# A HERMENEUTICS OF TECHNOLOGY

# A HERMENEUTICS OF TECHNOLOGY:

# DON IHDE'S POSTMODERN PHILOSOPHY OF TECHNOLOGY

By

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# Abstract

If traditional, modern philosophy of technology fails to genuinely understand the phenomena of technology, then emancipatory reflection, such as Don Ihde's, is required for philosophy of technology to have a future. Ihde's postmodern perspective and hermeneutic framework re-understands the meaning, knowledge and truth of technology as correlated with consciousness and embedded in cultures, while clarifying the relation between the interpreter and the technology he seeks to understand.

The first part of my thesis argues that Ihde's philosophy of technology is generally postmodern for the following two main reasons: (1) Ihde's adaptation of the Husserlian model of intentionality, the basis of his phenomenology of human-technology relations, undermines the subject-object distinction prevalent in modern philosophy of technology, thereby recognizing the correlation between consciousness and technology; (2) by uncovering the cultural embeddedness of technologies, Ihde rejects the emphasis of modern inquiry on the issue of whether we "control" technology, or it "controls" us. The second part of my thesis argues that Ihde's postmodern philosophy of technology is a hermeneutics of technology. His definition of technology, as an *intentional understanding-relation* with things, conceives of technology in terms of *understanding*

itself. An implication of this emphasis on technology in *praxis*, rather than as substance, conceives of technology in a properly human way under the rubric of human agency, and although he never phrased it in this way, takes the *techne* out of technology. Finally, Ihde's inquiry into technology is a call to learn the art of *response-ability* when attempting to understand technology.

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## Introduction:

# The Forsaken Phenomena of Technology

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Those aspects of our life that we take for granted the most tend to thoroughly pervade our existence. Technology is one of those forsaken issues. Don Ihde, attempting to shake us from our slumber, describes the expanse of human-technology relations facing us in our daily lives in a high-technology culture.

> If...I begin to take note and catalogue the sheer number of my relations with machines in a given day I may well be startled to discover how pervasive the presence of machines is. For example, trace a typical beginning of the day: I wake up to the ringing of an alarm clock; then turn to see what time it is. I soon follow this with a trip to the bathroom, perhaps my toothbrush (a simple machine) comes before, say, my weighing myself on another machine. For breakfast I employ a modern stove, a coffeepot, running water, placing the dishes in the dishwasher afterwards. To go the university I go outdoors and start up my automobile, itself replete with various sub-machines within its totality. Arriving at the office I may us a dictaphone, a typewriter, a xerox machine or mimeograph and certainly the telephone. Meanwhile, almost unnoticed, I am surrounded by the hum of fluorescent lighting and the whir of the machine-provided heat through partially hidden vents. In fact, of course, I have indicated only a very few of the human-machine relations into which I enter on a given day -- but this is enough to suggest the texture of a 'technosphere' within which we undertake our daily affairs.[1]

Ihde has set himself "the task of addressing that taken-for-granted realm of human-machine

relations."[2]

If to take something for granted means to either ignore, fail to acknowledge, to neglect, or to conceal the important role which something plays in our lifeworld, then Ihde aptly observed that "[p]art of the silence concerning technology comes from within philosophy itself."[3] Among the conflicting myriad of approaches to, and ways of characterizing, philosophy of technology, few perspectives genuinely understand the phenomenon of technology.

The very way in which philosophy of technology traditionally questions avoids the phenomena. The traditional approaches to philosophy of technology view technology as something separate from our very process of understanding, something over and against us in the world.

Carl Mitcham and Robert Mackey, in their book entitled *Philosophy and Technology,* characterize philosophy of technology according to the traditional subdivisions of philosophy; i.e., metaphysics, epistemology, ethics and politics.[4] Mitcham and Mackey believe that each different approach to the nature of technology has its particular concerns and characteristic problems.

Technology can be analyzed as a logical and epistemological problem (J.K. Feibleman, H. Skolimowski, I.C. Jarvie, M. Bunge). Under the rubric of epistemology, technology is viewed as a form of knowledge to be distinguished from other forms of knowledge, particularly science. From this perspective questions are posed about the kind of knowledge technology is. Is it distinct from science, an extension of science, or does it have its own goals, structures and principles? Unfortunately, this approach treats

"knowledge" as some entity separate from us to be "objectively" examined. To assume that technology is knowledge we have gathered, i.e., an epistemological issue, displaces the entire realm of action thereby concealing the latent ways in which I bodily interact with technology.

A second, anthropological approach considers the relation between technology and the nature of man (L. Mumford). From the anthropological perspective questions are posed regarding whether an analysis should move from an understanding of the fundamental nature of man to technology, or reversed. The problem with the anthropological approach is that it, more often than not, ends up being what Clifford Geertz calls "thin description."[5] Traditional anthropology forgets that anthropological data is really made up of constructions of other people's constructions of what they are up to. The tendency is for anthropologists to forget that they themselves are actors in a culture. The problem with these approaches is that they tend to misrepresent the relationship between man and his world, thereby leading us further away from the phenomena of technology.

A third, sociological approach considers technology comprehensively in relation to societies, i.e., the way technology effects particular historical situations (J. Ellul). The problem here is that societies end up taking on a life of their own, i.e., they end up becoming entities separate from the people who inhabit them. A case in point is Jacques Ellul's view of technology as an unnatural, runaway, Frankenstein-like monster.[6]

Another traditional approach to understanding technology, the ethical and political, may give us a "better" reading than the other above approaches of the phenomenon of

technology (E.G. Mesthene, C.S. Lewis, G. Anders, N. Rotenstreich, G. Grant). From the ethical and political perspective practical questions about the relation between technology and the human world are posed such as, whether values are destroyed by technology, and whether technology entails a political order. However, these important questions about the effect of technology end up dealing with symptoms without understanding the underlying logic of whatever dilemmas face us due to our relations with technology.

Durbin, in "The Question of the Legitimacy of Philosophy of Technology as Distinct from Philosophy of Science," further subdivides the traditional subdivisions into even more specialized approaches to philosophy of technology, such as, Aristotelian (or Thomistic), Neo-Hegelian, or Marxist philosophy of technology. He explains:

> What about an Aristotelian (or Thomistic) philosophy of technology?...It would be possible to piece one together -- strange as the thought might appear to anyone who reflects on the irony of applying Greek or medieval categories to problems peculiar to our technological culture -- from elements of an Aristotelian-Thomistic philosophy of science, theory of craft-art, and natural law social ethic. In such an approach, philosophy of technology would clearly be distinct from what has been done in the twentieth century under the name of a Thomistic philosophy of science.[7]

But what is the point of these directions, unless one wishes to banter theories about. The game of theoretical tennis, by removing us from the realm of *praxis*, takes us even further from a genuine understanding of the phenomena of technology. Although some interpretations are better than others, the above various approaches, correlating philosophy of technology with the traditional subdivisions and problems of philosophy, produce superficial understandings of technology.

Why do traditional approaches to technology neglect the phenomena? Is there something inherent in these philosophies that inclines them away from understanding the phenomena of technology? I maintain that there certainly is, and it is the inherent bias of modern philosophy: the denigration of *praxis*.

It may be objected here that my criticism may hold of the philosophies of technology mentioned above. However, I have failed to mention the so-called *praxis* philosophies, such as Marxism and Existentialism. Existentialist perspectives on technology agree that technology must be understood against the background of the existential constitution of man (J. Ortega y Gasset, Heidegger, Sartre), however Ihde observes that "existentialism in some of its forms was both individualistic and romantic."

> Thus with respect to technology one finds a positive evaluation upon what I shall call 'expressive' technologies and a negative evaluation upon organizational technologies. A tool which can be used to produce art, to express individual possibilities is 'expressive' and thus viewed positively. But any form of organizational technology which dehumanized, externally organized or alienated humans from such expressive functions would often be taken negatively as a factor in alienation.[8]

Although Marxist thought is "'materialist' in the sense that it derives the development of conceptuality from praxis", it is a tradition in which there have been widely variant attitudes.[9]

> These range from the utopian views of some Marxists who see in technology the condition which can ultimately liberate humanity to dystopian views which see in the centralized complexity of contemporary technology the force which ultimately threatens to reduce humanity to slavery. Moreover, the Marxist tradition is itself divided with respect to the question of the neutrality or non-neutrality of technology as such.[10]

If traditional philosophy of technology, like modern philosophy, fails to genuinely

understand phenomena, then emancipatory reflection is required if philosophy of technology is to have a future. Ihde rightly remarked in Postphenomenology: Essays in the Postmodern Context, "we need to develop a postmodern critique."[11]

> Philosophy of technology has not yet come into its own. But the philosophical inquiry into technology has begun...That we philosophers are already very late in raising these issues seems clear to me, but we have now begun.[12]

I maintain that the hope for philosophy of technology is implicit in Ihde's postmodern, Gadamerian-style, hermeneutics of technology with the corresponding emancipatory way of thinking about the meaning, knowledge and truth of technology.

My purpose, then, in beginning my thesis by outlining postmodernism and philosophical hermeneutics anticipates an explanation of why Ihde's three programs offer a hermeneutics of technology, and why this offering results in a genuine understanding of the phenomena of technology. Chapter one is appropriately entitled "*The end of the taking-for-grantedness of technology.*" In chapter one I trace the path from the Cartesian Legacy through Husserl, Heidegger, and Philosophical Hermeneutics, showing how each contributes to the rejection of this modern legacy which has prevented philosophers from genuinely understanding phenomena. What constitutes a "genuine" understanding of technology is suggested by the final section of chapter one, in which I discuss philosophical hermeneutics. My purpose in sketching philosophical hermeneutics at this early point in the thesis anticipates my interest in how Ihde's Gadamerian-style emancipatory reflection contributes to the overcoming of the Cartesian legacy in philosophy of technology.

Chapter two of my thesis walks the reader through Don Ihde's postmodern philosophy of technology in order to show why it is distinctively postmodern, and to explicate Ihde's definition of technology. The first section of chapter two offers an introduction to Ihde's work on philosophy of technology. In the second section, I begin discussing the tripartite program he presented in *Technology and the Lifeworld.* I maintain that Ihde's adaptation of the Husserlian model of intentionality in Program one, the basis of his phenomenology of human-technology relations, undermines the subject-object distinction prevalent in modern philosophy of technology.

In the third section of chapter two, I argue that Ihde's second program, entitled "Cultural Hermeneutics," rejects the modern framework of questioning technology. The emphasis of modern inquiry is towards the issue of control, i.e. can we "control" technology, or does it control us? Ihde achieves a reorientation by exploring the cultural, macro-perceptual dimension of technology, and uncovering the cultural embeddedness of technologies.

In the final section of chapter two, I argue that after reorienting philosophy of technology along postmodern lines, Ihde doesn't stop there. He exhibits, what Gadamer refers to as, "the real power of hermeneutical consciousness..." -- "the ability to see what is questionable." In Program three, Ihde explores the phenomenon formed by technological mediation in the lifeworld realm of high-technology culture, a realm rife with questions. In the end, chapter two explains what technology is according to Ihde, and why this definition is postmodern.

In chapter 3, I explain why Ihde's three programs constitute a hermeneutics of

technology, although he never anywhere refers to his project in this way. I maintain it is his elaboration of a hermeneutical way of thinking about technology as a mode of understanding, i.e., meaning-process, or the coming into being of meaning. This alternative way of thinking explores an entirely different notion of the meaning, knowledge and truth of technology. Next I maintain that a consequence of this alternative, anti-Cartesian, Gadamerian way of thinking about technology, is the clarification of the relation between the interpreter of technology, and the technology he seeks to understand. Consequently, the distinctive subject matter of any inquiry into technology is elucidated.

In chapter three I also explore an implication of Ihde's hermeneutics of technology. The implication, although he never phrased it in this way, is to take the *technē* out of technology. I explain that latent in Ihde's programs is a call to learn the art of being responsive to technology, i.e., a call to *response-ability* when attempting to understand technology.

# Chapter One

# The End of the Taking-for-Grantedness of Technology

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## I.I Introduction

The end of the taking-for-grantedness of technology begins with the end of the neglect of phenomena, which in turn begins with Husserl's postmodern rejection of the modern Cartesian legacy. In this chapter I trace the path from the Cartesian Legacy through Husserl, Heidegger, and philosophical hermeneutics, showing how each thinker contributes to the rejection of this legacy which has prevented philosophers from genuinely understanding phenomena. My purpose for outlining postmodernism and philosophical hermeneutics, as I mentioned in the Preface, anticipates an explanation of why Ihde's three programs offer a hermeneutics of technology, and why this offering results in a genuine understanding of the phenomena of technology. What constitutes a "genuine" understanding of technology is suggested by the final section of this chapter, at which point I discuss Gadamer's philosophical hermeneutics. My purpose in sketching Gadamer's philosophical hermeneutics at this early point in the thesis anticipates my interest in how Ihde's Gadamerian-style emancipatory reflection contributes to the overcoming of the Cartesian legacy in philosophy of technology.

I begin by sketching the Cartesian legacy under the two aspects of Descartes' philosophy that best sum it up: the cogito ergo sum, and theory of error. I then explain the manner in which Husserl rejects the Cartesian subject-object distinction. I entitle this section "The Cartesian (What?! You mean we'll never make an error again?) Legacy, and Husserl's rejection of it." Here I am arguing that Husserl's rejection of it signals the beginning of postmodern philosophy.

Due to the widespread disagreement among artists, architects, film-makers, writers, and philosophers over what exactly postmodernism is, I offer a preliminary, "working" definition of postmodernism in philosophy, rooted in a discussion that, in the spirit of Aristotle, "has as much clearness as the subject matter admits of."[13] I found a fruitful starting point in the discussion of what postmodernism is not, i.e., modern, Cartesian philosophy. As G.B. Madison observed in his article "Postmodern Philosophy?", "[w]hat the former [postmodernism] is would be a renunciation, an abandonment, a letting-go of everything the latter [modernism] stood for and was concerned with."[14]

In the next section, I then move from establishing a "working" definition of postmodernism to a discussion of Heidegger, the most likely candidate for the originator of postmodern philosophy of technology. I explain how it seemed as though Heidegger's *Question Concerning Technology* reached a genuine postmodern, understanding of technology as phenomenon. But, as Richard J. Bernstein explains in his book *The New Constellation: The Ethical-Political Horizons of Modernity/Postmodernity*, although he never uses this phrasing, the storyteller was incriminated by what he left out of his tale.[15] Despite all of Heidegger's insights into the non-neutrality, ambiguity, and mysteriousness

of technology, his romanticism, concealment of the political realm, and ultimate denigration of *praxis* prevent him from fully uncovering the realm of technology as phenomenon.

I conclude with a discussion of how philosophical hermeneutics, a brand of postmodern philosophy, powerfully and comprehensively contributes to overcoming the Cartesian Legacy by moving beyond objectivism and relativism.[16]

Chapter one, then, tells the story of the journey from modernism to postmodernism. Chapter two picks up where the tale left off, with postmodernism and philosophy of technology. To anticipate, chapter two explicates Don Ihde's anti-Cartesian, Gadamerian-style, postmodern philosophy of technology.

## I.2 The Cartesian *(What?! You mean we'll never make an error again?)* Legacy, and Husserl's rejection of it.

The problem of modern philosophy's neglect of phenomena begins at the beginning with Descartes, who is traditionally thought by the English-language, history of western philosophy, textbooks to be the father and originator of modern philosophy, since his legacy perpetuated a movement of thought continuing into the twentieth century.[17] Descartes' legacy is best summed up in his *cogito ergo sum*, and theory of error.

Descartes founded his interpretation of the world on his *cogito ergo sum* formula.[18] His *cogito ergo sum* project is best understood as grounded in his desire to cease making errors and to find objective certainty. He develops his *method of doubt* in order to avoid error. He found through reflection that he could doubt his perceptual knowledge of the external world and the existence of God, however he could not doubt his consciousness of his own existence as a thinking thing. Using this as a foundation, Descartes presented deductive inferences to restore the physical world, removing the doubt originally introduced. Ihde explained in *Existential Technics* that the *cogito* became the basis for certainty at a certain cost. "On one side that cost was the world and existence became "external," and on the other the subject became self-enclosed."[19] The Cartesian model, then, holds that the self is in contrast with the world.[20] The world, according to this

model, is a doubtful, external, unknown object in contrast with the conscious self, who knows itself infallibly, immediately, and transparently through self-understanding. This Cartesian subject-object distinction remained with modern philosophy.

Richard Bernstein, in *Beyond Objectivism and Relativism: Science, Hermeneutics and Praxis*, located seven main features of Cartesianism that entered the mainstream of philosophy.[21] Descartes' theory of error explains four of the seven. Descartes presents his theory of error in two main places, the first, in the *Fourth Meditation* entitled "Truth and falsity"; and the second, in the *Principles of Philosophy*, mainly principles 29 to 44 inclusive, also principles 70 to 75 inclusive. For the purpose of this treatment, which requires merely a sketch of the theory, I will concentrate on his more succinct and better organized synopsis of the *Principles*.

The notion in mainstream philosophy that human error is a misuse of our understanding and will is part of the legacy of Descartes, who places all thinking under two general headings: the intellect and the will. Sensory perception and pure understanding are modes of the intellect; and, desire, aversion, assertion, denial and doubt are various modes of willing. Accordingly the intellect is required to perceive, and the will is required so a judgement can be made. The exercise of the human will is infinite, while the intellect is finite. Descartes argues that we err on the occasions when we allow our will to extend beyond our intellect. "We fall into error only when we make judgements about things which we have not sufficiently perceived".[22] The human will is also free, thus error is a defect in the way we act "and it is this which makes [man] deserve praise or blame [P, 205]."

