derives from the simple fact that each action by the user effects an immediate **machine reaction**." [6]

"The greater reactivity of current computers, combined with the fact that, like any machine, the **computer's reactions are not random** but by design, suggest the character of the computer as a purposeful, and, by association, as a **social object**." [6]

"The idea that instructions could be presented more effectively using the power of computation is not far from the idea that computer-based artifacts could actually instruct: that is, could interact with people in a way that **approximates the behavior of an intelligent human expert or coach**. And this second idea, that the artifact could actually interact instructively with the user, ties the practical problem of instruction to the theoretical problem of building an intelligent, **interactive machine**." [6]

"APPROXIMATES THE BEHAVIOR OF AN INTELLIGENT HUMAN EXPERT."

REF.

[5] Raymond Williams, *Television: Technology and Cultural Form*. Hanover, N.H.: Wesleyan University Press, 1992, 3-25. First printing, London: Fontana, 1972.

[6] Lucy A. Suchman, "Navigation," vii-x and "Interactive Artifacts," 5-2b, *Plans and Situated Actions: The Problem of Human-Machine Communication*. Cambridge: Cambridge University Press, 1987. Second edition in preparation.

[A] Computers

[B] Body Pressure: Hamburger Bahnhof by Stephanie Cristello

[C] filmes VR em Paris, o Luxor.

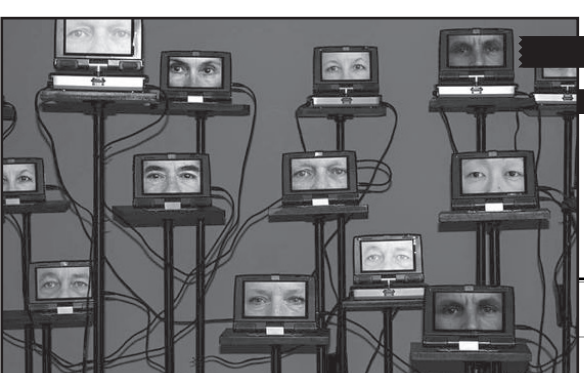
[D] ...

[E] Frances Bagley, Witness, 2015 Video Installation

"SOCIAL OBJECT."

COMPUTER-BASED ARTIFACTS

INTERACTIVE MACHINE



[E]