

# **Alienability, Rivalry, and Exclusion Cost**

## **Three Institutional Factors for Design**

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Twentieth century social science developed penetrating analyses of formal and informal institutions on many levels, yet both philosophers and specialists in design have yet to avail themselves of the implications that these analyses have for understanding the technological transformation of the material world. Three ideas from institutional theory are particularly relevant to technical change. Exclusion cost refers to the effort that must be expended to prevent others from usurping or interfering in one's use or disposal of a given good or resource. Alienability refers to the ability to tangibly extricate a good or resource from one setting, making it available for exchange relations. Rivalry refers to the degree and character of compatibility in various uses for goods. These concepts allow us to pose questions that have been asked by Herbert Marcuse, and Langdon Winner in a more pointed way: if technology is in part responsible for the shape of our institutions, and if institutional change in the sphere of law and custom can be subjected to philosophical critique and democratic guidance, why should not technology be subjected to the same critique and guidance? Specifically, why should not technical designers account for factors such as exclusion cost, alienability, and rivalry in considering alternative designs? Why should not the developers of technology also be socially and politically accountable for consequences accruing from alterations in alienability, rivalry, or exclusion cost?

### **1 Institutions and Institutional Change**

*Institutions* are standing practices or patterns of human activity that can be described in terms of rule-governed behavior. *Formal* institutions are those that are explicitly articulated as rules, and that are reproduced and enforced by organized social entities, especially the state. Hence, formal institutions are laws and public policies. *Informal* institutions are standing practices that subsist on the basis of

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common knowledge, tradition, and culture. They are reproduced through legend, lore, apprenticeship, imitation, and perhaps all manner of common experience. Their enforcement mechanisms can include approbation, praise, shunning, or group inclusion but consist mainly in the way that they constitute the framework for successfully negotiating the most basic tasks in social life (Commons, 1931). Although vague, this simple set of definitions provides a basis for interpreting the last millennium of European history as the gradual displacement of informal institutions by formal regimes of law and policy.

Philosophers of the Enlightenment and early Modern Age were deeply complicit in this displacement, typically viewing formal institutions as superior in virtue of their capacity for explicit articulation, widespread application, and critical evaluation. A rule that cannot be clearly stated cannot be criticized or justified, much less enacted by a civil authority, even if it can be reliably followed by those who are appropriately socialized. Perhaps philosophers' predilection for argument, demonstration, and verbal disputation disposed them to regard formal institutions as inherently rational, or perhaps we should say, as C. B. MacPherson (1962) did, that those interests most consonant with the evolution of property rights and state authority naturally aligned themselves with philosophers who were advocating explicit, rational evaluation of society's rules. For present purposes, the key point to notice is the underlying and largely implicit connection between formal, state-based institutions and modern conceptualizations of rationality and right.

The philosophical bias in favor of formal institutions declined in the Romantic period, as philosophy begins to pine for a lost sense of belonging and community solidarity. In 1897 the German sociologist Ferdinand Tonnies theorized modernization as a transition from *Gemeinschaft* to *Gesellschaft*, and in 1914 Max Weber characterized it as a process of rationalization toward increasingly bureaucratic decision-making. Weber and Tonnies (along with Marx, of course,) provide the backdrop for the first wave in 20<sup>th</sup> century German philosophy of technology, a movement of thought that includes such diverse figures as Martin Heidegger, Theodor Adorno, and Herbert Marcuse. Although their political orientations were often antithetical, all of these thinkers challenged the bias in favor of rationality, associating it deeply with technology and industrialization, which they often seemed to equate with a particular conception of scientific method. One oft noted weakness in this approach is that it gave precious little attention to the mechanisms that link technology to the industrialization process. In focusing so intently on scientific rationality, and on the complicity with capital noted by MacPherson, these thinkers ironically made it seem as if all the important work to be done was philosophical. There was nothing much to say to actual designers.

In contrast to these philosophers, British labor historian E. P. Thompson argued that many of the transformations that contributed to the industrialization process occurred at the material level. These included the alienation of ordinary food from the circumstances in which the production, distribution, and consumption of grain had been embedded so that it could be traded as a commodity good. Before the 18<sup>th</sup> century, the grain growing in an English field would have been considered the