According to Descartes, then, we avoid error in two ways: (1) if we make no assertions or denials when we perceive something, and (2) when we confine our assertions or denials to what we clearly and distinctly perceive should be asserted or denied. Consequently, another Cartesian tenet accepted into mainstream philosophy is the belief that truth or falsity is primarily attributed to judgements.

Another aspect of Cartesianism that entered into mainstream philosophy is the belief that no authority other than reason should be appealed to when justifying knowledge claims. Descartes makes this clear when he explains the four main causes of all error in principles 71 to 74. The first cause of error arises from the preconceived opinions of childhood. In childhood the mind, closely linked to bodily sensations and unaware of the difference between things and sensations, formed truth claims based on sense perceptions.

> [T]he mind judged everything in terms of its utility to the body in which it was immersed, it assessed the amount of reality in each object by the extent to which it was affected by it...[a]nd because the light coming from the stars appeared no brighter than that produced by the meagre glow of an oil lamp, it did not imagine any star as being any bigger than this...Right from infancy our mind was swamped with a thousand such preconceived opinions; and in later childhood, forgetting that they were adopted without sufficient examination, it regarded them as known by the senses or implanted by nature, and accepted them as utterly true and evident [P, 219].

The second cause of error is that we cannot forget our preconceived childhood opinions.

> In later years the mind is no longer a total slave to the body, and does not refer everything to it. Indeed, it inquires into the truth of things considered in themselves, and discovers very many of its previous judgements to be false. But despite this, it is not easy for the mind to erase these false judgements from its memory; and as long as they stick there, they can cause a variety of errors [P, 219-220].

The third cause of error, linked to the first and second, is "that we become tired

if we have to attend to things which are not present to the senses; as a result, our judgements on these things are habitually based not on present perception but on preconceived opinion [P, 220]." The fourth cause of error is that we attach our concepts to words which do not precisely correspond to real things. Because of language we attach all our concepts to the words we use to express them, and in turn, store the concepts in our memory simultaneously with the corresponding words. Later we find the words easier to recall than the things themselves. The result is that we are seldom able to separate our concept of a thing from our concept of the words involved.

> The thoughts of almost all people are more concerned with words than with things; and as a result people very often give their assent to words they do not understand, thinking they once understood them, or they got them from others who did understand them correctly [P, 221].

Error occurs whenever people do not distinguish between clear and confused perceptions, and defer to mistaken authorities.

Finally, the Cartesian belief that we need only observe certain specifiable rules and procedure of methodical doubt in order to be rational, philosophize correctly, verify truth claims, and gain knowledge systematically, entered into mainstream philosophy and remained up into the twentieth century. Descartes summarizes the rules in principle 75. First, lay aside all preconceived opinions. "[W]e must take the greatest care not to put our trust in any of the opinions accepted by us in the past until we have first scrutinized them afresh and confirmed their truth [P, 221]." Next, we must give orderly attention to the notions we have within us, affirming truth only when we clearly and distinctly perceive truth.

> When we do this we shall realize, first of all, that we exist in so far as our nature consists in thinking; and we shall simultaneously realize both that there is a God, and that we depend upon him, and also that a consideration of his attributes enables us to investigate the truth of other things, since he is their cause [P, 221].

Finally, we will see that we have within us knowledge of many propositions which are eternally true, such as "Nothing comes from nothing"; knowledge both of corporeal or extended nature which is divisible, moveable and so on; and knowledge of certain sensations which affect us, such as pain, colours, tastes and so on.

> When we contrast all this knowledge with the confused thoughts we had before, we will acquire the habit of forming clear and distinct concepts of all the things that can be known. These few instructions seem to me to contain the most important principles of human knowledge [P, 221].

Descartes' beliefs: that human error is the result of misuse of our understanding and will; that truth or falsity is primarily attributed to judgements; that no authority other than reason should be appealed to when justifying knowledge claims; that we need only observe certain specifiable rules and a procedure of methodical doubt in order to be rational, philosophize correctly, verify truth claims, and gain knowledge systematically; are all derived from and consequently depend upon his fundamental belief in the subject-object distinction; a distinction which entered into mainstream philosophy and remained up into the twentieth century. As Madison observed in his essay "Postmodern Philosophy?", the "two great theoretical by-products of modern, epistemologically-centered philosophy are," on the one hand, the notion of subjectivity, and on the other hand, the notion of a fully objective, determinate world.[23] The Cartesian legacy depends upon the subject and object being distinct, separate and absolute. In other words, all of

Descartes' beliefs depend upon the one main belief in the subject-object distinction introduced by the *cogito ergo sum*. The subject-object distinction must be in place for a knowing subject to form true or false judgments of so-called objective reality. "Accordingly," Madison explains,

> the end of modernism means (as Rorty for one has remarked) the end of epistemologically-centered philosophy. It means the end of what modernism understood by the "subject," and it means as well the end of the "objective world" (a world which is fully what is is in itself and which simply waits around for a cognizing subject to come along and form a "mental representation" of it).[24]

The beginning of philosophical postmodernism in the academic realm of institutionalized philosophy starts with the end of the subject-object distinction.

The end of the subject conceived of as over and against a so-called "objective world," as G.B. Madison observes in "Postmodern Philosophy?", begins neither with Nietzsche's deconstructive critique of modernity, nor the Pragmatism of William James, but with a whole new Husserlian way of understanding subjectivity and consciousness.[25] "[T]here is only one serious candidate for this position," wrote Madison.

> There is only one beginning which inaugurated an effective and *continuous* history; this is the beginning that was begun in 1900, the year of Nietzsche's death, with the publication of the *Logical Investigations* by Edmund Husserl."[26]

According to Ludwig Landgrebe, one of Husserl's late assistants, neither Husserl nor his followers were aware of the radical Husserlian dismissal of modernism and the beginning of postmodernism. Landgrebe wrote the following passage in an essay entitled "Husserl's Departure from Cartesianism". He is discussing Husserl's lectures on *First Philosophy* given in 1923-24 and published as the eight volume of *Husserliana*.

> A retrospective glance from the historical distance we have now achieved permits us to understand that there occurs within this text a departure from those traditions which are determinative for modern thought and a breaking into a new basis for reflection. It is a reluctant departure insofar as Husserl had wished to complete and fulfill this tradition without knowing to what extent his attempt served to break up this tradition. It is therefore a moving document of an unprecedented struggle to express a content within the terminology of the traditions of modern thought that already forsakes this tradition and its alternatives and perspectives...Today, primarily as a result of Heidegger's work, the "end of metaphysics" is spoken of as though it were quite obvious. We shall first properly understand the sense of such language if we follow closely how, in this work, metaphysics takes its departure behind Husserl's back. One can state quite frankly that this work *is* the end of metaphysics in the sense that after it any further advance along the concepts and paths of thought from which metaphysics seeks forcefully to extract the most extreme possibilities is no longer possible. To be sure, neither Husserl nor thosewho were his students at that time were explicitly aware of this, and it will still require a long and intensive struggle of interpretations and continuing thoughtful deliberation until we have experienced everything that here comes to an end.[27]

Husserl was one of those "few and far between" readers Descartes referred to, in the "Preface to the Reader" of the *Meditations*, when he wrote, "I would not urge anyone to read this book except those who are able and willing to meditate seriously with me."[28] Using a different method of doubt, Husserl re-enacted Descartes' meditations and found the Cartesian error, Descartes' failure to make the transcendental turn. Husserl maintains in the *Cartesian Meditations* that Descartes stood "on the threshold of the greatest of all discoveries...yet he does not grasp its proper sense, the sense namely of transcendental subjectivity."[29] "Descartes erred in this respect," wrote Husserl,

> It seems so easy, following Descartes, to lay hold of the pure Ego and his *cogitationes*. And yet it is as though we were on the brink of a precipice, where advancing calmly and surely is a matter of philosophical life and death [CM, 23-24].

Postmodernism begins with this Husserlian discovery and its reversal of the Cartesian

legacy.

Descartes used his method of doubt to show that his beliefs about the physical world should not be accepted unless reinstated by rational argument. The one thing Descartes believes withstands his rigorous method of doubt is his consciousness of his own existence as a thinking thing. Using this as a secure foundation, Descartes produces an argument to restore the physical world, removing the doubt originally introduced. As D.L.C. Maclachlan observes in "The Cartesian Error," in *Philosophy of Perception*:

> the world that we get back - the world of mathematics and physics - is not the same as the world which was taken away - the world of commonsense. The ulterior motive behind the whole Cartesian enterprise, perhaps, is to carry out just this particular feat of philosophical leger-demain."[30]

Husserl, who conceived phenomenology as a descriptive, in depth analysis of all forms of consciousness and fields of immediate experience, used a *transcendental-phenomenological reduction.* The *reduction* is a transition from natural, mundane perception to phenomenological reflection. The attitude of mundane perception is called "natural" by Husserl because it involves the "natural believing in existence involved in experiencing the world" [CM, 20]. The natural attitude "posits its intentional object as something which is real, consequently doubting itself only to seek assurance of the being and character of "what I have really seen," and so forth.[31]

> At all times mundane reflection follows from an interest in the being of the object toward which the ego was previously straightforwardly directed...It is positional consciousness and thereby rests upon the basis of the "general thesis" of the belief in the world; it enacts this belief along with its perception and thereby serves the aims of worldly experience. It is content when it has provided itself with a certainty regarding what it has experienced adequate to its objectives.[32]

The interests of natural perception are worldly. "Natural being is a realm whose existential status is secondary; it continually presupposes the realm of the transcendental being [CM, 21]." On the other hand, phenomenological reflection is a "theoretical interest...occupied with observing and determining this pure subjectivity and its entirely immanent contents."[33]

In "Phenomenology," Husserl's article for the *Encyclopedia Britannica* (1927)," he describes the phenomenological reduction as "A particular method of access...required for the pure phenomenological field."[34] The *reduction* is achieved by a bracketing process, a purifying of one's perspective, so as to reveal things to consciousness as they are in the experienced world.

> The universal epoche of the world as it becomes conscious (the "putting it in brackets") shuts out from the phenomenological field the world as it simply exists; its place...is taken by the world as given in consciousness...the world as such, the "world in brackets,"...or rather individual things in the world, are simply replaced by the respective meaning of each in consciousness...[35]

In the *Cartesian Meditations* Husserl wrote:

> The epoche can also be said to be the radical and universal method by which I apprehend myself purely: as Ego, and with my own pure conscious life, in and by which the entire Objective world exists for me and is precisely as it is for me [CM, 21].

Husserl found when using his method of phenomenological reflection, or reduction, that unlike Descartes, he did not have to reinstate the physical world by rational argument because he was not left with nothing. He explains in the *Cartesian Meditations*:

> This universal depriving of acceptance, this "inhibiting" or "putting out of play" of all positions taken toward the already given Objective world and, in the first place, all existential positions...or, as it is also called, this

> "phenomenological epoche" and "parenthesizing" of the Objective world - therefore does not leave us confronting nothing. On the contrary we gain possession of something by it; and what we (or, to speak more precisely, what I, the one who is meditating) acquire by it is my pure living, with all the pure subjective processes making this up, and everything meant in them, *purely as* meant in them: the universe of "phenomena" in the (particular and also the wider) phenomenological sense [CM, 20-21].

Husserl found after the *reduction*, contrary to Descartes' findings, that the subject was always already in a world, i.e., necessarily correlated with that world. Husserl called this correlation *intentionality*, and thought the task of phenomenology was the examination of the correlation.[36]

> It is thus an essential property of the ego, constantly to have systems of intentionality -- among them, harmonious ones -- partly as going on within him...partly as fixed potentialities, which, thanks to predelineating horizons, are available for uncovering [CM, 65].

The Husserlian view is that the subject is not over and against the world, but necessarily correlated with it in consciousness. Every act of thought *(cogito)* has a reference, a *something thought*. Husserl called this something thought the *noema* in the *Ideas*, and the *cogitatum* in the *Cartesian Meditations*, where the following passage is taken from:

> Anything belonging to the world, any spatiotemporal being, exists for me -- that is to say, is accepted by me -- in that I experience it, perceive it, remember it, think of it somehow, judge about it, value it, desire it, or the like. Descartes, as we know, indicated all that by the name *cogito*. The world is for me absolutely nothing else but the world existing for and accepted by me in such a conscious *cogito*. It gets its whole sense, universal and specific, and its acceptance as existing, exclusively from such *cogitationes*. In these my whole world-life goes on, including my scientifically inquiring and grounding life [CM, 21].

Husserl holds that self and world are equally certain because it is in *interaction with*, and

*from*, the world that I come to understand myself. In other words, as Don Ihde observes:

> If I am always already *in* a world, and if it is by means of the world that I came to understand myself, then there is an essential sense in which self-understanding is always tied to an understanding of a world...The intentional arrow turns out to be not single but interactional in form. It is both *projective*, a focused reference to world, and *reflective*, a movement from the world.[37]

Husserl does away with the subject-object distinction by linking the two in consciousness, i.e., the act of experiencing itself *(noesis)* is linked to what is experienced *(noema)*. The competent words of Paul Ricoeur, in *Husserl: An Analysis of his Phenomenology*, warn us against even thinking of the *epoche* as a "placing between parentheses":

> In fact, the *epoche* is not a placing between parentheses, as *Ideas I* has it, for there is nothing in the parentheses. The world is retained with all of its modalities (actual, probable, possible, true, false, attentively noticed, not noticed, etc.), but it is transformed into a "phenomenon of being."[38]

Subjectivity, then, is understood as necessarily linked to a lifeworld with two interwoven dimensions of perception: sensory and cultural. Postmodernism begins with Husserl's successful undermining of the Cartesian subject-object distinction.

## I.3 Heidegger's *Question Concerning Technology*:

## The storyteller is incriminated by what he leaves out of his tale

We located the beginning of postmodern philosophy with Husserl's rejection of the Cartesian subject-object distinction, however where is the beginning of postmodernism in philosophy of technology? One thinks immediately of Husserl's student, Martin Heidegger, and his deconstruction of what he calls the "instrumental and anthropological definition of technology" in *The Question Concerning Technology*. Surely the beginning of postmodern philosophy of technology must be with Heidegger's insights into the non-neutrality, ambiguity, and mysteriousness of technology. However, despite what Heidegger uncovers about the phenomena of technology, his romanticism, concealment of the political realm, and denigration of *praxis*, prevent him from coming to a genuine understanding of technology.

In this section, I have three aims: to briefly outline the movement from Husserlian to Heideggerian phenomenology, to explain the significance of Heidegger's *The Question Concerning Technology*, and finally to explain Heidegger's romanticism, concealment of the political realm, and denigration of *praxis*.

# From Husserl to Heidegger

As a student at Freiburg, Heidegger had been trained in the phenomenological method of Husserl. Their teacher-student relationship was at that time amicable, such that Hiedegger dedicated *Being and Time* to Husserl. In 1927, Husserl composed an article on phenomenology, a first draft of a contribution to the 14th edition of *Encyclopedia Britannica*. Husserl discussed the article with Heidegger during the latter's visit to Freiburg. On October 22, 1927 Heidegger sent Husserl a re-edited, new version of Husserl's article on phenomenology, along with a letter explaining the difficulties he had with the issues raised in it.[39] The following quotations from Heidegger are taken from "Appendix I: Difficulties with Issues" of the letter from Heidegger to Husserl, dated October 22, 1927. The letter shows the blatant differences in thinking between the student and the teacher.

Husserl and Heidegger agreed on a method but were divided as to its application. Heidegger agrees with Husserl that:

> beings in the sense of what you [Husserl] call "world" can not be explained in their transcendental constitution by a return to a being of the same mode of being.[40]

However, when Husserl performs his phenomenological reduction, he is left with a description of pure consciousness, whereas Heidegger uses the phenomenological method

to describe human existence. Their general difference in emphasis is that of the ontologist, and the epistemologist, one enquiring after what we know, the other seeking how we know it.

Heidegger thinks that the phenomenological method should attempt to answer the question: "What is the mode of Being of the being in which 'world' is constituted?"; a different question than Husserl's: "What is pure consciousness?" Heidegger asks a different question of the method because he seeks a fundamental ontological account of pure existence. He thinks:

> It has to be shown that Dasein's mode of Being is totally different from that of all other beings and that, as the mode of Being it is, it precisely contains in itself the **possibility** of transcendental constitution [emphasis added][IOP, 119].

Husserl finds wonder in the fact that there is consciousness, whereas Heidegger finds wonder in the capacity of Dasein to transcend that way: "And the 'wondersome' lies in the fact that the existence structure of Dasein...makes possible the transcendental constitution of everything positive [IOP, 119]. "

Ihde in "Heidegger's Philosophy of Technology" in *Technics and Praxis*, explains Heidegger's transformation of Husserlian phenomenology as the transformation of intentionality into a praxical base.[41] Ihde observes Heidegger's transformation in two complementary ways. "It is, on the one hand," explains Ihde,

> a deepening of the understanding of intentionality. It is to have noted that *all* so-called 'conscious' activities are equally intentional, including such phenomena as moods and emotion and, and what is more, bodily movement, such that the human being as a totality is 'being-in' an environment or world. It is true that Husserl recognized this, but he continued to interpret intentionality as if it were 'mental' instead of

> existential. Heidegger's tactic is one of simply cutting through the traditional mentalistic language and speaking of human existence as correlated with a world.[42]

The second way in which Ihde sees Heidegger's transformation is "as an *inversion* of Husserlian priorities."

