

# Determinism or Social Shaping?



Information Technology and Social Life

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## Question

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- Do technology and media determine or are they determined?



## Marshall McLuhan

- 1911-1980 Canadian, born in Edmonton, Alberta
- University of Wisconsin (Madison): 1936-1937.
- St. Louis University: 1937-1944.
- Assumption University (Windsor, Ontario): 1944-1946.
- St. Michael's College, University of Toronto: 1946-1979.
- *Understanding Media: The Extensions of Man* first published in 1964
- Did not consider himself a pure academic researcher/ origins in English literature/ later became interested in media
- Criticized for being too popular/ for style of writing/ rambling and full of obscure references/ too intellectual
- *The Gutenberg Galaxy: The Making of Typographic Man* - 1962
- *The Medium is the Message* - 1967
- *War and Peace in the Global Village* - 1968

Pop culture figure/ popular on the talk show circuit



## Understanding Media

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- Critique of electronic media/primarily about television
- Shift from mechanical age to electronic age
- Extensions of man - “the technological simulation of consciousness, when the creative process of knowing will be collectively and corporately extended to the whole of human society”
- Medium is the message - “the personal and social consequences of any medium - that is, of any extension of ourselves - result from the new scale that is introduced into our affairs by each extension of ourselves, or by any new technology”

Mechanical delayed response

Electronic - instantaneous

Cubism is that the essence of objects can only be captured by showing it from multiple points of view simultaneously.



## Understanding Media, continued

- “The ‘content’ of any medium is always another medium”
- Each new medium absorbs older media (print coopts speech, movie coopts scripts/books, etc)
- Conflict of radio/TV with our literate culture
- Technological media are staples or natural resources; in same way, creates “unique cultural flavor of any society.”
- Main point was that we must have awareness of the implications of media before we can begin to deal with them

Relates to Ong - concerned with secondary orality

Havelock - literacy and print metaphors

British culture based on oral tradition/law - U.S and French culture, due to revolutions, based on linear, logical culture, documents, simple principles.

Western culture confuses reason and literacy, rationalism with a single technology



## McLuhan on Sarnoff

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- General David Sarnoff - GM of RCA Corp. - instrumental in development of television
- "We are too prone to make technological instruments the scapegoats for the sins of those who wield them. The products of modern science are not in themselves good or bad; it is the way they are used that determines their value."
- What did McLuhan think of this statement? Do you agree?

Our conventional response to all media, namely that it is how they are used that counts, is the numb stance of the technological idiot. For the "content" of a medium is like the juicy piece of meat carried by the burglar to distract the watchdog of the mind. The effect of the medium is made strong and intense just because it is given another medium as "content."



## Other McLuhan Concepts

- Hot Media/High Definition - radio, print, photographs, movies and lectures
- Cool Media/Low Definition - the telephone, speech, cartoons, TV and seminars
- Would you consider TV a cool medium? What about the Internet?
- Global Village - “after more than a century of electric technology, we have extended our central nervous system in a global embrace, abolishing both space and time as far as our planet is concerned”
- In general, McLuhan’s arguments are considered in the extreme, but have garnered newfound appreciation with the rise of the Internet.

Has to do with the way TV was used when McLuhan wrote this - TV low in definition, required high participation, attention. Conflicts with idea of radio as hot,

There is a basic principle that distinguishes a hot medium like radio from a cool one like the telephone, or a hot medium like the movie from a cool one like TV. A hot medium is one that extends one single sense in "high definition." High definition is the state of being well filled with data. A photograph is, visually, "high definition." A cartoon is "low definition," simply because very little visual information is provided. Telephone is a cool medium, or one of low definition, because the ear is given a meager amount of information. And speech is a cool medium of low definition, because so little is given and so much has to be filled in by the listener. On the other hand, hot media do not leave so much to be filled in or completed by the audience. Hot media are, therefore, low in participation, and cool media are high in participation or completion by the audience. Naturally, therefore, a hot medium like radio has very different effects on the user from a cool medium like the telephone.

A cool medium like hieroglyphic or ideogrammic written characters has very different effects from the hot and explosive medium of the phonetic alphabet. The alphabet, when pushed to a high degree of abstract visual intensity, became typography. The printed word with its specialist intensity burst the bonds of medieval corporate quills



## Social Shaping or Construction

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- The Social Shaping of Technology, 2nd edition, 1999
- Editors Donald MacKenzie and Judy Wajcman
- Edited edition on social implications of technology with sections on production, reproduction, and military technology
- Introductory essay highlights topics, as well as sets the foundation for discussion of social shaping principles
- Framed in relation to Technological Determinism





## Social Shaping or Construction

- Technological determinism is an over simplification; technology is merely one factor in historical change
- Determinism too focused on how to adapt; not how to shape
- Technologies can be inherently political
- Science shaping technology
- Technological shaping of technology - challenges concept of lone inventor
- Economic shaping
- Government shaping
- Gender implications - role gender plays in shaping technologies and the role technology plays in shaping gender. Similar implications for ethnicity.

Examples - stirrup , rise of feudal society

Political - technologies can be developed with certain social groups in mind; consciously or unconsciously; Robert Moses and roads

Different childhood socialization, role models, forms of schooling, gender segregation of occupation, domestic responsibilities, etc.



## PC Case Study

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- Countercultural impulse
- Liberate computing from its military and corporate masters
- Male-dominated hobbyist culture
- Changing microchip technology
- Path dependence
- Social shaping not always just related to gender, class, ethnicity, but often more relevant are professional communities, reward structures, etc.

IBM's open architecture allowed cloning/Apple did not - based on IBM's history of anti-trust litigation.

Apple vs. PC which is better? How do you assess? What are cultural implications?



## Social Construction of Technology

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- Excerpt from Trevor Pinch and Ronald Kline
- Interpretive flexibility
- Structural exclusion
- “It is important to show not only how social groups shape technology, but also how the identities of social groups are reconstituted in the process.”

the way in which different groups of people involved with a technology can have different understandings of the technology

Exclusion of some groups from documentation of artifacts. Can be meaning in exclusion.