

What drives technology? Autonomous or Constructed?

Technology in Sustainable Development



<http://www.jacques-ellul.org/media/portrait.jpg>

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What drives technology?

Determinism versus Constructivism

Every new generation has some creative geniuses. They invent some new technologies (by there more than average intelligence or by pure coincidence). The act of invention is independent of society. Succesful inventions diffuse in society and, thereupon, transform society.

What drives technology?

Determinism versus Constructivism

technology innovation is not accidental but depending on scientific progress. As scientific progress is the result of its own dynamics, and independent of societal change, technological change is independent of society.

(E.g. Dijksterhuis, 1950 and Koyre, 1943).

What drives technology?

Autonomous Technology

Scientific knowledge accumulates

Technology is applied science

Resources for technological innovation are growing forever

Technology is ever improving

What drives technology?

Technological innovation

A positive sum game?

Everybody is a winner?

What drives technology?

From autonomy to determinism

Jacques Ellul

Traditional technology
vs.
Modern technology



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What drives technology?

Traditional Technology according to Ellul:

Limited in its application (technologies were often based on specific local resources and therefore hardly transferable);

Dependent on limited resources and on much 'skill' (skills like making and repairing tools, but also being able to judge weather conditions, or the tides);

Local in its character, i.e., technological solutions for specific problems were embedded in local culture and traditions.

What drives technology?

Ellul characterizes modern technology by:

Automatism, i.e. there is only one 'best' way to solve a problem, and this technology seems to be compelling, everywhere on the planet;

Self increase, i.e. a new technology reinforces the growth of other technologies: this leads to exponential growth;

Indivisibility: the technological way of life must be accepted completely, including its good and bad sides;

Cohesion, i.e. technologies that are used in various different areas have much in common;

Universalism, i.e. technology is geographically as well as qualitatively omnipresent.

What drives technology?

E.g. The Car

The car increases our freedom by increased freedom of movement

By having a car, we can do our shopping in Malls

Small neighborhood shops disappear

We therefore are forced to have a car

So a technology like the car curbs our liberty

UNABOMBER



Theodore Kaczynski arrested,
<http://images.encarta.msn.com/xrefmedia/sharemed/targets/images/pho/t304/T304687A.jpg>