> Husserl already saw that the phenomenological aim undercut much theory aimed at what became known in the literature as the 'pre-theoretical' stratum of phenomena. Heidegger not only absorbs this notion, he inverts it in *Being and Time* such that a praxical engagement with entities becomes primary over the assumed theoretical-cognitive engagement which actually characterizes all Husserl's descriptions...Heidegger wishes to penetrate the stratum of latent, hidden, but familiar relations with the world which characterize what he calls *everydayness*...he argues...that we have dealings first with things which we put to use.[43]

Heidegger, then, interpreted Husserl's view of the mutual inter-relation of the experienced, and the experiencing, existentially as *Being-in-the-world*. For Heidegger, the *worldhood of the world* comes first, *Dasein* is the being who is in the world, and is understood in terms of strict correlation with the world.

## Heidegger's *The Question Concerning Technology*

I will now briefly trace, and discuss the significance of, the key movements Heidegger makes in *The Question Concerning Technology*. Heidegger begins by distinguishing between technology and the essence of technology. He states, "Technology is not equivalent to the essence of technology...Likewise, the essence of technology is by no means anything technological."[44]

Moving along the path to uncovering the essence of technology, Heidegger begins by deconstructing the common definitions of technology, what he calls the instrumental and anthropological definition of technology. The instrumental definition of technology holds that technology is a means to an end. The anthropological definition holds that technology is a human activity. Heidegger explains that these definitions are "correct" ones, however they are not "true":

> The correct always fixes upon something pertinent in whatever is under consideration. However, in order to be correct, this fixing by no means needs to uncover the thing in question in its essence. Only at the point where such an uncovering happens does the truth come to pass [QCT, 6].

Not only do these definitions not show us technology's essence, they also make the question of controlling technology the main issue when thinking about technology. When technology is viewed as a means to an end, then "[e]verything depends on our

manipulating technology in the proper manner as a means. The will to mastery becomes all the more urgent the more technology threatens to slip from human control [QCT, 5]." Heidegger recommends that we seek the true by way of the correct.

Heidegger maintains that the notion of causality lies at the heart of the common definition, however our modern conception of causality has nothing to do with the Greek conception of causality. He cites the example of four interrelated, co-responsible ways occasioned in the bringing-forth of sacrificial silver chalice. It turns out that this owing and being responsible to the four causes is at the heart of the Greek conception of causality. "The four ways of being responsible bring something into appearance. They let it come forth into presencing [QCT,9]." The principle characteristic of this being responsible is "bringing-forth", which in turn takes place within "revealing."

> The modes of occasioning, the four causes, are at play, then, within bringing-forth. Through bringing-forth, the growing things of nature as well as whatever is completed through the crafts and the arts come at any given time to their appearance [QCT, 11].

This "revealing" is what Heidegger understands by truth. "What has the essence of technology to do with revealing?", Heidegger asks. "Everything", he answers, since every

> bringing-forth is grounded in revealing...Technology is therefore no mere means. Technology is a way of revealing. If we give heed to this, then another whole realm for the essence of technology will open itself up to us. It is the realm of revealing, i.e., of truth [QCT, 12].

Heidegger next traces the origins of the word technology stemming from the Greek *Technikon*, meaning that which belongs to *technē*. It turns out that "*techne* belongs to bringing-forth, to *poiesis*; it is something poietic [QCT, 13]." Thus,

> what is decisive in *technē* does not lie at all in making and manipulating nor in the using of means, but rather in the aforementioned revealing. It is as revealing, and not as manufacturing, that *technē* is a bringing-forth [QCT, 13].

Heidegger now disassociates the mode of "bringing-forth" with modern technology maintaining that "challenging-forth" is the mode of revealing specific to modern technology. He explains:

> And yet the revealing that holds sway throughout modern technology does not unfold into a bringing-forth in the sense of *poiesis*. The revealing that rules in modern technology is a challenging, which puts to nature the unreasonable demand that it supply energy that can be extracted and stored as such. But does this not hold true for the old windmill as well? No. Its sails do indeed turn in the wind; they are left entirely to the wind's blowing. But the windmill does not unlock energy from the air currents in order to store it. In contrast, a tract of land is challenged into the putting out of coal and ore [QCT, 15].

Heidegger calls the revealing that is peculiar to modern technology the "standing-reserve."

> The name "standing-reserve" assumes the rank of an inclusive rubric. It designates nothing less than the way in which everything presences that is wrought upon by the challenging revealing. Whatever stands by in the sense of standing-reserve no longer stands over against us as object [QCT, 17].

Furthermore, the non-neutral unconcealment of the "standing-reserve", called *Gestell*, is the essence of technology. It is important to note that although "man drives technology forward, he takes part in ordering as a way of revealing," ultimately the "unconcealment itself, within which ordering unfolds, is never a human handiwork...he merely responds to the call of unconcealment even when he contradicts it [QCT, 18-19]."

## The storyteller is incriminated by what he leaves out of his tale

The storyteller is incriminated by what he leaves out of his tale, just as the spaces between the words allow us to distinguish them. When we listen to Heidegger's story of the essence of technology, as Richard Bernstein accurately remarked, "when we listen carefully to what he is saying...then Heidegger's 'silence' is resounding, deafening and damning."[45]

We learn much about technology from what Heidegger leaves out of his account. Heidegger's aim in *The Question Concerning Technology* is to uncover, or open a free relationship with, the true essence of technology. He maintains that "[o]nly at the point where such an uncovering happens does the true come to pass [QCT, 6]." However, Heidegger's romanticization of technology, and his passing over *phronēsis* and denigrating *praxis* conceals important aspects of technology.

Heidegger's groundbreaking observations that technology is non-neutral, ambiguous and mysterious, are paralyzed by his myopic, romantic emphasis on certain human-technology relations over others, and his disregard for the politics of technology. In his forthcoming book *Postphenomenology: Essays in the Postmodern Context*, Ihde calls the romantic elements of Heidegger's philosophy of technology the "romantic thesis".[46]

Ihde observes that Heidegger's preference of what he takes to be certain "good" over "bad" technologies is a symptom of the romantic thesis. "One cannot but detect...the heavy romantic overtones of this nostalgic merging of art and technology" in Heidegger's *The Question Concerning Technology.*[47] Heidegger defines *technē*, the process *to which both art and technological objects belong,* in the following passage:

> There was a time when it was not technology alone that bore the name *technē.* Once that revealing which brings forth truth into the splendor of radiant appearing also was called *technē.* Once there was a time when the bringing-forth of the true into the beautiful was called *technē.* And the *poiesis* of the fine arts was also called *technē [QCT, 34].*

Ihde reminds us, Heidegger sees the saving power found in art as a solution to the dilemmas of technology. Heidegger asks at the end of *The Question Concerning Technology,*

> Could it be that revealing lays claim to the arts most primally, so that they for their part may expressly foster the growth of the saving power, may awaken and found anew our look into that which grants and our trust in it?[48]

He answers his own question:

> Because the essence of technology is nothing technological, essential reflection upon technology and decisive confrontation with it must happen in a realm that is, on the one hand, akin to the essence of technology and, on the other, fundamentally different from it. Such a realm is art.[49]

Heidegger suggests that art objects and technological objects are closely related

> in precisely the thingly, produced, but revealing roles which both art objects and equipment or technological objects contain when they are seen as focal elements against a context or field which is "lighted up" as a "world."[50]

Ihde insightfully remarks:

> Yet, in the Heideggerian corpus, there is often a great difference of evaluation and connotation between art objects and technological objects. On the surface, it might appear that the two most frequently patterned such differences relate to a certain suspicion concerning *modern* technology versus traditional technologies, and the older, smaller and simpler technologies versus the newer, larger and more complex technologies.[51]

Heidegger prefers technologies such as the following: the tools of the workshop, the peasant shoes of the Van Gogh painting, the watermill on the stream, the windmill, and the old stone bridge; all of which he refers to positively in his work.[52] He looks down on hydroelectric dams on the River Rhine, the atomic bomb, even the modern steel bridge "which routes traffic to the same city square as the old stone bridge."[53] Ihde remarks, "I virtually feel the scorn which would have been poured upon my composition of this paper with a word processor!"[54]

Why does Heidegger choose these traditional, older, simpler, smaller technologies to be the "good" technologies? Why is he suspicious of the newer, larger, more complex technologies? The answer, Ihde maintains, leads us to the first element of "the romantic thesis." Heidegger favours one way of relating to technology over other ways. He prefers what Ihde calls *embodiment relations*.[55] "Heidegger...likes...those technologies which express straightforward bodily, perceptual relations with the environment."[56]

This preference for simple, embodiment relations is exemplified in his dislike for the typewriter, and his famous "hammer example" in *Being and Time*.[57] "[F]or Heidegger somehow there is less "hand" in writing with a typewriter than presumably that which is "handwritten" with a pen."[58] He wrote the following in *Parmenides*:

> Human beings "act" through the hand; for the hand is, like the word, a distinguishing characteristic of humans. Only a being, such as the human,

> that "has" the word (mythos, logos) can "have hands."...The hand becomes present as hand only where there is disclosure and concealment...The hand has only emerged from and with the word.[59]

Heidegger's "hammer example", Ihde maintains, "shows radical insights into technology but also a certain blindness and prejudice concerning technologies which do not express embodiment relations."[60] Heidegger explains in *Being and Time* how in the process of using a hammer the hammer itself withdraws into our use of it. The hammer itself becomes subordinated to the task of hammering, to the objective or goal we wish to achieve by hammering. In dealings such as this,

> The ready-to-hand is not grasped theoretically at all, nor is it itself the sort of thing that circumspection takes proximally as a circumspective theme. The peculiarity of what is proximally ready-to-hand is that, in its readiness-to-hand, it must, as it were, withdraw in order to be ready-to-hand quite authentically. That with which our everyday dealings proximally dwell is not the tools themselves. On the contrary, that with which we concern ourselves primarily is the work...The work bears with it that referential totality within which the equipment is encountered.[61]

Heidegger's insight was to have seen that technologies are contextual, i.e., "the hammer 'is' what it is in reference to the context of nails, projects, etc. It belongs to a reference system which always includes more than a mere hammer."[62] Technologies then are never simple objects, but are implicated in human projects and action.

The negative side to Heidegger's analysis is that the context of human projects and action is revealed through technological breakdown.[63] It is only when the hammer breaks, say the handle cracks or falls off, that we become aware of the objectness of the hammer and the project that we are undertaking. Ihde maintains that

> here lies an early clue to a certain negativity which pervades the Heideggerian corpus and which blinds the analysis both to a possible

> appreciation of human-technology relations other than embodiment ones and to the features which, in fact, unite modern technologies to traditional ones...In short, *to* relate to a technology in a positive way and in a situation in which the artifact takes on what I call an *alterity* relation seems to me inconceivable in the Heideggerian scheme.[64]

Heidegger's "romantic thesis" conceals other relations we might take with technology other than embodiment; for example, the alterity relation of a child engrossed in play before a spinning top.[65] There seems to be no place in Heidegger's account for relating to technology as entertainment. Thus, Heidegger's preference for *embodiment* relations over all other relations with technology illustrates his myopic vision of technology.

Heidegger's selection of "good" and "bad" technologies reveals more than his preference for *embodiment* relations over other possible relations. Ihde observes that Heidegger's bias towards certain technologies also reveals an aversion to the politics of technology, an aversion which covers up many important aspects of technology.

Ihde cites Heidegger's telling comparison of the country and the city bridge in *Building Dwelling Thinking* as evidence of the latter's disinclination towards the politics of technology.[66] Heidegger describes the country bridge in the following way:

> The bridge swings over the stream "with ease and power." It does not just connect banks that are already there...It brings stream and bank and land into each other's neighborhood. The bridge *gathers* the earth as landscape around the meadows...The waters may wander on quiet and gay, the sky's floods from storm or thaw may shoot past the piers in torrential waves--the bridge is ready for the sky's weather and its fickle nature...The bridge lets the stream run its course and at the same time grants their way to mortals so that they may come and go from shore to shore...The old stone bridge's humble brook crossing gives to the harvest wagon its passage from the fields into the village and carries the lumber cart from the field path to the road...The bridge *gathers* to itself in *its own* way earth and sky, divinities and mortals.[67]

For Heidegger, "[b]ridges lead in many ways." He seems to prefer stone bridges to the way in which city bridges are "tied into the network of long-distance traffic, paced as calculated for maximum yield."[68] City bridges do not seem to "preserve" and "gather" the fourfold of earth, sky, divinities and mortals as well as stone bridges. This dangerously selective way of understanding technology conceals crucial aspects of our lifeworld from us, such as the politics inherent in technology. Ihde insightfully remarks,

> The dramatic space shots of earth from the moon or a satellite are very un-Heideggerian precisely because they place earth at a distance from earth-as-ground. But they are also irreversibly part of the postmodern view of earth-as-globe with a very different sense of what constitutes our "home".[69]

"What is needed", Ihde observes,

> is...a deepening and more complex appreciation of all of the facets of our technologically textured mode of life. And that includes and must include the explicit recognition of both the politics of our artifacts, and the demythologization of nostalgic and romantic views of previous times.[70]

Technology is not something we negotiate with, as Neil Postman attempts to convince us of in *Technopoly*, it textures our lifeworld.[71] When technology so pervades our lives, mythologizing and romanticizing it will only prevent us from understanding the underlying logic of *how* it textures our lives.

What is it about Heidegger's philosophy that allows him to recognize that technologies are not simple objects, rather they are non-neutral and contextual, and yet so blindly conceal the politics inherent in technology? Richard Bernstein argues, in *The New Constellation: The Ethical-Political Horizons of Modernity/Postmodernity*, that Heidegger's passing over of *phronēsis* and his denigrating of *praxis* are the reasons for his myopic vision.

Bernstein argues that Heidegger "seduces us into thinking that the *only* possible response...to the supreme danger of *Gestell* is poetic revealing" by concealing the other ways of pondering human activity.[72] Bernstein asks:

> [W]hy should we think that the response that modern technology calls forth is to be found by 're-turning' to *technē* and *poiesis*, rather than *phronēsis* and *praxis*? At the very least -- because *phronēsis* is also a mode of *altheuein* -- we might expect Heidegger to consider, to reflect upon, this possibility. But he doesn't. The entire rhetorical construction of "The Question Concerning Technology" seduces us into thinking that the only alternative to the threatening danger of *Gestell* is *poiesis*. It excludes and conceals the possible response of *phronēsis* and *praxis*.[73]

Bernstein's first main point is that Heidegger does not discuss Aristotle's treatment of *phronēsis* and *praxis*. Heidegger promotes a return to the Greek understanding of *technē* as belonging to *poiesis*, and more importantly Aristotle's understanding of *techne* as a mode of *aletheuein*. He examines the distinction Aristotle makes, in the Nicomachean Ethics, Bk. VI, chapters 3 and 4, between episteme and *technē*, and explains that

> what is decisive in *technē* does not lie at all in making and manipulating nor in the using of means, but rather in the aforementioned revealing. It is as revealing, and not as manufacturing, that *technē* is a bringing-forth [QCT, 13].

Bernstein insightfully observes:

> If we turn to these chapters of the Nicomachean Ethics, we are immediately struck by a curious omission, a striking silence by Heidegger. Aristotle does indeed distinguish between *episteme* and *technē* and relates them to *aletheia*. But Aristotle does not stop there. Indeed, Aristotle's main point is to distinguish *phronēsis* from the other "intellectual virtues." *Phronēsis* is the intellectual virtue or "state of the soul" that pertains to *praxis*, just as *technē* relates to *poiesis*...Much of Book VI is dedicated to examining *phronēsis* and distinguishing it from the other "intellectual virtues." After surveying these "states of soul" Aristotle tells us that "the remaining possibility, then is that [practical] intelligence [*phronēsis*] is a state grasping the truth [*aletheia*], involving reason, concerned with action [*praxis*] about

what is good or bad for a human being.[74]

Heidegger mentions neither phronēsis, nor praxis, anywhere in *The Question Concerning Technology*. "Throughout his essay Heidegger speaks as if there are a *plurality* of modes of revealing, but he only explicitly considers two modes: *poiesis* (bringing-forth) and *Gestell* (challenging-forth)."[75]

Bernstein argues that Heidegger's omission of *phronēsis* and *praxis* signals the latter's displacement of action for thinking. What Heidegger says near the end of *The Question Concerning Technology* is evidence of this displacement:

> Everything, then, depends upon this: that we ponder this arising and that, recollecting, we watch over it...The coming to presence of technology threatens revealing, threatens it with the possibility that all revealing will be consumed in ordering and that everything will present itself only in the unconcealedness of standing-reserve. Human activity can never directly counter this danger. Human achievement alone can never banish it. But human reflection can ponder the fact that all saving power must be of a higher essence than what is endangered, though at the same time kindred to it [QCT, 33-34].

Furthermore, Bernstein remarks that

> [t]he primary issue is not simply one of retrieving dimensions of Aristotle's understanding of praxis and phronēsis that Heidegger distorts and conceals. Rather the primary issue is answering the very question that Heidegger takes to be fundamental -- how does one respond to Gestell, the essence of technology?[76]

Heidegger's philosophy of technology, then, is unquestionably contemporary in its recognition of the non-neutrality, ambiguity, and context embeddedness of technology. However, romanticism, concealment of the political realm, and denigration of praxis, prevent Heidegger's insights from granting us a genuine postmodern understanding of technology. But I still haven't told you what constitutes a "genuine postmodern"

philosophy of technology. Or why? The next section suggests an answer to this question.

