

Technological Determinism and the Rise of Cinema

Technological determinism is the belief that technology is the main driver of social change; It defines our institutions and our culture. The proponents of hard determinism believe that the invention of the steam engine was a dominant factor in the advent of the industrial revolution or that the invention of the automobile led to the creation of suburbs. Proponents of soft determinism argue that the transforming power of technology is secondary to other societal factors. Did cinema technology shape human activity or did human activity shape cinema technology?

The development of tools and processes to record objects in motion can be traced back to the invention of the camera obscura over 2000 years ago. Cinematography combined technologies from the fields of photography, sound recording, and image projection to produce the most powerful form of mass media before WW 2. In the later part of the 19th Century, inventors from different countries developed similar technologies to capture and reproduce sounds and images. The sharing of technical knowledge and the creation of seemingly unrelated technologies, such as the fabrication of celluloid plastic, contributed to the rapid development and distribution of cinema technology. Cinema technology emerged from different countries with similar economies and social structures. This suggests that social conditions have an effect on technological development. Supporting the idea that technology itself influences human activity is the fact that previous development in transportation technologies facilitated the process of adopting and adapting inventions from other countries. Mostly developed in the U.S. and in France, cinema technology has been adopted by most countries around the world within a decade.

The second era of cinema, the silent movies, would be unfolding on a more global stage. At first, the sheer novelty of moving images were enough to create an small industry. People would pay a fee to view a series of short silent scenes of everyday life. Soon, artists and creators from around the world

discovered the new affordances of cinematography and used them to create new forms of story telling. Often combined with live narration, sound effects, and music, the nascent art form was still very close to the art of theater. While it developed into a major entertainment industry in the US and in France, cinema mainly became a tool for propaganda in the Soviet Union. Around the world, film makers of all strands discovered and took advantage of the expressive and artistic affordances of cinema. Parallel to the development of cinema as an art form, the informational and educational potential of cinema was still mostly confined to the practice of recording actual events on film and project it as is. The use of text was still necessary to provide details or situate the images in context. Without sound, the educational and informational affordances of cinema were still limited.

Originally intended to create tools for sharing events in a format that is as close to reality as possible, the advancements in cinema technology gave rise to unexpected affordances in the way we communicate. With the ability to record sounds and play them back in synchronization with moving images, film makers in the entertainment industry were able to combine an unprecedented number of art forms in their creations. Sound also transformed the role of actors, who could now portray their characters in a more subtle and realistic fashion than theater could ever afford them. Further advancements in film manufacturing and improvements to the portability and operability of cinematic equipment facilitated the implementation of documentary or educational cinema. By the start of WW2, cinematic technologies were well established and became the method of choice for those who wished to influence the masses. Cinema can be used to inform. Cinema can be used to misinform. Cinema technologies have created affordances in the way we can influence each other. The determination to use them for one purpose or another is very human indeed.

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