The Culture of Technology
Arnold Pacey
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Accompanying technological and scientific advancements must be serious foresight and analysis. Should industries continue developing technologies, or should industries focus on curtailing modern society's overdependence upon technology? Should we perfect our current technologies before moving on, or should we keep racing to invent? These difficult questions must be approached with multiple perspectives. Published three decades ago, *The Culture of Technology* addresses many societal and cultural issues still relevant today.

Arnold Pacey, author, physicist, and historian, approaches the problems of technological expansion precisely with the idea that technology is "expressive of cultural values," and thus a practice (83). He places engineering into the category of art, stating, "At the heart of engineering lies existential joy" (80). The pleasures of inventing are relatable to that of creating poetry. Palmer contextualizes this work as being concerned with, technological aesthetics. Pacey's ultimate dispute is with the potential confliction of values that can result from technological progress. Pacey provides many perspectives and scenarios that must be taken into account in order to properly determine 'progress' within the art of technological innovation.

Pacey argues that technology holds great political, cultural and moral implications. It is not a "value-free" sphere. Though humans have the strong potential to invent, their actions within technology should not run rampant without analysis. By breaking down engineering into a form of artistic expression, Pacey accredits technological expansion and the race to invent to the human "wish to achieve fulfillment" (80). Pacey does not necessarily deem this as a bad quality, but suggests that this trait is where inefficiency in technology begins. Those involved in the invention of new technologies often get caught up in the aesthetic pleasure of creation and forget about consumer needs and societal implications. Pacey suggests this issue could be curtailed with "public interest research" and expanded implementation of technology education (166). Pacey advocates that further technological expansion needs to be widely reconsidered. His approach to addressing many of the issues at hand begins with his idea of technology-practice.

Pacey defines technology-practice as a method of applying basic technological knowledge towards affecting positive changes within the industry's progression. Technology applies to more than simply tools, machines and appliances; it includes less complex terms such as education and cooking. The essential purpose of technology is to solve problems in order to generate a more connected environment, however; this basic concept is slipping away from industry leaders. Pacey does not bash technology, he simply begs for humanity to better understand the impacts that science and technology have on society. To accomplish this, Pacey suggests educational approaches.

Education is one of the strongest technologies humans readily have access to within established societies. With education, "birth rates fall, population growth slows, and there is qualitative improvements in living standards" (76). One example given is the improvement of health among an indigenous community in Kerala. Through basic health education and nutrition awareness implemented by the Indian government, the region experienced a decrease in illnesses and juvenile mortality rates. Pacey does a fantastic job in portraying the link between education and technology, connecting literacy to innovation and self-awareness. While Pacey uses the term 'progress' sparingly, it is easy to see the impact education has on technological progress.

The misconstrued concept of progress is another quarrel Pacey addresses. He argues against the idea of linear progress and suggests the need for a multiplicity of views in order to determine what progress truly means. Are we making pure and honest progress with inventions such as hydro-electricity and powerful machines? Many people, especially at the time this book was written, believe that indeed we are. Pacey, however, puts this opinion into question. Pacey provides a complex viewpoint in which he highlights that many technologies provide multiple and intentional benefits as well as accompanying downsides. Most strongly alluded to are the negative environmental impacts that large consumption habits produce.

The urge for humans to feel the need to conquer the land and control their environment has become a natural characteristic, similar to the natural urge to create. People feel powerful when handling powerful machines; they "become an extension of (the) body and (the) senses" (86). Pacey alludes to farmers using unnecessarily large tractors as an example of this complication. The invention of agricultural machinery allowed for many obvious benefits, for example, less labor, however; the problem with excessively large tractors leads to rapid depletion of soil nutrients. If humans consciously approached technology and resource use with their personal basic needs in mind, many negative externalities might be eliminated.

The content of this book effectively provides a unique approach to many controversies in the modern world. By conducting a credible argument through the concept of technology-practice, Pacey argues that

humans must no longer approach technology with "tunnel vision focused only on technical aspects" (167), but with an integrated vision of morality. The term progress must take on a more elaborate definition with a broadened spectrum of value and perspective. In order for progress to occur on a holistic level, it is important to educate not only the "citizen" but also the "professional" in both science and technology, and to provoke dialogue between the two groups. "If dialogue—or interaction—can be encouraged, future innovation may become relevant to our problems and needs rather than to experts' ideals of the technically sweet" (159).