## I.4 Gadamer's Philosophical Hermeneutics

It has been argued that Postmodernism in philosophy originated with the Husserlian rejection of the modern subject/object dichotomy. It is more difficult to state where the movement has gone from here. Postmodernists, it seems, are unified in their fight against modernism, and divided over just how to win the battle, i.e., they are divided over the rejection or acceptance of phenomenology.[77] The dispute, as G.B. Madison observed, revolves around where we find ourselves when we leave modernism behind.[78]

> If, as Nietzsche says, nihilism means the demise of the categories of aim, unity, and truth and being -- these are, let us not forget, the foundational concepts of the philosophical project itself, the total demise of which would spell the end of philosophy.[79]

Hans-Georg Gadamer, a leader in the "attempt 'to extract the most extreme possibilities' from Husserl's own phenomenological deconstruction ('reduction') of the epistemological problematic"[80], maintains with postmetaphysical hope that hermeneutical inquiry provides us with a genuine understanding of our world since,

> [p]hilosophical hermeneutics takes as its task the opening up of the hermeneutical dimension in its full scope, showing its fundamental significance for our entire understanding of the world and thus for all the various forms in which this understanding manifests itself: from interhuman communication to manipulation of society; from personal experience by the individual in society to the way in which he encounters society; and from the tradition as it is built of religion and law, art and philosophy, to the revolutionary consciousness that unhinges the tradition

through emancipatory reflection.[81]

What is philosophical hermeneutics? Where did this form of hermeneutical inquiry originate? Why, and in what way, is it emancipatory?

Gadamer states that "the principle of hermeneutics simply means that we should try to understand everything that can be understood."[82] In this sense the hermeneutic process brings the hidden into understanding. Palmer explains the origin of the word "hermeneutic" in his book *Hermeneutics*.[83] The word is derived from the Greek verb *hermeneuein* and noun *hermeneia*, suggesting the wing-footed messenger-god Hermes, who is "associated with the function of transmuting what is beyond human understanding into a form that human intelligence can grasp."[84]

> The various forms of the word suggest that process of bringing a thing or situation from unintelligibility to understanding. The Greeks credited Hermes with the discovery of language and writing--the tools which human understanding employs to grasp meaning and to convey it to others.[85]

Hermeneutics, or interpretation theory, began as an effort to develop criteria for the interpretation of ancient texts, and the model of text interpretation has endured. "Whenever rules and systems of explaining, understanding, or deciphering texts arise--there is hermeneutics."[86]

Hermeneutics began as strictly biblical gradually evolving into hermeneutics as the general rules of philological exegesis.[87] In the nineteenth century hermeneutics was expanded by Schleiermacher and Dilthey. Schleiermacher viewed hermeneutics as the science of linguistic understanding, moving hermeneutics from being understood as merely philological, a totality of rules, to a "general hermeneutics" (*allgemeine Hermeneutik*).

Schleiermacher made hermeneutics into a systematically coherent science which describes the conditions for understanding in all dialogue.

Dilthey viewed hermeneutics as the methodological foundation for the cultural sciences. He thought that an act of historical understanding, involving the personal knowledge of what being human means, is required for the interpretation of human expressions, distinct from the quantifying, scientific understanding of the natural world. Richard Bernstein, in *Beyond Objectivism and Relativism*, aptly explains nineteenth-century hermeneutics

> as a reaction against the intellectual imperialism of the growth of positivism, inductivism, and the type of scientism that claimed that it is the natural sciences alone that provide the model and the standards for what is to count as genuine knowledge.[88]

Hermeneutics, then, would be a method for the cultural sciences (*Geisteswissenschaften*) in the way that the scientific method was for the natural sciences (*Naturwissenschaften*).

Dilthey distinguished between *explanation*, the way in which we comprehend an object by way of causal connections, and *understanding*, the way in which we comprehend another person.

> [T]he difference between the natural and human sciences is not fundamentally determined in respect to a special way of knowing but differs in content...The sciences explain nature, the human studies understand expressions of life.[89]

We comprehend another person as a coherence or interconnection of meaning through interpretation.

Hermeneutics became central to continental philosophy with the development of the phenomenological movement.[90] Heidegger and Gadamer

> no longer conceived of [Hermeneutics] as a subdiscipline of humanistic studies or even as the characteristic Method of the *Geisteswissenschaften*, but rather as pertaining to questions concerning what human beings are.[91]

Gadamer's *magnum opus* is *Truth and Method*. Bernstein's comprehensive and powerful study of Gadamer's project leads us directly to the salient features.[92] He observes that in the concept of play Gadamer found "a...model...that provides an alternative to the Cartesian model that rivets our attention on "subjective attitudes"...toward what is presumably "objective."[93]

In *Truth and Method*, Gadamer states his aim in studying play:

"I wish to free this concept of the subjective meaning that it has in Kant and Schiller and that dominates the whole of modern aesthetics and philosophy of man."[94] Gadamer explains that the true subject of play is not the subjectivity of the player but play itself. "[T]he *primacy of play over the consciousness of the player* is acknowledged."[95] Play draws the player into the play and involves a sense of freedom, freedom to choose new movements and configurations in play. For Gadamer, play is a "happening", a distinctive mode of being in which players are not subjects of the play.

> For play has its own essence [Wesen] independent of the consciousness of those who play. According to Gadamer, "The Players are not the subjects of play: instead play merely reaches presentation [Darstellung] through the players" [TM, p.92; WM, p.98]. Furthermore, play is not even to be understood as a kind of activity; the actual subject of play is not the individual, who among other activities plays, but instead the play itself.[96]

Bernstein explains that the concept of play, for Gadamer, informs us about the very way in which language and dialogue operate. Gadamer wrote:

> Now I contend that the basic constitution of the game, to be filled with its

> spirit--the spirit of buoyancy, freedom and the joy of success--and to fulfill him who is playing, is structurally related to the constitution of the dialogue in which language is a reality. When one enters into dialogue with another person and then is carried along further by the dialogue, it is no longer the will of the individual person, holding itself back or exposing itself, that is determinative. Rather, the law of the subject matter...is at issue in the dialogue and elicits statement and counterstatement and in the end plays them into each other.[97]

Gadamer holds that in the same way that we are not spectators in "play", we also are not spectators in our attempts to understand a work of art or anything handed down to us through tradition, like texts. A work of art, or a text,

> is not to be thought of as a self-contained and self-enclosed object...that stands over against a spectator, who, as a subject, must purify himself or herself in order to achieve aesthetic consciousness of the work of art. There is a dynamic interaction or transaction between the work of art and the spectator.[98]

Gadamer takes the understanding of texts as the paradigmatic case of interpretative understanding.[99] In the understanding of texts, one can only maintain that some interpretations are better than others, not that one has attained the correct meaning of a text.

If we accept Gadamer's characterization, then hermeneutic understanding has a dialogical character and a circular structure in which one cannot identify an absolute starting point. Heidegger called this circular structure the "hermeneutic circle." Gadamer, following Heidegger, thought all understanding was based on pre-understanding, that is, all understanding presupposed history and tradition.

Thomas Langan puts it this way in his book entitled *Being and Truth.*[100] Humans are past-retaining and future-projecting creatures of language. Our understanding of

ourselves, others and the world is always from the standpoint of the present, but also always includes all our past experiences and information we have retained from the past, including commonsense-knowledge and facts about us. Our understanding is also future-projective. We make plans, have projects and dreams of the future. Now these past experiences, information, and facts, combined with our plans, projects, and dreams about the future form a horizon from which we understand and interpret everything. Understanding, then, is always also temporal. The key point here is that we are never without our horizon of interpretation. This is the circular structure of human understanding.

The dialogical structure of human understanding is revealed in the way we expand our horizons of interpretation, that is, in the way that we continue to broaden our perspective on the world through interactions with others and things in the world. Understanding, then, takes the form of a conversation or dialogue with our own past understandings and the things and people which presence themselves before us in our world. When horizons are fused, different perspectives of individuals are transcended, and understanding is born. Thus, understanding is not reproductive, but productive as it leads to broader and newer perspective.

In *Hermeneutical Liberalism*, G.B. Madison contrasts Hermeneutics with traditional philosophy.[101] Philosophical Hermeneutics, he explains, is a distinctively postmodern philosophy which seeks to reconceptualize the traditional philosophical concepts of meaning and truth, while offering a general theory of understanding claiming universality. Hermeneutical inquiry seeks to describe what actually occurs whenever people attain an

understanding of things they consider to be both meaningful and true, thus rejecting the modernist notion of method and the modernist tendency to prescribe a particular method leading to justified true belief. It shifts the emphasis from *technē* to *praxis*, and from *substance* to *process,* i.e., from a technological understanding of reality, to what we are actually doing whenever we are engaged in an epistemic or understanding activity, that is to the *phronēsis* of living reality.

Understanding is, for hermeneutics, interpretation which always involves application, i.e., truth is not with a capital "T", not a matter of subjective ideas agreeing with objective realities, rather truth is the solidarity of intersubjective agreement. Truth is the process referring to any understanding that people arrive at in a communicatively rational way, that is, by means of discourse or conversation, rather than by means of force or violence.

Madison maintains that the hermeneutical theory of interpretative-communicative understanding is *classical liberalism* in a postmodern form, with the corresponding implied ethical and political theory. He observes that philosophical hermeneutics not only attempts to conceptualize such theoretical notions as "meaning" and "truth", it also attempts to uncover the practical values, i.e., the practical conditions of possibility of the interpretive-communicative process itself, that inhere in human understanding conceived of as a form of communicative understanding. Thus, the hermeneutical theory of interpretive-communicative understanding implies an ethical theory.

Madison argued that these values are the core values of traditional liberal theory, that hermeneutical ethics is a form of communicative or discourse ethics holding that

violence and discourse are mutually exclusive, that is, the hermeneutical notion of "good will" points to a core precept of democratic pluralism. Moreover, the notions of freedom and reason, for hermeneutics, are indistinct.

Likewise, Madison argues that hermeneutical theory also implies a political theory, that is, Hermeneutical politics entails what Ricoeur calls "political liberalism." For the Hermeneut, "practice" means solidarity, i.e., the solidarity of reason seeking involved in "general agreement." Accordingly, the liberal state is the institutionalization of communicative rationality. The practical task, then, for hermeneutics is to foster dialogical communities in which the wisdom that comes from experiencing and learning from practice becomes living reality, and "where citizens can actually assume what Gadamer tells us is their 'noblest task' - 'decision-making according to one's own responsibility - instead of conceding that task to the expert'."[102]

# Chapter One Notes

1. Don Ihde, *Technics and Praxis: A Philosophy of Technology* (Dordrecht, Holland: D. Reidel Publishing Co., 1979), 6-7.

2. *Technics and Praxis*, 7.

3. Ibid, xix.

4. See the introduction to *Philosophy and Technology: Readings in the Philosophical Problems of Technology*, edited with an introduction by Carl Mitcham and Robert Mackey (New York: The Free Press, 1972).

5. See Clifford Geertz, "Thick Description: Toward an Interpretive Theory of Culture," in *The Interpretation of Cultures: Selected Essays* (New York: Basic Books, 1973), 3-30. Geertz is committed to a semiotic concept of culture and an interpretive approach to the study of it. He maintains that since culture is a semiotic concept, and that man is never outside of a culture in which he assigns significance to his world, social anthropology is an interpretative science in search of meaning not an experimental science in search of a law. To show that social anthropology is an interpretative science he looks at what the practitioners do: ethnography. Looking at *what doing ethnography is* helps us to understand what anthropological analysis amounts to as a form of knowledge. What defines ethnography is a phenomenological approach, or a "thick description" kind of intellectual effort verses a "thin description".

6. See Jacques Ellul, "The Technological Order," in *Philosophy and Technology: Readings in the Philosophical Problems of Technology* (New York: The Free Press, 1972), 86.

7. Paul T. Durbin, "The Question of the Legitimacy of Philosophy of Technology as Distinct from Philosophy of Science," in *Research in Philosophy & Technology: An Annual Compilation of Research, Vol.1* (Greenwich, Connecticut: JAI Press, 1978), 8.

8. Ibid, xxiv-xxv.

9. Ibid, xxiv-xxv.

10. Ibid, xxv.

11. I wish to thank Prof. Ihde for lending me the galleys to his forthcoming book, *Postphenomenology: Essays in the Postmodern Context* (Evanston, Illinois: Northwestern University Press, 1993), 111, from which this quotation is taken.

12. *Technics and Praxis*, xxvii-viii.

13. Aristotle, *Nicomachean Ethics*, trans. W.D. Ross, in *The Complete Works of Aristotle: The Revised Oxford Translation*, ed. Jonathan Barnes (Princeton, New Jersey: Princeton University Press, 1984), page 1730 or 1094b 13-25.

14. G.B. Madison, "Postmodern Philosophy," *Critical Review* 2, no.2 & 3 (Spring/Summer 1988): 167.

15. Bernstein refers to it as Heidegger's "silence." See "Heidegger's Silence?: *Ethos* and Technology," in *The New Constellation: The Ethical-Political Horizons of Modernity/Postmodernity* (Cambridge, Massachusetts: The MIT Press, 1992), 79-140.

16. I am indebted to Richard J. Bernstein's study of the ways in which philosophical hermeneutics contributes to overcoming the Cartesian Anxiety and helps us to move beyond objectivism and relativism. See *Beyond Objectivism and Relativism: Science, Hermeneutics, and Praxis* (Philadelphia: University of Pennsylvania Press, 1983).

17. G.B. Madison, *"Postmodern Philosophy?"*, 167.

18. See Don Ihde, *Existential Technics* (New York: State University of New York Press, 1983), 11.

19. Ibid, 11.

20. Ibid, 12.

21. Richard J. Bernstein, *Beyond Objectivism and Relativism: Science, Hermeneutics, and Praxis* (Philadelphia: University of Pennsylvania Press, 1983), 115-118.

22. Descartes', *Principles of Philosophy*, in *The Philosophical Writings of Descartes: Volume 1*, trans. John Cottingham, et al., (Cambridge, Cambridge University Press, 1985), 204. Hereafter all quotations taken from the *Principles* will be from the aforementioned edition, and will be cited in the body of the paper in parenthesis following the citation. The parenthesis will contain the abbreviation "P" and then the page number.

23. G.B. Madison, *"Postmodern Philosophy?"*, 168.

24. Ibid, 168.

25. Madison explains: "Nietzsche makes his effective entry into the history of postmodernism only with Heidegger's problematic reading of him and with the cult erected in his honour by Gilles Deleuze and other French post-Merleau-Pontyean Nietzscheans...James makes his entry onto the stage of postmodern history, thanks to his "rediscovery" and promotion by, on the one hand, various phenomenological writers and, on the other, the renewed life that Richard Rorty has given to Pragmatism.

26. Ibid, 170.

27. Ludwig Landgrebe, "Husserl's Departure from Cartesianism" in *The Phenomenology of Edmund Husserl: Six Essays* (Ithaca, New York: Cornell University Press, 1981), 68-69.

28. Rene Descartes, *Meditations*, in *The Philosophical Writings of Descartes*, vol.2, trans. John Cottingham, et al., (Cambridge: Cambridge University Press, 1984), 8.

29. Edmund Husserl, *Cartesian Meditations*, trans. Dorion Cairns (The Hague: Martinus Nijhoff, 1960), 25. Hereafter all quotations from the Cartesian Meditations will be taken from the aforementioned edition, and page numbers will appear in the body of the paper in parenthesis following the abbreviation "CM."

30. D.L.C. Maclachlan, "The Cartesian Error," in *Philosophy of Perception* (Englewood Cliffs, New Jersey: Prentice Hall, 1989), 106.

31. Landgrebe, *The Phenomenology of Edmund Husserl*, 105.

32. Ibid, 105-106.

33. Husserl as quoted by Landgrebe in *The Phenomenology of Edmund Husserl: Six Essays*, 106

34. Edmund Husserl, "Phenomenology." Husserl's article for the *Encyclopedia Britannica*, 1927: New Complete Trans. Richard E. Palmer, in *Phenomenology and Existentialism*, ed. Richard M. Zaner and Don Ihde. (New York: Putnam-Capricorn, 1973), 52.

35. Husserl, "Phenomenology," 53.

36. Ihde, *Existential Technics*, 13.

37. Ibid, 13-14.

38. Paul Ricoeur, *Husserl: An Analysis of his Phenomenology* (Evanston, Illinois: Northwestern University Press, 1967), 88-89.

39. I am here quoting from a fragment, Heidegger's redaction of a "Second Attempt," with letter and appendices translated by Thomas J. Sheehan. See Martin Heidegger, "The Idea of Phenomenology: With a Letter to Edmund Husserl (1927)," in *Listening: The Journal of Religion and Culture* 12, no.3, (1977): 111-121. Some months later Husserl submitted a fourth and far different draft to the Encyclopedia Britannica, only to have it severely edited before it was translated and published. The complete text of the fourth draft is translated as "Phenomenology" by Richard E. Palmer in Phenomenology and Existentialism, ed. Richard M. Zaner and Don Ihde, New York: Putnam-Capricorn, 1973, pp.47-71. The German text of "Versuch einer zweiten Bearbeitung" appears in Edmund Husserl, *Phänomenologische Psychologie* (Husserliana, IX), ed. Walter Biemel, The Hague: Martinus Nijhoff, 1968, pp. 256-263. The letter with appendices appears *ibidem*, pp.600-602. Prof. Biemel's "Husserl's *Encyclopedia Britannica* Article and Heidegger's Comments" in *Husserl: Expositions and Appraisals*, ed. Peter McCormick and Frederick Elliston (Nortre Dame University Press, 1977).

