

Making the Gestalt Switch

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Don Ihde's Peking Lectures contain a good brief summary of his work from his earliest investigations of perception and embodiment to his latest studies of visual technologies. I find in this book many parallels with my own work. As Ihde points out we are both influenced by phenomenology and belong to something called the "empirical turn" in philosophy of technology. These commonalities made it possible for me to comment sympathetically on his earlier book on the body some years ago at the APA. On that occasion I sought to supplement Ihde's focus on the body as subject with reflections on the body as object. I will follow a similar line today in commenting on this new book, although to complete the picture I will also refer to his earlier book *Technology and the Lifeworld* (1990). Once again he focuses on subjectivity, this time in terms of the relation of scientific knowledge to nature, whereas I am interested in the object, nature, and more generally the social impact of the construction of nature-like objects in the social world, what Lukács called "reification."

Ihde now calls his approach "postphenomenology." This term signifies his synthesis of aspects of phenomenology with pragmatism. The outstanding innovation of both these philosophies was the break with the epistemological tradition and the move toward what Ihde calls a "nonsubjectivistic and interrelational" approach. However, pragmatism proved more radical in its turn toward practice whereas Husserl remained caught in the terminology and problematics of epistemology. Ihde takes over Husserl's notion of intentionality while marrying it to pragmatist concepts of practice and embodiment.

I should mention one more influence on Ihde's approach, although it is one he increasingly repudiates, and that is Heidegger's various analyses of technical practice and the technological worldview. Ihde borrows Heidegger's concept of "world" as a nexus of meanings enacted in practice, and his later notion of technology as the underlying basis of modernity. But he rejects Heidegger's romantic nostalgia for earlier technologies and his vague hope in salvation through the intervention of a "god," that is, something external to our technological world. Instead, Ihde turns to Science and Technology Studies (STS) for empirical approaches to particular technologies.

The core argument I find most persuasive in Ihde's work is the notion that human beings have always already left the garden of Eden for a technically mediated world of some sort. We are homo technologicus by our very nature. Technology is not something added on after the fact, like those peculiar little sweaters small dogs are sometimes outfitted with in winter. No. Technology is as natural to human beings as language and culture; its specific content is historically contingent but it will always be found wherever there are human beings.

Ihde employs a concept of culture as an overarching framework or pattern of artifacts, beliefs and practices. Such a framework informs what he calls "macroperception" in his earlier book, *Technology and the Lifeworld* (1990). Macroperception in modern societies is deeply influenced by the scientific construction of objectivity and by scientific knowledge. This affects our "microperceptions," that is our bodily engagement with objects.

Ihde's version of the practical basis of a scientific-technical culture is the technological mediation of perception by new instruments. He emphasizes the role of the telescope and

imaging technologies, as well as the introduction of new and more precise technologies of measurement. This approach is reminiscent of McLuhan, with his theories of the cultural impact of mediated perception. However, Ihde is guided by phenomenology toward finer analyses of the modulation of perception and practice by technological change.

This general theory of the relative universality of technology is complemented by an analysis of the specific meanings and developments of technologies in different cultures. Ihde focuses on modern technology and the emergence of a science and a lifeworld based on its achievements. This analysis is complicated by the fact that much of modern technology alters perception. He is especially interested in the telescope, both because of its importance in the history of science and also because of the role Galileo plays in Husserl's theory of the lifeworld. The telescope magnifies both the object seen and the bodily movements of the viewer. It enables Galileo to build a new view of the universe that extends and radicalizes the implications of the existing lifeworldly practices of quantification and such innovations as artistic perspective and navigational techniques, all of which contribute to a new culture congruent with his mathematical science (Ihde 1990: 64-65).

Instruments make modern science possible and influence our interpretation of nature, even our interpretation of our own sense experience. Just as human nature includes technology, so the perceptual lifeworld includes science. For example, when we look at the moon we look at a rock, not the heavenly body a premodern might have seen. Similarly, symptoms of illness refer us to a cause, not to a curse, and so on.

But unfortunately, our science-influenced perceptual culture has also been influenced by commercialism and masculinist ideology. Modern technologies are embedded in a cultural context that favors the most ruthless exploitation of nature. Ihde is concerned by the environmental crisis that has resulted from the last two centuries of technological progress under these conditions. He believes a clear understanding of the nature of technology can provide guidance to environmentalism in responding to the crisis. In contrast with the popular notion that change can come from a spiritual revolution, for example, he argues that the crisis can only be overcome through a "gestalt switch in sensibilities [that] will have to occur from *within* technological cultures" (Ihde 1990, 200). Such a switch is possible because technologies do not stand alone. They are always interpreted and employed in a cultural context. The "multistability" of technology holds open the possibility of change "from within."

This point is specifically aimed at Heidegger. But in what would such a gestalt switch consist? If I have a criticism of Ihde's book, it is the absence of a concrete answer to this question. Given that modernity will not be saved by abandoning its engagement with science and technology, what is the alternative path we should be following? I want to pursue this question in terms of the deep background of contemporary thinking about technology. Heidegger most definitely plays the central role in that background.

