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**Response to:**

**An Introduction to Science and Technology Studies**

**(by Sergio Sismondo)**

**Chapter 9: Two Questions Concerning Technology**

Sergio Sismondo is a researcher who studies the disciplines of science and technology in relationship with philosophy and social sciences. “An Introduction to Science and Technology Studies” reflects his views on the latest advancements in the field while continuing to provide a road map to the complex interdisciplinary terrain of science and technology studies.

The ninth chapter of this book, as its name suggests, discusses two very important questions concerning technology:

1. Is technology applied science?
2. Does technology drive history?

The first question is a critical investigation of whether the fields of science and technology are related to each other or not, and if they are related, does technology refer just to the application of scientific knowledge. The author presents the twentieth century view of Vannevar Bush[[1]](#footnote-1), who believed that basic scientific research is the pacemaker of technological progress. This view is a part of the ‘linear model’ which traces innovation as a connection starting from basic research to applied research to development and finally to production.

The linear model approach, however, is rejected by historians and other theorists of technology who, based on the factual accounts of artifacts in many fields, argue that scientific knowledge plays a very little direct role in technological development, and there are technologies which are completely independent of science and rather based on the unformalized knowledge (know-how) of their respective fields.

I agree with the opinion of people working in the fields of STS that science and technology are not sufficiently well-defined and distinct. It is impossible to determine a definite relationship between them. One of the examples, given in the text, that favors this concept, is the technoscience argument of the Actor Network Theory which also eliminates the distinction between science and technology. The author summarizes the first question really well with his statement that,

“Scientists invent, and inventors do scientific research, whatever is necessary to move their program forward.”

As far as the question of technological determinism[[2]](#footnote-2) is concerned, I agree with this idea to some extent. If we go through the history of technological developments and their impacts on both macro and micro level, we see the domination of technologically advanced countries over the others, we see class structures and social status being determined based on the access to technology. The simple reason for this is the capitalistic nature of the current world: all technologies cost money, the more money you spend, the better and more advanced technology you get, and money determines all the hierarchies in a capitalist society.

Technological determinism exists, but we cannot ignore the impact of social and cultural notions on any developed technology. The developers and designers have a certain background and mindset which reflects in the technology they offer. The use of technology is also somewhat dependent on the choice, which has a high chance of being affected by the social standing of the user. Technologies behave differently in different social contexts, sometimes completely opposite to the expectations of their inventors.

To conclude the whole idea of the text, we can say that there is no one way to any technology. Also, no technology has just one potential use. Hence, there is no one answer to any of the questions asked in text. The answers will differ based on what technology we are considering and the social context of its implementation and use. The text does a great job of making the readers think about different possible answers to these questions in different technological and social contexts.

1. Vannevar Bush is one of the architects of science policy adopted by the US after the second world war. [↑](#footnote-ref-1)
2. Technological determinism is the view that material forces and properties of available technologies determine social events. [↑](#footnote-ref-2)