40. Martin Heidegger, "The Idea of Phenomenology," *Listening: The Journal of Religion and Culture*, Vol.12, No. 3 (1977), 119. Hereafter, all quotations from *The Idea of Phenomenology* will be from the aforementioned edition, cited in the body of the paper, with the page number appearing after the quotation following the abbreviation "IOP."

41. Ihde, *Technics and Praxis*, 117.

42. Ibid, 117.

43. Ibid, 117.

44. Martin Heidegger, *The Question Concerning Technology and Other Essays*, Trans. William Lovitt (New York: Harper & Row, 1977), 4. Hereafter this edition will be referred to as "QCT." Quotations from it will be referenced by page number in brackets within the body of the paper.

45. Richard J. Bernstein, *The New Constellation: The Ethical-Political Horizons of Modernity/Postmodernity* (Cambridge, Massachusetts: The MIT Press, 1991), 136,

46. I read Ihde's article in the galleys to his forthcoming book, which he was kind enough to lend me during the researching of this thesis. See Ihde, "Deromanticizing Heidegger," forthcoming in *Postphenomenology: Essays in the Postmodern Context* (Evanston, Illinois: Northwestern University Press, 1993).

47. Ihde, *Postphenomenology*, 102

48. Ibid, 35.

49. Ibid, 35.

50. Ihde, *Postphenomenology*, 102.

51. Ibid, 101.

52. Ibid, 102.

53. Ibid, 103.

54. Ibid, 103.

55. See chapter two for my explanation of Ihde's account of *embodiment relations*.

56. Ihde, *Postphenomenology*, 104.

57. Ibid, 104.

58. Ibid, 104.

59. Martin Heidegger, *Parmenides* (Frankfurt: Klostermann, 1982), 118-119. Translation by Michael Heim in *Electric Language* (New Haven: Yale University Press, 1987). As quoted by Ihde in *Postphenomenology*, 158.

60. Ihde, *Postphenomenology*, 104.

61. Martin Heidegger, *Being and Time*, trans. John Macquarrie and Edward Robinson (San Francisco: Harper & Row, 1962), 98-99.

62. Ihde, *Postphenomenology*, 105.

63. See Ihde, *Postphenomenology*, 105; and *Technics and Praxis*, 127.

64. Ihde, *Postphenomenology*, 105.

65. Ibid, 105.

66. Ibid, 106-107.

67. Martin Heidegger, "Building Dwelling Thinking," in *Poetry, Language, Thought*, trans. Albert Hofstadter (San Francisco: Harper & Row, 1971), 152-153.

68. Ibid, 152.

69. Ihde, *Postphenomenology*, 111.

70. Ibid, 111.

71. Neil Postman, *Technopoly: The Surrender of Culture to Technology* (New York: Alfred A. Knopf, 1992), 5.

72. Richard J. Bernstein, *The New Constellation*, 123 & 127.

73. Ibid, 122.

74. Ibid, 120-121.

75. Ibid, 121.

76. Ibid, 128.

77. G.B. Madison, "Postmodern Philosophy?" 172. The segment hostile to phenomenology is generally referred to as "poststructuralism": Foucault, Lyotard, Lacan, Deleuze, Barthes, Derrida, etc.

78. Ibid, 173.

79. Ibid, 173.

80. Ibid, 171.

81. Hans-Georg Gadamer, "On the Scope and Function of Hermeneutical Reflection," in *Philosophical Hermeneutics*, trans. David E. Linge, (Los Angeles: University of California Press, 1976), 18.

82. Ibid, 31.

83. Richard E. Palmer, *Hermeneutics* (Evanston, IL: Northwestern University Press, 1969), 13. Palmer's book also provided me with the synopsis of the historical development of hermeneutics.

84. Palmer (1969), 13.

85. Ibid, 13.

86. Richard Palmer, "Hermeneutics," in *Contemporary Philosophy: A New Survey*, Vol.2, ed. G. Floistad (Boston: Martinus Nijhoff, 1981), 458, as quoted in James Phillips,

"Hermeneutics in Psychoanalysis: Review and Reconstruction", *Psychoanalysis and Contemporary Thought* 14, no.3 (1991): 377.

87. This account of the development and definition of hermeneutics comes from Richard E. Palmer's, Hermeneutics (Evanston, Illinois: Northwestern University Press, 1969), 33-45.

88. Bernstein, *Beyond Objectivism and Relativism*, 112.

89. Dilthey as quoted in Palmer (1969): 105.

90. Bernstein, *Beyond Objectivism and Relativism*, 113.

91. Ibid, 113.

92. Ibid, 108-150.

93. Ibid, 121.

94. Hans-Georg Gadamer, *Truth and Method*, trans. Joel Weinsheimer and Donald G. Marshall (New York, Crossroad, 1989), 101.

95. Ibid, 104.

96. Bernstein, *Beyond Objectivism and Relativism*, 121.

97. Ibid, 122.

98. Ibid, 123.

99. See Madison, "Hermeneutical Integrity: A Guide for the Perplexed", 4.

100. Thomas Langan, *Being and Truth: Towards a Concept of Truth Adequate to the Realities of an Oecumenic Age*, vol. 2 of *Truth and Tradition*, St. Michael's College - University of Toronto: Experimental Draft, Revision - 4, (September 1990), 57-69.

101. G.B. Madison, "Hermeneutical Liberalism," forthcoming in M. Brumlik and H. Brunkhorst, eds, *Gemeinschaft und Gerechtigkeit* (Frankfurt: Fisher Taschenbuch Verlag), 101.

102. Ibid, 5.

# Chapter Two

# Don Ihde's Postmodern Philosophy of Technology

## 2.1 Introduction

That the time has come for a study of Don Ihde's philosophy of technology seems clear, for no thinker has given the matter the treatment it deserves. Various book reviews and journal articles have been written on aspects of Ihde's work, and a symposium held, but unfortunately an in-depth analysis of his philosophy of technology has never appeared.

My role in this chapter is that of a tour guide travelling with you along an open-ended path, guiding you through Ihde's tripartite program, in order to uncover more of a question, and less of an answer to the question of the nature of technology. In sections two to four of this chapter, I explicate the tripartite program Ihde presented in *Technology and the Lifeworld.* As I walk the reader through Ihde's postmodern philosophy of technology, I hope to achieve two aims: to show why it is distinctively postmodern, and to explicate his definition of technology.

In section 2.2, entitled "From Phenomenology to Hermeneutics," I sketch the development of Ihde's philosophy of technology from his phenomenology of human-technology relations to his present hermeneutic explorations. The purpose of inserting such

an introductory sketch is merely to illustrate the movement from phenomenology to hermeneutics in a general manner in relation to his career in philosophy of technology.

In sections three to five of this chapter, I explicate the tripartite program Ihde presented in *Technology and the Lifeworld.* In section two, I explain how Ihde's phenomenology of human-technology relations gives us the first part of his definition of technology. At the end of the first program, Ihde establishes that technology is not some entity "in" and "of" itself, but rather is embedded in a realm of human consciousness. This is a distinctively postmodern view of technology, since Ihde's adaptation of the Husserlian model of intentionality, the basis of his phenomenology of human-technology relations, contributes to the undermining of the subject-object distinction prevalent in modern philosophy of technology.

In the third section of chapter two, I show how Ihde's second program, entitled "Cultural Hermeneutics," gives us a better understanding of what technology is according to Ihde. At the end of the second program, he establishes that the cultural-embeddedness of technology shows it is not an artifact, but rather a form of understanding the things in our world, a *meaning-process* that occurs when we take up a relation with artifacts. Although Ihde never uses this phrasing, this seems to be precisely what he means. This view of technology is postmodern since it rejects the modern framework of questioning technology. The emphasis of modern inquiry is towards the issue of control, i.e. can we "control" technology, or does it control us? Ihde achieves a reorientation by exploring the cultural, macro-perceptual dimension of technology, and uncovering the cultural embeddedness of technologies.

In the final section of chapter two, I argue that after reorienting philosophy of technology along postmodern lines, Ihde doesn't stop there. He exhibits, what Gadamer refers to as, "the real power of hermeneutical consciousness..." -- "the ability to see what is questionable."[1] After establishing the non-neutrality, ambiguousness, and cultural-embeddedness of technology, in Program three, Ihde explores the phenomenon formed by technological mediations in the lifeworld realm of high-technology culture, a realm rife with questions.

## 2.2 From Phenomenology to Hermeneutics

Ihde's career in philosophy of technology takes a path unlike any philosopher of technology I know of has taken before, a path from a phenomenology of human-technology relations to a hermeneutics of technology. On route, Ihde's philosophy of technology spans an early, middle and later period.

His early work was concerned with, and grew out of, his studies in the phenomenology of sound and vision. Ihde considered his article, which appeared in *Philosophy Today* entitled "Some Auditory Phenomena," to be the "programmatic opening for...[his] series of studies in the phenomenology of sound." He wrote several other articles on the same topic after this essay, such as "Commentary on Sound and Music (1967)," "Listening (1970)," "A Philosopher Listens (1971)," "Bach to Rock: A Musical Odyssey (1973)," and "Vision and Objectification (1973)."[2]

Ihde's early work concentrated on describing, and indicating the significance of, the general features of auditory and visual experience. He found that both vision and hearing are never "presuppositionless."[3] With regard to sound, Ihde found that his auditory field was never empty:

> [E]ven when I enter the anechoic chamber absolute silence is lacking. I hear my own blood rushing in my ears and the 'hum' of my own nervous system...The silences I experience are at best relative silences, actually contrasts rather than silences.[4]

Ihde also found that hearing was selective, that is, that he may concentrate upon particular features of sound to the relative exclusion of others. "My 'control' over sound is my attention and its selectivity."[5]

With regard to vision Ihde wrote:

> *Vision is essentially situated within some set of 'beliefs' which influence what is 'taken' as vision...but at the same time the polymorphy of vision always exceeds the sedimentation of those 'beliefs'.*"[6]

The issue of technology permeates Ihde's early studies of phenomenology of sound and vision more and more with the approaching of the mid-seventies. In "A Philosopher Listens," written in 1970 and published in 1971, the very sounds Ihde describes listening to are mostly those of technology: "I find that I am conscious of the sound of my typewriter, of the faint voices from the TV in the other room, of the noises of traffic on the street, of the ticking of the clock..."[7] In the same essay, he "suggests" a distinction between a non-technologically mediated sound field (sounds of birds), and a technologically mediated sound field (TV, clock, etc.,): "The intrusive power of sound today has become a major psychological problem in our urban, technological, noisy culture. Our Industrial Sound field is the almost constant presence of the whine of our engines."[8] Ihde discusses how vision and hearing are embedded in a culture, and suggests that culture is never without technology.

In another essay written mid-year in 1971 and published in 1973, entitled "Vision and Objectification," Ihde states, in agreement with Merleau-Ponty, that perception is informed by culture, and culture is in technology. He wrote:

> I would like to suggest in a somewhat speculative vein that such a change [away from a Cartesian, objectifying way of seeing] is already subtly taking place in the midst of our heretofore dominantly 'Cartesian' culture and that,

> ironically, it is the very triumph of that culture in technology which has launched this change.[9]

In the latter part of the essay, Ihde discusses how the "technology of vision" transforms "seeing."[10] First, he suggests that technology, in this case the cinema, transforms vision into viewing. He explains:

> What I am suggesting is that a phenomenology of vision, centered in a concern with man-machine relations which in this case are the 'media' may begin to detect a shift of vision. Within this set of nuanced clues there is emerging a sense of *vision as viewing.*[11]

Second, Ihde suggests that while vision is transformed into viewing, the vision of him who sees is 'extended'. The media change the ways in which space and time are experienced by bringing distant events nearer. "The 'objective' attributes of space and time take second place to this *near-distance which is made possible through the tubes," explained Ihde. "'Objective' distance becomes relative in the quasi-immediacy of the television..."*[12] However, in bringing distant events nearer, media technology also distances things and events from the viewers by disembodying the thing or event as 'image.' Ihde wrote:

> The nearness of near-distance is also matched by a 'distance'. The Other remains partly disembodied as 'image'. It is the Other I see and not the lines or the electronic oscillations on the screen, but the Other as quasidisembodied. The Other is not the Other with whom I may speak or have full communication and as I fall farther and farther into vision as viewing the hunger for touching arises. But a frantic and artificially created situation for touching fails to bring the Other close.[13]

Ihde's early phenomenological work constantly returns to, and emphasizes, the issue of the meaning of human interaction with technology in the everyday realm. This emphasis is the bridge between his early and middle period. Concluding remarks in several of his early articles beckon his phenomenology of human-technology relations. In *Bach to Rock: A*

*Musical Odyssey*, Ihde stated that the very task of the philosopher was to expose the transformations in perception caused by interactions with phenomenon in the world, especially technology. He wrote:

> Beneath the shift from Bach to rock lies the more profound shift of metaphors and sensibilities. Its embodiment lies in our *technology* and its relation to polymorphic perception. If today we have just begun to hear the world in a different way it is because we have already begun to exist in the world differently than before. The intellectual task, philosophy's fundamental thinking, is to begin to make that shift more apparent and to discern its genuine as opposed to its inauthentic possibilities.[14]

In *Vision and Objectification*, Ihde discussed the phenomenology of vision "centered in a concern with man-machine relations."[15] These man-machine relations became the focus of the next period of Ihde's work.

His middle period, during which he published *Technics and Praxis: A Philosophy of Technology* (1979), and *Existential Technics* (1983) and developed and applied his phenomenology of human-technology relations, begins in the mid-seventies with the introduction of a phenomenology of human-technology relations and extends to the early-eighties. Ihde first presented his phenomenology of human-technology relations, which forms the core of his philosophy of technology, in an essay entitled "The Experience of Technology: Human-Machine Relations," which appeared in the journal *Cultural Hermeneutics* in 1974.[16] Albert Borgmann, author of *Technology and the Character of Contemporary Life* and a contemporary of Ihde, explained the central role it continues to play in the latter's recent work:

> Professor Ihde had first fashioned the tools for the analysis of technology in the 1970's and early 1980's. They have allowed him to clarify the various relations of the ensemble of human, machine, and world...Professor Ihde's

> tools properly occupy a pivotal position in this latest work, viz., the very middle of Technology and Lifeworld. In their basic conception they are not new to the reader of Professor Ihde's books. Does Professor Ihde essentially repeat himself then? In a positive sense he does, in the way, that is, in which artisans use and care for their tools, become more adept at using them, and gradually extend and refine their work. Professor Ihde's philosophy resembles a craft, fruitfully placed between the tedium of once more putting some scholarly jargon through its paces and the unreasonable and unattainable straining for one breakthrough after another. What is new and remarkable in Professor's Ihde's recent work is the coalescence of his carefully crafted building blocks into an edifice or, to use a simile more germane to Professor Ihde's focal practice, a gathering of the lines of his voyages into a chart that discloses the global features of the closing century.[17]

Ihde's work from the late 1980's to the present, is the result of a bi-directional interest, towards postmodernism on the one hand, and philosophy of science on the other. His 1991 book, *Instrumental Realism,* is representative of the philosophy of science direction, whereas, *Technology and the Lifeworld: From Garden to Earth* (1990), and *Postphenomenology: Essays in the Postmodern Context* (1993) represent the postmodern direction; *Existential Technics, Technics and Praxis: A Philosophy of Technology,* and *Philosophy of Technology: An Introduction* includes both areas of interest. However, the publication of *Technology and the Lifeworld* established Ihde as a world leading postmodern philosopher of technology.

Ihde's shift from phenomenology to hermeneutics occurs when his phenomenology of human-technology relations ceases being the focus of his work and become one of the three programs in *Technology and the Lifeworld.* Ihde attributes this *turn* (although he never calls it a shift specifically from phenomenology to hermeneutics) to a "set of experiences of non-Euro-American cultures which began in 1982 and continues today."[18] He explains some of the experiences causing the shift in the preface to *Technology and the Lifeworld*:

> It was in this Euro-American context that, until then, I had done my own

work. By 1982, however, in part in response to a somewhat surprising reception of Technics and Praxis is developing areas, I began to receive invitations to Southern Hemisphere universities.

The first of these was the El Rosario Universidad...in Bogotá, Colombia, South America. There, in an intensive faculty-development seminar in February 1982 on the philosophy of technology, I received something of an awakening about the provincialism of my previous Euro-American context. Not only did I discover the striking difference between the South American context and assumptions being made about science and technology but I had to recreate my entire already planned program while I was in the process of responding to the new issues. The Euro-American worries about the relation between science and technology seemed like some kind of embroidery upon the more substantive issue of the cultural impact of a technologized science on the Latins. Since technology-science was seen as a single, unitary phenomenon, it spread widely through the cultural-political framework and was often perceived as having a negative influence on indigenous practices and values. It was then that I began to see technologies as *cultural instruments*, as well as the scientific instruments of my earlier work.

Later in the same year I visited a number of universities in South Africa. Refusing any government sponsorship but curious to see first-hand this distressing part of the world, and receiving support through BMW's interest in philosophy of technology and the University of Zululand...I spent a month in South Africa. The attitude there was very different from the fairly negative one in Bogotá. The theme of the main conference and lecture series was "Technology and Utopia," and in many sectors technological science was perceived as the means to leapfrog into the twenty-first century.