A good deal of what we find interesting in philosophy of technology and in STS was anticipated by earlier thinkers in different language and with different emphases. I have become acutely aware of this during the last two years revising my first book on Lukács. The book was originally published over 30 years ago but in working on it I discovered that it underlies all my later work in philosophy of technology and is even relevant to STS. The book will appear with Verso next year under the title "Realizing Philosophy: Marx, Lukács, and the Frankfurt School."

Before I proceed with my argument I should perhaps remind you that in 1923 Lukács' published the founding work of Western Marxism, *History and Class Consciousness*. This book introduced a Marxism strongly influenced by Hegel and free of the dogmatism of the Soviet

tradition. It is still interesting today as an important development in Continental Philosophy with wide influence on 20th century philosophy, especially the Frankfurt School. Furthermore, as I will show briefly here, important aspects of Lukács' argument derive from sources that also influenced Heidegger. Hence there are interesting parallels between their work and especially between their critiques of science and technology.

Confronting my early presentation of Lukács' theory of reification with my later work in technology studies I became aware of the extent to which the germ of my approach to technology is contained already in that concept. The concept of reification is meant to convert nouns into verbs. The basic idea is that what we take to be substantial entities—things—are in fact continually produced and reproduced by practices. Hence thinghood is actually the appearance of a deeper practical reality. Where have we heard this before? I do not need to remind you that this is the basic thesis not only of pragmatism and Ihde's work but of social constructivism and actor network theory as well.

But the idea of reification goes much deeper. Lukács argues that it originates in Kant's concept of transcendental synthesis. Reality is not simply there to be observed, but must be constructed by the mind in terms of forms and categories that give it coherence and generate the appearance of thinghood we normally take for granted. But Kant's transcendental standpoint presupposes an individual subject, a consciousness, as the constituting agent. Lukács argues that the actual agent of the construction is social, not individual, and consists not in pure acts of the mind but in complex social practices.

However, Lukács does not develop case histories like our contemporaries. He approaches the practical basis of reification differently, in terms that derive ultimately from neo-Kantianism. It is noteworthy that this is also the source of Heidegger's speculations on science and technology. Both Lukács and Heidegger draw on the neo-Kantian concept of the construction of object domains. This concept is the basis for their critique of science and technology which impose a specific a priori conception of objectivity on the world in order to understand and master it. Once they have identified the logic of that form of objectivity, they explore its generalization as a cultural universal, no longer confined to specialized domains but shaping the lifeworld of everyone in modern societies.

For example, Heidegger explains science as constructing nature as the sort of thing that can be planned and controlled. This nature is subject to precise measurement and emerges as the object of experimental manipulation. Whatever cannot be measured and manipulated is consigned to the realm of secondary qualities. The real is now defined in terms of this construction. Heidegger identifies it with technology. Like Lukács, Heidegger argues that the agent of the construction is transindividual, not of course a social class or group, but an epoch in the history of being. The technological epoch is exemplified in modern machine technology but its spirit long precedes the industrial revolution and shapes the emerging natural sciences much earlier.

Lukács made a similar argument but he attributed the origin of the construction to the practices typical of capitalism, generalized in science and in a reified worldview. He focused on two practices in particular, commodity exchange and the operation of mechanical devices. Commodity exchange requires equivalence of dissimilar objects which in turn requires quantification for comparability. Marx analyzed this complex in his discussion of the "fetishism" of commodities, by which he meant not the love of consumption but the appearance of use value as exchange value, as price. Everywhere in capitalist society concrete goods take on the commodity form and present themselves through a quantitative determination. Just so the

essence of the nature of natural science is a measurable, quantitative representation.

Similarly, the subject of deskilled industrial operations is external to the production process, an appendix of the self-acting machine. Obedience to the “law” of the machine’s functioning is the condition sine qua non of human agency. Again, science and technology involve social practices congruent with capitalism, practices which share the worker’s destiny: manipulation under the “law.”

The reified worldview is based on the generalization of these aspects of capitalist practice in a concept of nature and a corresponding concept of subjectivity. Nature is a quantifiable entity and the human subject is an individual confronted with a world that cannot be fundamentally changed, only technically manipulated.

The modern lifeworld emerges from the concatenation of such a view and persisting elements of tradition and immediate sensory experience. In Heidegger little place remains for the marginal practices that are not assimilated to the *Gestell*, however, their continuing existence holds out a slight hope for a different dispensation in the future. Lukács argues that the reified lifeworld is fraught with contradiction since it cannot adequately mediate workers’ needs. The contrast between the imposed capitalist forms and their lived experience is potentially explosive.

Now clearly, these apriori object constructions in Heidegger and Lukács are quite different from the empirical specifics favored by contemporary STS. Both these earlier thinkers seek to understand the modern epoch of science and technology rather than analyzing cases. But the cases belong to an already established modern framework and cannot be fully understood without reference to the nature of that framework. In different ways Ihde and I have attempted to synthesize the epochal approach with empirical studies, an operation that is possible because both types of analysis depend on dereification of the substantial appearances of the social constructions underlying modernity.

