

What is Design Volition? Implications for Technology Education

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Design – central to technology education

- Design is a central aspect of design, technology, and engineering education and has a prominent position in curricula all over the world.
- In philosophy, it has been asserted that design *volition* (or will, in philosophy: *axiology*) has a strong relationship with and forms the basis of design as a methodological stance.

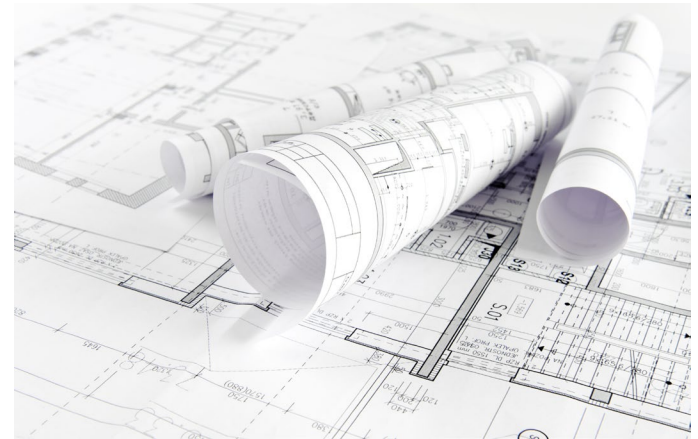


Design – central to technology education

- Volition means the ability or will power to decide that you want to do something – e.g., solve a problem – and then act upon it and take relevant action.
- In this context it means the will to do or achieve something with the help of technology, by/after designing.
- In this paper we investigate the affordances of volition/axiology as an integral philosophical component of technology education, specifically in relation to design methodology.

What is the problem with design volition?

- What's the problem with volition – don't we *just* design?
- It may be difficult to translate knowledge into action, and sometimes we know what is right to do but we do not act accordingly.
- Volition thus concerns values, ethics, designer intentionality, the moral “agency” of technology, and also issues of technological autonomy and determinism.



Values and design

- How values affect designing and the designer.
- The relation of technology to values, and control/agency.
Feenberg (2006; 2009a, b):

| Technology is | Autonomous | Humanly controlled |
|--|---|---|
| Neutral (complete separation of means and ends) | Determinism (e.g. modernisation theory) | Instrumentalism (liberal faith in progress) |
| Value-laden (means form a way of life that includes ends) | Substantivism (means and ends linked in systems) | Critical theory (choice of alternative means-ends systems) |

Values and design

- Critical theory is sceptical about the capacity of human beings to get technological civilisation under complete control.
- It can, however, be reasonably controlled by being submitted to a more democratic process of design, aka *democratic intervention*.
- Critical theory of technology in Feenberg's version is critical, yet rather optimistic.

Values and design

- Critical theory thus develops volition (Mitcham, 1994).
- The values embodied in technology, referred to as *technical codes*, are socially specific.
- Technology can frame not just one way of life but many different possible ways of life or alternative rationalities, each of which leads to a different choice of designs.
- On the one hand values are realised in designs and, on the other hand, design impacts on values.

Intentionality and design

- Feng and Feenberg (2009), p. 111:

Table 1 Three theoretical perspectives on design

| Theoretical perspective | Focus | How is design conceptualized? | Where is power located? |
|--------------------------------------|--|--|---|
| Traditional design studies | Proximate designers | Design as a technical task | Micro-level (<i>negotiations between key actors</i>) |
| Constructivist studies of technology | Designers and related actors / interest groups | Design as a political task | Micro- and meso-levels (<i>structured interactions between actors within an existing power hierarchy</i>) |
| Critical theory of technology | Culture, broader society | Design embedded in history and culture | Macro-level (<i>influence of tradition and culture on design practices</i>) |

Intentionality and design

- Feng and Feenberg (2009, pp. 110, 117):

“ ... even when engaging in ‘purely technical’ activities, designers are guided by rules that are culturally specific and value-laden [...] Critical theory of technology draws attention to these background assumptions and asks that the researcher take these seriously. Our hope is that by *questioning* technology vigorously we can help open a space for *designing* technology differently.”

Intentionality and design

- Design is a societal activity implicitly or explicitly codified by historical choices, at the same time as it is also directed toward the future by being about problem-solving, creativity, and innovation.
- Both the history and the current state of the art set limits for what can be achieved in design.



Discussion and Implications

- Mitcham identifies several definitions of technological volition such as the will to satisfy needs, control, live and thrive, and he connects it with power, freedom, efficiency, etc.
- Feenberg has also developed axiological analyses of design in relation to societal and cultural values, as embodied in technical codes.
- In both Mitcham's and Feenberg's work issues of intentionality, agency, autonomy, values, ethics, determinism, and consequences are dealt with in intricate but convincing philosophical analyses

Discussion and Implications

- Both Mitcham and Feenberg investigate affordances of volition/axiology for technological design and show that design methodology cannot be construed as a *purely* technical activity.
- The relationships between axiology and methodology therefore appear in the various ways in which the intentionality of the designer takes form (strong/weak/society).
- Also, in the ways values (technical codes) are implicitly or explicitly assigned to or embedded in designs.

Discussion and Implications

- We should include design volition in technology education.
- Design volition does not reduce technology education to technical education, which may be based on determinism and instrumentalism that view technology as value neutral.
- It will also not fall short of a critical assessment that might explain, for instance, why some technologies, but not others, are developed in a society.

Discussion and Implications

- Students should be given the opportunity to reflect on their explorations of a value-based appraisal of technology in society by identifying the technical codes and allowing their reflections to influence their own approach (or technical code) to design.
- Students should be accorded opportunities not only to act as expert designers, following a strong intentionality approach, but also to follow a weak intentionality approach including negotiations with lay designers.



Thank you!

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