More recent still was a trip to New Delhi, India. Here, in a country in which there is still lively debate about a "Gandhian" or a "Nehruic" direction, there is at least agreement about retaining national autonomy of development in the context of a quasi-socialistic approach, with an official policy of rapid and positive science-technology development. The National Institute for Science and Technology Development is an impressive research institute, staffed by some of the best young minds in India but faced with one of the most enormous tasks imaginable in the face of population extrapolation and continued poverty.

These experiences and others helped convince me that a book attempting to reframe the question of technology must take account of the multicultural -- that is, the more international -- setting within which technological culture is taking and will take place. That is the reason for the particular emphasis here, particularly in the second and third parts of the "program" I have devised.[19]

Albert Borgmann also articulates the shift in much the same way:

> Two events, one personal and one professional, have helped Professor Ihde to articulate his wider vision. The first is what he calls "an awakening about the provincialism of my previous Euro-American context". The second is the rise of postmodernism. The joint and powerful influence of these two events derives from the affinity of their opponents. To the oppressive prejudices of provincialism there corresponds the stifling rigor of modernism. Both by temperament and by training, Professor Ihde was well prepared to recognize these confinements and to move beyond them toward a cosmopolitan postmodernism.[20]

Ihde's turn in Technology and the Lifeworld was clearly not unconscious, however was hesitant. He explained this hesitance in a letter to me:

> In the past I admit, because of deep commitments to a phenomenology which I considered to be analytically descriptive and prescriptive, I have been very reluctant to deal with normative issues. And my critics were consistent and persistent in accusing me of overlooking these issues. TECHNOLOGY AND THE LIFEWORLD did, indeed, take a more social and normative turn--but it was not unconscious, just hesitant. And I wanted the normative to show through and be based upon the 'descriptive.' This reluctance becomes less so since then. My 'postmodernism' is now deeply multi-and pluricultured and becomes stronger each year.[21]

It will become clear as you make your way through my thesis, why I believe that Ihde offers a hermeneutics of technology. For now, in the next section, I walk the path from phenomenology to hermeneutics through the three programs of Ihde's philosophy of technology.

## 2.3 Program One:

## A Phenomenology of Human-Technology Relations

If postmodern philosophy begins with Husserl's rejection of the Cartesian subject-object distinction, then program one is partial evidence that Ihde is the originator of postmodern philosophy of technology since he does the same for philosophy of technology. Recall that Husserl found after the *reduction*, contrary to Descartes' findings, that the subject was always already in a world, i.e., necessarily correlated with that world. Husserl called this correlation *intentionality*, and thought the task of phenomenology was the examination of the correlation. The Husserlian view is that the subject is not over and against the world, but necessarily correlated with it in consciousness.

Ihde adapts the Husserlian model of intentionality for his phenomenology of human-technology relations. He maintains the correlation of what is experienced with how it is experienced, in this case the correlation exists between technological objects and the humans experiencing them. His exploration seems to follow an existential arc of body, interpretation, and otherness. The result of Ihde's phenomenological exploration of human-technology relations is an account of technology and the lifeworld.

Ihde begins his inquiry in the Husserlian spirit by describing what takes place

whenever people take up meaningful relationships with technology. The relationship to technology, like other human relationships involving intentionality, are uncovered at the level of consciousness. Consciousness is never without a body, so Ihde explores the bodily-perceptual experience. Ihde's description of the human experience of technologies focuses upon experientially recognizable features from within an established praxis of a high-technology culture. These features are centered upon the ways we are bodily engaged with technologies, i.e., "the various ways in which I-as-body interact with my environment by means of technologies."[22]

Ihde's human-technology relations are a set of distinctions representing a set of possible types of experiences of technology arranged along a continuum.[23] He argues for three fundamental types of experience of technology, and three sets of distinguishable relations occupying a continuum. The three types of experiences of technology are experience *through, with* and *among* technology. Experience *through* technology is of technology as a means of experience where it is a partial extension of my perceptual, bodily experience. In this type of experience one is relating directly *through* technology to something in the world. Experience *with* technology relates to technology as something directly within my attention within the world, technology itself that which is experienced in either an *interpretative* relation or an *alterity* relation. Finally, in the third type of experience, *among* technology, technology is the background texturing our daily activities, e.g., some are the condition of the possibility of our comfort and communication.

Ihde appropriately terms the three sets of relations along the continuum *"embodiment"*, *"hermeneutic"*, and *"alterity"* to correspond with an existential arc of body,

interpretation, and otherness. At one end of the continuum lie embodiment relations in which technology approximates a *quasi-me;* at the other end lie alterity relations, in which technology is *quasi-other*. Between these two lie hermeneutic relations "that both mediate and yet also fulfill my perceptual and bodily relation with technologies" through a reading process of my own.[24]

Through phenomenological inquiry, Ihde discovered perception is embodied through the technology. For example, the wearer of eyeglasses embodies eyeglass technology, or in Galileo's use of the telescope, he embodies his seeing through telescope technology, that is,

> [t]he technology is actually *between* the seer and the seen, in a *position of mediation*. But the referent of the seeing, that towards which sight is directed, is "on the other side" of the optics.[25]

Ihde explained that embodiment relations with technologies require transparency as their material condition. By transparency he means "that [the technology] itself does not become objectified or thematic, but is taken into my experiencing of what is other in the World."[26] The transparency of the relation allows for the partial symbiosis of myself and the technology, i.e., if eyeglasses or a microscope are to accomplish embodied use they must disappear, become transparent, and become one with my act of perception. Ihde's notion of transparency recalls Heidegger's prototypical analysis of the hammer as the latter presented it in *Being and Time*: "The peculiarity of what is proximally ready-to-hand is that, in its readiness-to-hand, it must, as it were, withdraw in order to be ready-to-hand quite authentically...When its [the tool's] unusability is thus discovered, equipment becomes conspicuous."[27]

However, Ihde's account is not implicitly coloured by the choice of "toolshop"

examples, as some critics believe of Heidegger's account.[28] Ihde admits his indebtedness to Heidegger:

> It is my own conviction that Heidegger's philosophy of technology is one of the most penetrating to date. By examining the ontological grounds of technics, Heidegger has begun to lift technology out of its subjectivistic and merely instrumentalist interpretations and made of it a primary philosophical question.[29]

It is not the case that since Ihde adapts some of Heidegger's work on technology, that he repeats the problem of romanticism in Heidegger's philosophy of technology. Ihde qualifies his admiration for Heidegger's philosophy of technology in the following quotation:

> There are implicit limitations in the Heideggerian program which lay the basis for the current misinterpretations of Heidegger and for which Heidegger himself must be blamed.[30]

Albert Borgmann comments on Ihde's critical acceptance of Heidegger.

> [R]omanticism is strong and at the same time unclarified and unsupported in the Heideggerian ancestry of Professor Ihde's work. Having learned much from Heidegger, Professor Ihde is naturally concerned to mark his distance from Heidegger as well.[31]

Ihde admits that he is heavily influenced by Heidegger,[32] and has specifically accepted Heidegger's recognition that:

> the relationship to technology is not technological, but is an existential relationship and hence circumscribed by all the features which characterize existentiality...to recognize that technology is...not neutral...ambiguous...[and] mysterious.[33]

However, Ihde rejects the way in which Heidegger implicitly colours human-technology relations by the latter's choice of specific examples. In the *Question Concerning Technology*, Heidegger presents simple technological items in a positive light, eg. hammer, peasant shoes, windmills, or Greek temples, while negatively characterizing the hydro electric dams on the

Rhine.[34] Ihde also points out, in *Technics and Praxis*, the "internal need within the Heideggerian program concerning technology for the emergence of an 'aesthetic' as the counterfoil to the limitations of technology as Heidegger sees them."[35] He mentions this point again on the last page of *Technology and the Lifeworld*:

> The Heideggers and their followers who claim that only a god can save us are perhaps forgetting that their predecessor, Nietzsche, preferred--if there were to be any gods at all--gods who danced.[36]

Ihde refers to many different sorts of technological objects in order to study the different experiences we have with them. In *Technics and Praxis*, Ihde used simple experiences with simple kinds of technology to explore embodiment relations; for example, pencils or chalk. "I...discover that I experience the blackboard... through the chalk -- I *feel* the smoothness or the roughness of the board *at the end of the chalk.*"[37] While the chalk functions properly, it is experienced as neither thematic, nor primarily as an object, since I absorb it into my experiencing as an extension of myself by writing with it. The chalk "may be spoken of as a partial symbiotic part of the noetic act [act of experiencing itself] or of the experiencing of the noematic [that which is experienced] correlate in the world."[38] I discern that I experience the blackboard (or more precisely, a certain complex aspect of the blackboard's presence as texture, hardness, resistance etc.,) *through* the chalk, the chalk being taken into my "self-experiencing".

In his later work, *Technology and the Lifeworld*, Ihde uses the Merleau-Pontyean example of a blind person's cane to illustrate embodiment relations. He wrote: "I hear the world through the hearing aid and feel (and hear) it through the cane. The juncture (I-artifact)-world is through the technology and brought close by it."[39] By exploring the realm

of everyday experience with technologies, Ihde uncovered that we experience the world through technology. He has brought us along one portion of an existential arc, in this case the bodily-perceptual relations to technology. As I explained in Chapter One, Heidegger favours these *embodiment relations* over other relations. Fortunately, Ihde does not stop here with our body-perceptual relations with technology, instead he travels further along the existential arc and discovers another set of human-technology relations involving interpretation.

Ihde next uncovers the way we interact with technology by a process of reading it to give us information about our world; for example, microscopes, and thermometers. He calls these *hermeneutic relations*. Also, Ihde finds that sometimes in the reading process we tend to experience certain technologies as though they were other, almost *other self-like*, as in the case of computers programmed to "talk" with us. Hermeneutic relations occur when we do "a special interpretive action within the technological context," i.e, when our actions and perception take on modes analogous to the reading process.[40]

In *Technics and Praxis* Ihde provides the example of a heating engineer reading dials in the basement of a university building to illustrate this relation. The engineer monitors the heating and cooling systems of the offices and dormitories, primarily experiencing technology something like a text which.

> The engineer in the case 'reads' his dials and if one creeps up, indicating that Quad X is overheating, he merely has to turn a dial and watch to see if the heat begins to turn to normal. If it does, all right, if not, he may have to call a building manager to find out what has broken down. Here the engineer is engaged in experiences *of* a machine.[41]

In the hermeneutic relation the instrument panel itself is immediately perceived, which

is dependent upon the semi-opaque connection between the instruments and the referent object. Note that it is still possible for the engineer sitting before the panel to employ the difference between experience mediated by, and unmediated by, technology. The engineer could walk to the dorm himself and check out the temperature of the building.

Once I know how to read the technology, from this reading knowledge I can grasp something of the "world" being referred to. In *Technology and the Lifeworld* Ihde uses the example of a thermometer to illustrate this process. The thermometer itself is the object of perception while simultaneously referring beyond itself to what is not immediately seen.

> [Y]ou read the thermometer, and in the immediacy of your reading you *hermeneutically* know that it is cold...[b]ut you should not fail to note that *perceptually* what you have seen is the dial and the numbers, the thermometer "text." And that text has hermeneutically delivered its "world" reference, the cold.[42]

Ihde has carried us further along an existential arc, to discover interpretative relations between humans and technology. He found that we relate to technology as something directly within our world, something to *read* meaning into it.

A third way in which we experience technology is as *otherness*, technology-as-other, or at least *quasi-other*. Ihde means that a "[t]echnological otherness is a *quasi-otherness*, stronger than mere objectness but weaker than the otherness found within the animal kingdom or the human one..."[43] In *Technics and Praxis* Ihde uses the example of the computer as teaching machine. His nine year old daughter participated in an experimental program in mathematics taught via computer.

> In this situation the machine would pose a problem which appeared on a sheet of paper as it was typed out by the pre-programmed sequence. My daughter would then type out a solution to the problem. If the solution was correct the

> machine would type out something like, "All right, you've done well, go on to the next step." But if there was an error the machine would type, "No, there is something incomplete here, please go back and try again." And, if after numerous tries the solution was still incorrect the machine would type, "You must be tired for the day. Please go home and try again tomorrow."[44]

In this case, Ihde's daughter experienced the technology as a separate entity able to communicate with her. Many of us, I believe, experience the computer as quasi-other when it surprises us by losing one of our documents in the workings of its memory.

Ihde traces a final relation which circumscribes the existential arc. He finds that sometimes our experiences are among technology, rather than with it or through it. In this case, technology forms a kind of technosphere texturing our daily lives. He finds we live in the midst of, or among, technology often without noticing its almost constant surrounding presence.

Ihde calls this set of human-technology relations *background relations*, a second aspect of our existential awareness of otherness. Background relations refer to technologies which remain in the background or become a kind of near-technological environment itself. We may experience background relations in the form of barely detectable background noises; for example, when the heating kicks in. We also experience the surrounding presence of technology when we use technologies designed to function in the background; for example, automatic and semiautomatic machines such as task-oriented appliances. Technologies may form another background relation when they insulate us from an external environment; for example, houses and clothing. The background relation forms "the technological texture of much of our environment...a 'technosphere' within which we do a good deal of our living."[45]

Ihde means for his phenomenology of human-technology relations to demonstrate the

widespread prevalence of, and non-neutrality of technology, since experience *through*, *with* and *among* technology necessarily simultaneously both reduces and amplifies our experience of things in the world. The amplification-reduction structure, as Ihde calls it, depends upon Ihde's contrast between "non-technological" experiences of the world with "technologically mediated" experiences of the world.[46] Ihde recalls

> the heat of a Kansas summer, scooping oats, only to have the wind blow the chaff over my unshirted chest, causing painful itching. A variation in which one rolls naked in the oats would non-technologically establish this itchy-being-in-the-world.[47]

Non-technological relations are "in the flesh", those without the use of any artifact or instrument at all (e.g., skinny dipping in a lake), in contrast with technologically mediated experiences, which are "instrument mediated" involving the employment of instruments in some way. I can experience natural objects or technological artifacts either mediatedly or non-mediately.

One of Ihde's many examples of the amplification-reduction phenomenon is the telephone call. When I telephone a friend, my hearing is extended over distance. If the connection is good, then the experience of the technology seems to disappear being overtaken by my experience of the conversation. Ihde explains:

"There is an almost constant "here and now" quality of the other through the telephone, a deconstruction of certain kinds of distance."[48] The telephone extends or amplifies my hearing across the distance. However, simultaneously the telephone also reduces "the full range of my globally sensory experience of the other."[49] Speaking through the telephone lacks the "rich visual presence of the other in face to face conversation."[50] Facial expressions, gestures,

actions, such as yawns and grimaces, remain hidden from me. The partial presence of the other is transformed when compared with the full presence of the face to face.

The amplification-reduction phenomenon also occurs with image-technologies, such as television, cinema and radio. Image technologies offer us a transformed experience of others and the world, i.e., "in re-produced instances we approximate a visual-auditory text in which there is a mysterious gap between 'real time' transparency and the re-production."[51]

The amplification-reduction phenomenon represents not only a primary way that our experience is transformed by the use of technology, it also "forms the peculiar selectivity of the technology."[52] Ihde does not say or mean that we are determined by technology, rather that it inclines us to experience the world in a certain way. He compares the dip pen, the typewriter, and the computer to illustrate the transformation of different experience-possibilities.

> When I was in France a number of years ago, my children were enrolled in the French public schools and the mode of teaching writing was through the use of the old dip pen. In the evenings I began to play with those pens through which there seemed to flow a visually delightful line. But also accustomed as many of us are to composing on the typewriter, I discovered that the ease and speed of writing was slowed dramatically. With the typewriter, thoughts flowed rather unimpededly through to the paper, but with the pen one had the time to reformulate a sentence many times before ever reaching the end. In the process I began to discover a difference between the short, clipped sentences of speed typing and the inclination towards the old style of *belle lettres* through the pen.[53]

Ihde found that the development of computers also selects a certain range of experience out of the possible range of human experience. For example, "out of [the] range of language experience the computer...selects and amplifies our calculational, deductive, factoral and functional analytic experience..."[54] The computer stimulates the

inclination in us towards certain kinds of experience, and also results in the re-organization of social power according to one's knowledge and proximity to the technical use of the computer in organizations.

* * * * *

In this first program, Ihde has begun to uncover what he takes to be the genuine meaning and truth of technology: it is not some entity "in" and "of" itself, and over against our consciousness of it, for the following reasons. Technology is not merely neutral, since our consciousness is transformed by it, e.g., when we use a computer it inclines us to write in a different way than a dip pen. We are affected by and affect technology. Technology necessarily, simultaneously amplifies and reduces our experience of the world; our perception is embodied through technology, and it is a process of reading meaning into our world.