Ihde does not search for a general form of objectivity characteristic of modern societies. His growing skepticism about Heidegger has led to a different orientation. Instead he attempts to outline the impact of the perceptual changes made possible by new technological instruments on modern subjectivity. Ihde does agree with Heidegger and other critics of technology that Western societies exhibit a tendency toward “technological totalization.” They try to incorporate nature into culture through the extension of technologies into the body and the world on an ever increasing scale. This tendency distinguishes modernity from premodernity and explains the environmental dangers that loom over our future.

However, Ihde argues that this is not a complete description of what is happening in the world today. He sees in the development of a global technological civilization an opportunity to overcome the narrow dogmatisms and ethnocentricities of what he calls “monoculture,” including our own. The move toward a “pluricultural” world is a democratic advance. Ihde associates it with post-modernity, a new phase in the development of technological civilization that opens new possibilities of critique and change. Exactly how this is supposed to work concretely I have not been able to figure out. But I think Ihde’s main point is that the global interaction of cultures calls into question many Western prejudices inherited from the past which have led to the current crisis. Perhaps with the challenge to Western ethnocentrism technology can be resituated in another cultural context that privileges conservation and tolerance rather than exploitation and discrimination.

While I can agree with all of this, I have focused more on the construction of the concept of the object as a cultural phenomenon. My approach has led me to what I call the “instrumentalization theory.” I attempt to explain the relation between causal and hermeneutic

aspects of technologies, scientific-technical rationality and the lifeworld contexts of technology. This dual aspect approach to technology resembles Ihde's distinction between the "merely technical" and the cultural context. Like him I distance myself from Heidegger's dystopian logic without giving up entirely what I take to be his important discovery that the lifeworld is transformed by scientific-technical thinking in modern times.

The instrumentalization theory suggests an answer to the question I posed earlier about the alternative path our civilization must follow if it is to survive. I argue that what is required is not an escape from technology but rather its dereification. By this I mean enabling a more fluid interaction between rational disciplines, systems and artifacts and the demands of the lifeworld of concrete experience. I call this interaction a mediation in a sense that is more or less Hegelian. Rationality does not exist separate from the lifeworld but is an extension of it along specific lines such as quantitative precision and deductive rigor. As Ihde points out, these extensions depend on technical practices in the lifeworld such as measurement and writing. Technological applications of rational disciplines are also dependent on the lifeworld context for their meaning and trajectory of development. This again is a point Ihde and I share. Technology does not transcend the lifeworld but rather forms a special part of it. This explains why the lifeworld can in turn "mediate" technology and other rational systems, taking advantage of their multistability to redefine them.

This conception has political implications. The conflictual interactions in which most mediation consists can only flourish in a democracy. The contestation in which the process of mediation goes on presupposes respect for basic democratic principles, human rights and the will of the majority. This must be a "deep democracy" in which all forms of rational order, and not just law, are subject to dereification and transformation.

I interpret mediation in this sense through the Lukácsian critique of formal rationality. Technologies, bureaucracies and markets are rational institutions that impose form on the stuff of everyday experience. They define human beings as objects in ways similar to the construction of nature by natural science. Where the forms prove unsatisfactory to the human beings whose lives are their content, the misfit evokes criticism and conflict. These situations reveal the relativity of modern formal rationality in its social deployments. Ihde points out that every amplification hides a reduction. This is most dramatically so where human lives are at stake. None of these rational systems is able to fully embrace its contents. Indeed, no such full embrace is really imaginable in a world where every advance in rationality creates new possibilities for differentiation among the members of society. The concept of democracy must be enlarged to include the continual readjustment of formal structures to the demands of human agents.

We already have significant examples of such democratic interventions in many domains. In addition to continuing class conflict, diminished in scope and intensity but by no means resolved, there are many types of protest movements, hacking of computerized systems, lawsuits, hearings and forums, especially around environmental issues, and even lay participation in the work of scientific experimentation and technical design. Although their scope and effectiveness are still severely limited, the new types of interventions into formally rational systems enlarge the public sphere and contribute to such important new directions for society as environmental modernization. Yet they have been systematically under-estimated and ignored by political theorists. Where they are noticed at all, resistances are generally viewed not dialectically but from the one-sided perspective of the dominant. From that perspective rationality stands opposed to ignorance and disorder. But the reality is quite different.

These are essential forms of activism in a technological society. They limit the autonomy of

experts and capitalist management and force them to redesign the worlds they create to represent a wider range of interests. The translated demands are assimilated by the institutions and may lead in turn to future iterations of the struggle, further contestation. This is the logic of reification and mediation and it is unsurpassable. I call it “democratic rationalization” because it reproduces rational institutions in response to pressure from below.

I believe this conception of the politics of technology conforms to Ihde’s prescription according to which the “gestalt switch in sensibilities [that] will have to occur from *within* technological cultures.” It suggests that the “pluriculture” not only crosses national boundaries but also the sharply drawn line between lay and expert, the human individual and the system which both makes possible individuality and constrains it. I look forward to hearing Ihde’s own take on this amplification of his framework!