Technology is also ambiguous since it is implicated in our lifeworld. It is contextual, such that the very meaning an artifact has is relative to the realm of consciousness it is embedded in. Technology forms a *situation* we find ourselves in. Ihde believes: "Technologies are contextual and belong in different ways to praxical gestalts." His approach rejects a simple means-ends or neutral tool analysis of technologies. He reminds us that "[a]nalyses which restrict such a larger perspective run the danger of *concealing* the full impact of any technology." The result is technology viewed as phenomenon, or "a world or gestalt analysis of technology."[55] Since technologies cannot be "restricted to some simple set of objective classifications of technologies as to type," Ihde rejects a sheerly instrumental interpretation of technologies.[56]

In *Philosophy of Technology: An Introduction*, Ihde explained that technology is

often misunderstood with respect to what he sometimes called the designer fallacy. "Only sometimes are technologies actually used (only) for the purposes and the specified ways for which they were designed."[57] He cites the examples of the typewriter and the telephone:

> Both were originally intended as helps for impaired persons, the typewriter as a possible way for blind persons to write, and the telephone to assist the deaf or hearing impaired. What was to become their extremely important set of social uses ultimately entailed little of the original designer intent. In the case of the typewriter, as it began to be adapted for both copying and composition, there followed a massive reorientation of the secretariat. Before the typewriter, most secretaries were male, but Luddite-like, many males rejected this new keyboard mode of writing. Women, culturally accustomed to the keyboard (musical), quickly adapted to this new mode of writing and soon dominated the secretariat. Other changes, of course, entailed a whole reorganization of such things as business offices.[58]

Ihde's approach, then, renders the question of technological control irrelevant, since the issue of controlling technology loses its importance when even simple technologies, such as the dip pen, have a counter control on the user. Ihde wrote: "I am used as much as I use any technology."[59]

One reason we fail to accept or see the genuine nature of technology is due to the fact that technology becomes "in a technological culture, part of our self-experience and self-expression."[60] The non-neutrality and *existentiality* of technology carry with it "dreams of totalization."[61] With embodiment relations arises a deeper desire, a wish, for "*total transparency*, total embodiment, for the technology to truly 'become me'."[62] We want our phone connections to be so perfect that we may believe we are face to face with our friends. We want our television to be so large, and clear, that we may believe we are truly witnessing the spectacle. We want technology to be so good that we do not know it is there. We want our experience *among* technology to place technology completely in the background; e.g. we

want our heating and cooling systems, and our breast implants and spinal implants to disappear. We want the technologies we *interpret*, and which stand before us as *quasi-other*, to be transparently that which is experienced. Ihde reveals the philosophical temptation: "[s]uch a desire both secretly *rejects* what technologies are and overlooks the transformational effects which are necessarily tied to human-technology relations."[63]

In program one, Ihde's adaptation of the Husserlian model of intentionality as the basis of his phenomenology of human-technology relations forms the generally postmodern part of the first part of his definition. His depiction of technology as non-neutral, ambiguous, and correlated with consciousness contributes to the undermining of the subject-object distinction prevalent in modern philosophy of technology.

In program one, Ihde takes us through the Husserlian micro-perceptual aspects of the technological lifeworld. Ihde, like Husserl, believes that the perception of the individual forms only half of the picture. Since technologies are necessarily correlated with humans, and a person is never without a culture and its corresponding praxis, technologies are never without a human context, i.e., they are "multidimensional with respect to their role within human experience and culture."[64] Ihde explores the macro-perceptual, or cultural level, in program two.

## 2.4 Program Two:

## Cultural Hermeneutics

In program two, Ihde's aim is to propose a shift in the modern perspective taken towards technology, and a rephrasing of the commonly asked questions about technology, such as: Is the coming to dominance of Western-originated technology a "fate" for the entire earth? Can we "control" technology, or does it control us? He reminds us that his aim in program two, the same as in program one, is "to suggest a different framework of interpretation, one that can give a new perspective to certain of the contemporary questions now being directed at technological culture."[65] "Such is the task of a cultural hermeneutics," writes Ihde.[66]

Ihde achieves the shift in perspective and questioning of technology by changing the focus of his inquiry from the sensory to the cultural. He claims, modifying Husserl, that the lifeworld consists of two interwoven dimensions of perception: sensory or microperception, and cultural or macroperception. Program one, the phenomenological derivation of a set of human-technology relations, examined technology from the microperceptual perspective ("what is immediate and focused bodily in actual seeing, hearing, etc.").[67] Ihde's inquiry now shifts from the human experience of technology to the ways in which cultures *embed* technology.

Ihde begins his inquiry by examining the phenomenon of technology transfer between cultures. He explores the threefold response of the New Guineans to the first Australian gold prospectors. Ihde shows that since the New Guineans immediately accepted some types of technology, while waiting to accept others until it's use was fully demonstrated in their extant praxis, the adaptation of a transferred technology therefore depends upon its being able to fit into an extant praxis. The New Guineans immediately accepted the Australian steel knives and axes, since the shapes and functions of these artifacts were recognized to fit within an already existing praxis. They accepted the oval sardine cans into their extant fashion praxis by attaching them to their headwear. The shapes and functions of the steel axes, knives, and oval sardine cans were immediately perceived to fit into an extant praxis, whereas the response to the rifle was ambiguous. At first the New Guineans were not impressed that the rifle could blow away a pig at close distance, since their spears could do the same. However, they valued the rifle's power only when they realized it could destroy from a distance. For the New Guineans the function of the rifle was only understood when its use was fully demonstrated in an extant praxis. Thus, the adaptation of a transferred technology depends upon its being able to fit into an extant praxis.

Ihde shows that since the *being* of a technology can change with a change in the extant praxis of a culture, then technology "is" what it is in relation to its embedded cultural matrix. He cites Daniel Boorstein's example of the way clocks were embedded in Chinese history prior to the modern era.[68] The clock, purportedly invented in China shortly after 1077, was used for the setting of the emperor's astrological clock, not for telling hours. The emperor needed to keep track of the rotation of duty of his concubines, that is, what nights

of every month his concubines shared the imperial couch. After this time, the clock was abandoned in China and reintroduced much later by the Jesuits at the time of Galileo. The clock became the machine for the Jesuits, and curious automata for the Chinese. Soon a flow of cheap clocks from Europe to China began, where they remained largely art objects. Also, until modern times the clock in China remained very different from that of the West. The Latin Western version of the clock was public, timekeeping, and socially adapted. Whereas the pre-modern Chinese clock was the property of the imperial house, Emperors were isolated from public life, and calendar-keeping was related to the astrological features important as social prediction, focused particularly within the imperial confines.[69] The clock "is what it is within a cultural context."[70]

Ihde also includes one of his favourite examples drawn from the history of navigation. The Puluwateans, South Pacific navigators, steered by wave patterns, without a compass. Fascinated by the compass, they accepted it from the Western navigators for the purpose of steering a straight course. However, they did not adopt the "complex network of involvements to which the compass belongs in Western navigation, that is the mathematical referents to the complex of directions..., latitude and longitude, etc."[71] "The two modes were both successful, but were gestalted very differently and with different technologies."[72] Ihde also explains that gunpowder and rocketry was used in Europe for seige and warfare, whereas they were used in China for celebration.[73] And, again that technologically transferred Indian prayer wheels became windmills in the West.[74] Thus the same artifact can have a different *being* in different cultural settings.

Ihde's exploration of technology transfer shows that artifacts become technology only

in relation to a culture. Artifacts flow easily from culture to culture, however technology does not. Technology consists of the artifact interpreted within an extant praxis. Ihde explains:

> And in the examples just noted, while the artifact was transferred, one might almost say the "technology" was not. Or, if the analogue of a hermeneutic device to a text holds, the "text" was transferred, but it was certainly differently read. Only when the entire reading process is also transferred could the clock become the "same" technology.[75]

Technologies and technofacts can flow from one culture to another without greatly transforming a culture, since only when one culture's entire use-context is transferred with an artifact is the same technology transferred. The cultural interface takes place on two levels: the level of the immediate use-context, and the larger cultural context. Ihde explains:

> Between the extremities of successful resistance to culture-technology and its counterpart quick acceptance there lie the approximate adaptations in which selected ('appropriate') technologies are adapted without total or major disfigurations of indigenous cultures...[76]

Although artifacts are transferred between cultures, Ihde thinks that a massive failure exists to transfer a key component of technological culture. By this he means the science technology infrastructure, or the world view of a technological culture. He states this is the supportive condition for high-technology culture consisting of such things as intensive science education. Ihde explains:

> Without that dimension of the wider culture, the transfer of complex technologies that interlink and form systems will remain difficult. These technologies remain what they "are" in relation to the way they become embedded in cultures; without the cultural preparation, the transfer remains frustrated.[77]

Ihde uses the example of India. Even when a country commits itself to technologization, the

results are fragmented without the transference of the science technology infrastructure which is necessary for autonomous development of the technology.

The shift Ihde proposes in the usual perspective taken towards technology, and the rephrasing of the commonly asked questions about technology, are now apparent. The shift places technology in the cultural context, thus introducing an indeterminacy to all human-technological directions. At the phenomenological level any artifact is placeable in multiple use contexts, and a range of possible technologies may fulfill any technological intention. At the level of cultural hermeneutics technologies are cultural instruments embedded in cultural matrices. Ihde points out that the question of whether technologies can be controlled or not is wrongly framed, since it assumes that technologies are merely instrumental, thus neutral, or that technologies are fully determinable and thus uncontrollable. Both assumptions miss the relativities of the human-technology and culture-technology relationship.

Ihde's reformulation of the question recognizes the complexity needed for the answer. The debate of technological versus social determinism must be rejected. Technologies provide a framework for action. "They do form intentionalities and inclinations within which use-patterns take dominant shape."[78] In this sense they do not determine, rather they incline. "To enter into any human-technology relation is already both to 'control' and be 'controlled'."[79]

* * * * *

After program two, we are closer to understanding what Ihde thinks the meaning and truth of technology is on the individual and cultural level. Ihde explored technology at both the micro and macro perceptual level. He has shown that we interact with technology on an

individual perceptual level, and he has discussed the non-neutrality of technology at the cultural level. He has examined not only our consciousness of, but also our existence with technology. Technology is non-neutral, and ambiguous as Heidegger argued, however technology is also culturally embedded.

Ihde uncovered not what we *say* technology is, but what we *do* technology to *mean*. What then does Ihde believe we are to understand by technology? First, there is no such thing as technology "in" and "of" itself, since technology is neither merely an object, nor a metaphysical state of affairs. Ihde's first program showed how technology cannot be understand as some entity over and against our consciousness of it. Ihde's second program provided evidence for technology as a *form of understanding* things in our world, i.e., a kind of *meaning-process* by which "things" make sense to us in our culture.

This is ultimately why he believes that the questions commonly asked of technology require re-phrasing. The traditional approaches to philosophy of technology fail to grasp that technology is not an artifact. Ihde cites the cultural evidence that the same artifact can have a different *being* in different cultural settings. Technologies and technofacts can flow from one culture to another without greatly transforming the culture receiving the technology-transfer, since only when one culture's *reading-process* is transferred with an artifact is the same technology transferred. Thus, viewing technology as either man's end, or man's saviour, is unreasonable, without reason.

At the end of the second program, he establishes that the cultural-embeddedness of technology shows it is not an artifact, but rather a form of understanding the things in our world, a *meaning-process* that occurs when we take up a relation with artifacts. Although

Ihde never uses this phrasing, this seems to be precisely what he means. This view of technology is postmodern since it rejects the modern framework of questioning technology. The emphasis of modern inquiry is towards the issue of control, i.e. can we "control" technology, or does it control us? Ihde achieves a reorientation by exploring the cultural, macro-perceptual dimension of technology, and uncovering the cultural embeddedness of technologies.

Finally, my explication of Ihde's definition of technology seems to cohere with the "preliminary definition of technology" he offers in *Philosophy of Technology: An Introduction:*

> First, we shall insist that a technology must have some concrete component, some material element, to count as technology. And, second, a technology must enter into some set of praxes -- "uses" -- which humans may make of these components. And, third, we shall take as part of the definition, a *relation* between the technologies and the humans who use, design, make, or modify the technologies in question.[80]

Ihde explains that his definition is neither too broad, nor too narrow. It is narrow enough that technology is not defined as equivalent to any calculative or rational technique. For example,

> in contemporary sports, various techniques have been created to achieve higher performance and, in many cases, there is a clear technological component. If running or playing is video-taped, then broken down to frame-by-frame analysis in order to find the most efficient form of motion, it is clear that a technology has been employed to perfect a technique. The technique, in this case, is clearly technologically implicated, although it itself is not a technology. Moreover, many techniques need not employ technologies--styles of speech, modes of courtship, habits of observation...[81]

"It is...broad enough that most forms of material culture will be seen to be related to technology." That is, it does not

> preclude counting as technology any of the historic or even pre-historic technologies which are pre-Modern...Moreover...it also does not stipulate that a technology needs to be made or manufactured per se...it might well have been a found technology...a stick picked up and used as a club, or a broken gourd used as a container...This is also the kind of technology which many animals use, although I shall call animal uses proto-technological.[82]

What remains, for Ihde, is to explore how our lifeworld is shaped by the *meaning-process* that is technology. This is precisely what he does in program three.

## 2.5 Program Three:

## Lifeworld Shapes

The aim of program three is to show how, and explore, the way technologies shape both the way we experience choice and conceive of the world, and can affect social transformations. The title of Program three, "Lifeworld Shapes", refers specifically to phenomenon formed by technological mediations, and generally to research and activity realms for the philosopher of technology.

He discusses four related phenomena: pluriculturality, decisional burden, materializing the conceptual, and oscillatory phenomena. All four phenomena are related to the omni-presence of image-technologies, and reflect mass responses in travel and communications. Only a limited number of countries are modern with respect to the development and production of technologies. "But with respect to *reception* of technologies," Ihde thinks " all countries have been affected."[83] What Ihde calls "image technologies", or the media, e.g., print, radio, cinema, and television, he takes to be at the forefront of that effect. "That is, image technologies are the dominant modes of contemporary communications and provide the focus for inclined trajectories."[84]

The first phenomena formed by technological mediations is pluriculturality. It arises in and through image-technologies, and is an emergent and modified form of culture. Image-

technologies, in a high-technology culture, result in the "non-avoidable awareness of *Others*", a multicultural awareness which is itself multiple.[85] Image-technologies bring us images and information of many different cultures daily. Ihde explained that

> this very presence makes what had heretofore been able to be an unspoken cultural heritage itself become a matter of necessary choice. My culture is different--hence, in some degree *arbitrary*, and thus it cannot automatically be taken for granted.[86]

Furthermore, this multicultural presence, delivered by image-technologies, is a bombardment of multiple cultural fragments. Ihde described

> [o]ur world...[as] one of multiple screens, like television newsrooms, which carries news from many sectors, but from which we must edit and mix to create a coherent, but also multiple-sourced program which, ultimately, becomes our collective autobiography.[87]

Thus, "[p]luriculturality is, in fact, a proliferation of ways of seeing", resulting in a *plurivision*. Ihde believes, I think, (although he never explicitly states this anywhere - he hints at it) that this *plurivision* should be an object of study, and a realm of activity for the philosopher of technology. I believe Ihde means for philosophers of technology to study cultures, multiculturality and technology.

"Decisional Burden", a term for the proliferation of choice that exists in high-technology societies, is a second phenomena formed by technological mediations. "Decisional Burden" impacts us in an ethical realm. High technology increasingly places a heavy weight upon the individual to make conscious decisions. Ihde explained: "[T]he very power of decision is felt and seen in its 'Sartrean' inevitability. The one choice I do not have is the choice not to make a choice."[88] So many choices are open to members of high-technology societies that a "stretching of both decidability and reversibility...[or an] incompleteness or

lack of closure" occurs.[89]

Among the many areas indicating "decisional burden", Ihde chose the areas of medical life-support processes and word processing to illustrate the phenomena. I will discuss only Ihde's explanation of the way that life-beginning and life-ending technologies indicate the weight placed upon decision.[90] Before the development of life-beginning and life-ending technologies, the cessation of a biological process would have been considered a sign of death. Whereas now, life and death (to an extent) can be decided with the mediation of technological instruments. A stopped heart may be resuscitated, or the cessation of breathing may be corrected with machine-administered oxygen. Ihde believes that

> what is "real" is what is read on the instrument that is more and more the instrumental realism of medical practice...There remains a border, against which death occurs. But in approaching that border, technological civilization created...a "Sartrean" situation in which I increasingly must "decide my own death."[91]

Ihde also pointed out that if I do not, in the case of life-support processes, decide whether they are to be stopped, then I place this burden upon others.[92] However, Ihde asks

> [d]o I have the "right" to do this? And, although there is not yet a good reason to raise the issue of "rights" as such, it can be seen that this is a heavy burden to ask of another. Yet some other--not God, not Nature--will have to decide in the widening range of life-supporting boundary situations medical technology has created...[I]t is...a "Sartrean" existential situation in which I must consciously and responsibly anticipate and "decide" my death in some degree and in some way never before demanded of the normal situation.[93]

Technology, according to Ihde, shapes the very way in which we experience choice. Again, I think Ihde means for the realm of choice in relation to technology to be an object of study, and area of activity, for philosophers of technology. I believe that Ihde means for philosophers of technology to be bio-medical ethicists, and information and technology

management consultants, and much more along these lines.

Furthermore, Ihde maintained that technology also shapes the very way in which we conceive of the world by returning us to perceivability. This third phenomena, resulting from the mediation of technology in high technology societies, is the materialization of the conceptual. Ihde cites examples from both the sciences and the arts. For example, computer graphics can transform mathematical functions into perceptual designs, or perceivable patterns creating mathematics as an experimental science. Here again, I think, Ihde suggests new roles for philosophers of technology by offering the task of uncovering the underlying logic of the non-neutrality of technology on the way in which we conceive of our world. Ihde outlines two oscillatory phenomena of high-technology society. By "oscillatory" Ihde means a pendulum-like mass moving backward or forward within a society. He cites the emergence of a worldwide student movement in 1968 as an example of the "first, international, and instantaneous oscillation, a mass movement within a mass media context."[94]

> That first international oscillation was an indicator of many to follow, respondent to communicational impact (and again, involving image-technologies). That mega-oscillation carried still-extant cultural implications.[95]

Technological catastrophes, such as Bhopal, the "Challenger", and Chernobyl, also result in an oscillatory response of "immediate and strong public response that led to political results for the technologies involved."[96] Here Ihde points philosophers of technology in the political direction. Perhaps, he also means for philosophers of technology to become thinkers who study the relation between our political action and technology.

* * * * *

If technology is a *meaning-process* or *form of understanding* things in our world, and not an artifact in a subject-object relation, then philosophy of technology most certainly must change. Philosophy of technology can only hope to uncover a genuine understanding, which is useful in the living realm of *phronēsis*, if it becomes a hermeneutics of technology. To use the words of G.B. Madison:

> If philosophy is to survive...it can be nothing of what it traditionally has been for the most part: neither metaphysics, nor epistemology, nor logic -- nor can it be a rapturous, rhapsodic incantation of Being, in the manner of the later Heidegger. It can only be, if it is to be at all, what has come to be called "hermeneutics."[97]

This brings me to chapter three and the significance of Ihde's *taking the technē* out of technology.

Ihde's belief that technology is a *meaning-process* is less an answer, and more a question. It is the role of philosophy of technology to understand the sense of the question Ihde poses.

# Chapter Two Notes

1. Hans-Georg Gadamer, "The Universality of the Hermeneutical Problem (1966)," in *Philosophical Hermeneutics*, trans. by David Linge (Berkeley: University of California Press, 1977), 13.

2. Ihde, *Technics and Praxis*, 82.

3. Ibid, 87.

4. Don Ihde, *Existential Technics* (New York: State University of New York Press, 1983), 100.

5. Ibid, 101.

6. *Technics and Praxis*, 87.

7. *Existential Technics*, 100.

8. Ibid, 101.

9. *Technics and Praxis*, 88.

10. Ibid.

11. Ibid, 88-89.

12. Ibid, 90.

13. Ibid.

14. Ibid, 100.

15. Ibid, 89.

16. Don Ihde, "The Experience of Technology: Human-Machine Relations", *Cultural Hermeneutics*, No. 2, 1974: 267-79.

17. Albert Borgmann, "Ihde on Technology," paper delivered at a symposium on Ihde's work at the 1991 meeting of the *Society for Phenomenology and Existential Philosophy*.

18. Don Ihde, letter from the author, State University of New York at Stony Brook, 29 January 1994.

19. *Technology and the Lifeworld*, xi-xii.

20. Borgmann, "Ihde on Technology," 3.

21. Don Ihde, letter from the author, State University of New York at Stony Brook, 29 January 1994.

22. *Technology and the Lifeworld*, 73.

23. For the main accounts of Ihde's phenomenology of human-technology relations see *Technics and Praxis*, 54-56; *Technology and the Lifeworld*, 72-123; *Technics and Praxis*, 3-16; and *Philosophy of Technology: An Introduction*, 111-113.

24. *Technology and the Lifeworld*, 107.

25. Ibid., 73.

26. *Technics and Praxis*, 8.

27. Martin Heidegger, *Being and Time*, 99-102.

28. See Don Ihde, "Heidegger's Philosophy of Technology", in *Technics and Praxis*, 125-126.

29. *Technics and Praxis*, 103.

30. *Technics and Praxis*, 103.

31. Albert Borgmann, "Ihde on Technology" (Paper delivered at the 1991 Meeting of the *Society for Phenomenology and Existential Philosophy*), 7.

32. See *Technics and Praxis*, chapter 9; *Technology and the Lifeworld: From Garden to Earth* (Bloomington & Indianapolis: Indiana University Press, 1990), chapter 3.A; *Existential Technics*, chapters 2 and 8; and, *Experimental Phenomenology: An Introduction* (New York: State University of New York Press, 1986), chapters 1 and 8.

33. *Technics and Praxis*, 113.

34. For the rhine example see *The Question Concerning Technology and Other Essays*, 16.

35. *Technics and Praxis*, 103.

36. *Technology and the Lifeworld*, 224.

37. *Technics and Praxis*, 7.

38. Ibid, 8.

39. *Technology and the Lifeworld*, 73-74.

40. Ibid., 80.

41. *Technics and Praxis*, 11-12.

42. *Technology and the Lifeworld*, 85.

43. Ibid, 100.

44. *Technics and Praxis*, 12-13.

45. *Ibid*, 14.

46. *Technology and the Lifeworld*, 16

47. Ibid, 16.

48. *Technics and Praxis*, 9.

49. Ibid.

50. Ibid.

51. Ibid, 11.

52. Ibid, 57.

53. Ibid.

54. Ibid, 59.

55. Ihde, *Philosophy of Technology: An Introduction*, 115.

56. Ibid, 116.

57. Ibid, 116.

58. Ibid, 116-117.

59. Ibid, 116-117.

60. Ibid, 15.

61. See *Technology and the Lifeworld*, 118-123; *Technics and Praxis*, 15 and 20.

62. *Technology and the Lifeworld*, 75.

63. *Ibid*, 75.

64. Philosphy of Technology, 115-116.

65. *Technology and the Lifeworld*, 125.

66. Ibid, 124.

67. Ibid, 29.

68. Ibid, 130.

69. Ibid, 130-131.

70. Ibid, 131.

71. Ibid, 126.

72. Ibid, 113.

73. Ibid, 128.

74. Ibid, 127.

75. Ibid, 131.

76. Ibid, 131.

77. Ibid, 137.

78. Ibid, 141.

79. Ibid, 140.

80. Ihde, *Philosophy of Technology*, 47.

81. Ibid, 47-48.

82. Ibid, 48.

83. Ibid, 129.

84. Ibid, 129.

85. Ibid, 114.

86. Ibid.

87. Ibid.

88. *Technology and the Lifeworld*, 181.

89. Ibid, 182.

90. Ibid, 178.

91. Ibid, 180-181.

92. Ibid, 182.

93. Ibid, 182.

94. Ibid, 188.

95. Ibid.

96. Ibid, 189.

97. Madison, "Hermeneutics and the End of Philosophy," (manuscript, 1985), 6.

# Chapter 3

# The Hermeneutics of Technology

## 3.1 Introduction

In the preface of his 1993 book, *Philosophy of Technology: An Introduction*, Ihde wrote: "One thing is clear: technology can no longer be taken for granted. It must be addressed."[1] By this he means that the dominant perspectives and frameworks of philosophy of technology neglect the phenomena, and consequently never grasp the full impact of it.

In this final chapter I am interested in the Gadamerian-style, emancipatory reflection that lies at the heart of Ihde's distinctively postmodern reformulation of the traditional philosophical conceptions of the meaning and truth of technology. I argue that Ihde's *Technology and the Lifeworld* offers a hermeneutics of technology, an offering I believe Gadamer would approve of, since it was he who asked the question "whether a hermeneutic dimension does not play a role in every instance of the desire to know." Section 3.2, entitled "Ihde's Hermeneutics of Technology," is divided into three sub-sections. In the first subsection, entitled "A Hermeneutical Way of Thinking about Technology," I explain what it is about Ihde's philosophy of technology that allows us to characterize it as a hermeneutics

of technology. I maintain it is his elaboration of a hermeneutical way of thinking about technology as a *form of understanding*, i.e., meaning-process, or the coming into being of meaning. This alternative way of thinking explores an entirely different notion of the meaning, knowledge and truth of technology. An artifact itself possesses meaning, however this meaning is not self-contained, simply waiting there to be discovered. Truth about technology can only be grasped through a circle of understanding that presupposes the forestructures that enable us to understand technology. Consequently, there is no knowledge of technology without knowledge of a cultural perspective with its corresponding preconceptions and prejudices.

In the second sub-section, entitled "A Hermeneutical Inquiry into Technology: Taking the *Technē* out of Technology," I maintain that a consequence of this alternative, anti-Cartesian, Gadamerian way of thinking about technology, is the clarification of the relation between the interpreter of technology, and the technology he seeks to understand. Here I argue that the distinctive object of any inquiry into technology is human intentionality and cultures in relation to artifacts.

I explain that an implication of Ihde's hermeneutics of technology, although he never phrased it this way, is to take the *technē* out of technology. He displaces the technical know-how of technology, by replacing it with *phronēsis*, the form of reasoning appropriate to *praxis*. Implicit in the implication is a call to learn the art of being responsive to technology, i.e., a call to *response-ability* when attempting to understand technology.

## 3.2 A Hermeneutical Way of Thinking About Technology

Ihde's exploration of the meaning and truth about technology is hermeneutical inasmuch as it does not attempt to present a "true" theory of what technology is, based on the "one" right way to approach it, i.e., epistemological, sociological, anthropological, etc. He does not begin with a set of methodological criteria, or a posited and argued for definition upon which the rest of his philosophy of technology depends. He does not even enter the battle ground of rationalism and foundationalism, an arena filled with the lack of unanimity about the one right way to approach technology. Ihde explores a place where no one argues about what technology is, a place where the poles of "objective" and "subjective", and the debate over "matter" and "idea" do not enter. He begins his inquiry in a place where technology is already understood, and then examines what we are *doing* when we successfully understand technology in the realm of everyday *praxis*, or everyday *doing*.

Ihde's aim, like Gadamer's in *Truth and Method*, was "not to develop a procedure of understanding, but to clarify the conditions in which understanding takes place."[2] Hermeneutics seeks to "elaborate a general, descriptive (i.e., not prescriptive) theory of human understanding whose purpose was to elucidate all the various forms in which our understanding of the world manifests itself."[3] One form in which our understanding manifests itself is technology.

This alternative way of thinking explores an entirely different notion of the meaning, knowledge and truth of technology. Let us re-visit Ihde's definition of technology. Humans manufacture or find "things" in the world, with which they take up meaningful relationships. These relationships are two-way. We affect the "things" we relate to, and the "things" affect us.

Consider the simple case of a found technology. Suppose that we are camping, we want to cook up a can of beans, and we realize that we have forgotten to bring a spoon. Granted, we could have used our hands, but we prefer to search the immediate area for a branch to serve as a stirring instrument and as a spoon. We find a branch with a shape approximating a spoon. Next, we take out our pocket knife and slightly alter the shape of the branch to suit our purposes. The branch has now gone from being merely a branch, and has had its original shape altered to become a utensil for my eating and cooking purposes.

Although, we have now changed the very *being* of the branch, the spoon changes the way we eat and interact with the beans. We can now stir the beans without fear of burning ourselves, that is, the branch/spoon extends our arm and hand into the hot beans. The spoon also changes the manner in which we eat the beans, i.e., we are less sloppy, we need not worry about burning our hands on the beans, and so on.

As was shown in chapter two, according to Ihde the spoon "in and of itself" is not the technology. He specified that technology consists of some material element entering into some set of praxes, and a *relation* between the technologies and the humans who use, design, make, or modify the technologies in question.[4] In program one, Ihde showed that what counts as technology is not only the material element, inasmuch as the process of technology

requires "things" for its *happening*. Technology is not merely the "things," since technology is not *experienced by consciousness*, but rather technology is *consciousness perceptually experiencing* "things." This bears out the evidence, provided by Ihde's second program, for technology as a *mode of understanding* things in our world, i.e., a kind of *understanding-relation or relational meaning-process* by which "things" make sense to us in our culture.

## 3.3 Taking the *Technē* out of Technology

> Ihde understands technology from an emancipatory perspective. He takes a more Kierkegaardian metaphor as the starting point for establishing a perspective. In Fear and Trembling, in the context of describing the inescapability of decision, Kierkegaard pictures us as captains of ships at sea, under way. The person at the wheel is already in motion; and to come about or not to come about is equally to make a decision.. the position of this perspective is basically navigational. The navigator, in the very midst of the sea where both boat and sea are in motion, must take bearings, find a direction, and locate himself and his destination. This perspective occurs in a dynamic and fluid situation and is necessarily relativistic, yet just such a situation is normal for the navigator.[5]

Ihde's perspective is that the reality of technology takes "its shape within what could be called a 'body'/'culture' gestalt."[6] He means that we understand technology from a perceptual perspective which depends upon our body, and also from a cultural perspective which depends upon a pre-established *praxis*. Ihde uncovered not what we *say* technology is, but what we *do* technology to *mean*.

If technology is this intentional understanding-relation, then consequently, what is now required in order to understand technology is an understanding of understanding itself. The truth about technology, like the truth about a work of art or a text, can only be grasped through a circle of understanding that presupposes the forestructures that enable us to understand technology. These forestructures belong to consciousness, and are specific to a cultural and historical tradition.

Ihde understands technology precisely in terms of understanding itself. His first

program explores our consciousness of and existence with technology from the perspective of perception. His second program studies some of the ways in which technology is culturally-embedded. For Ihde, there is no knowledge of technology without knowledge of a cultural perspective with its corresponding preconceptions and prejudices.

An implication of Ihde's hermeneutics of technology, although he never phrased it this way, is to take the *technē* out of technology. The very general meaning of *technē*, especially as found in Aristotle, refers to anything deliberately created by humans in contrast to anything not humanly created. This sense of *technē* also refers to the knowledge of how to do or make things. *Phronēsis*, the wisdom that comes from experiencing and learning from life, refers to knowing how and when to act in the appropriate manner relative to the given circumstances.

Gadamer, in "The Problem of Historical Consciousness," explains the distinction between *technē*, technical know-how, and *phronēsis*, ethical know-how.[7] *Technē* is the teachable, skill of an artisan who prepares a deliberate plan for himself and knows how to execute it in some medium. On the other hand, *phronēsis* does not aim at verifying what is always the case, but rather concerns man as an acting being. Although neither is abstract knowledge, Gadamer explains, phronēsis rejects an objectivist style of knowing.

> Now neither does Aristotle's description of ethical knowledge put it in the objectivist camp, nor is the ethical subject or knower found simply confronting an entity it must verify. From the first, the subject of ethical knowledge finds itself concerned with and invested by its object, that is, what it will have to do...Thus, we call ethical knowledge that which encompasses in an entirely unique way our knowledge of ends and means; and precisely from this perspective it is opposed to a purely technical know-how. Consequently, in this field it no longer makes any sense to distinguish between knowledge and experience.[8]

Ihde's way of thinking about technology, and his thoughts on technology favour *praxis* and *phronēsis* over *technē*. As mentioned above, Ihde's exploration of technology takes place within the realm in *praxis*., a realm which assumes a particular cultural and historical situation. The truth about technology, for Ihde, is an intersubjective matter situated in the realm of practical reason. In this way, Ihde understands technology on its own terms. Ihde's hermeneutical inquiry is a call for all philosophers of technology to do the same. Hermeneutics is basically a call, as G.B. Madison maintains:

> hermeneutics is basically a call for intellectual honesty or integrity. What this entails can be best be appreciated if we return to the paradigmatic instance of textual interpretation. When we seek to understand an ancient text, say a text of Plato or Aristotle, honesty demands that we make an attempt to penetrate into the particular universe of discourse of the text and seek as much as possible to understand it on its own terms. We must avoid simply reading our own presuppositions, prejudices, and biases into the text. We need to *listen*. "The work," Gadamer says, "issues a challenge which expects to be met. It requires an answer..." At the same time, however, hermeneutical integrity demands that we realize that all understanding involves what Gadamer calls "application" or "appropriation". That is, we must not pretend that in this attempt we can extricate ourselves from our own particular historical and cultural situation in such a way as to step, Manchausen-like, out of our own subjectivities and attain to a pure, unsullied objectivity. The meaning of the text itself is its meaning *for us*...Our response to the text must be our "own, given actively," Gadamer says; "the participant belongs to the play," It would be fundamentally dishonest to pretend that one's own necessarily perspectival reading of the text is nothing less than the absolute truth itself.[9]

Ihde's inquiry into technology is a call to learn the art of being responsive to technology, i.e., a call to *response-ability* when attempting to understand technology. In Gadamer's words: "It is evident that in order to be authentic the inquiring gaze must be focused on the thing itself, and in such a manner that it may be grasped, as it were, "in person."[10]

Since Ihde's emphasis is on technology in *praxis*, rather than concerning himself with technology as substance, which he successfully displaces as process, he conceives of technology in a properly human way under the rubric of human agency not *technē*. A consequence of this alternative emphasis is the clarification of the relation between the interpreter of technology, and the technology he seeks to understand. Ihde shows us that the distinctive object of any inquiry into technology is human intentionality and cultures in relation to artifacts.

In *Technology and the Lifeworld*, Ihde explains that there are two things that a philosophy of technology can do. First, to "provide a perspective from which to view...the phenomenon of human-technology relations", and second to "provide a framework or "paradigm" for understanding."[11] Ihde achieves both of his general philosophical aims. The perspective he offers is postmodern, and the framework or paradigm for understanding is hermeneutic.

If technology is this intentional understanding-relation between humans and "things" in their world, then, the object of philosophy of technology is the understanding humans have of their involvement in this relation. Philosophy of technology is thus *doubly interpretative*.

## Chapter Three Notes

1. Don Ihde, *Philosophy of Technology: An Introduction* (New York: Paragon House, 1993), xiii.

2. Gadamer, as quoted by Madison, in "Hermeneutical Integrity: A Guide for the Perplexed," in *Market Process*, Vol.6, No.1 (Spring 1988), 6.

3. Ibid.

4. Ihde, *Philosophy of Technology*, 47.

5. Ihde, *Technology and the Lifeworld*, 10.

6. Ihde, "Response to Borgmann and Sanchez," forthcoming in *Research in Philosophy of Technology*, 4.

7. Gadamer, "The Problem of Historical Consciousness," in *Interpretive Social Science: A Second Look*, eds., Paul Rabinow and William M. Sullivan (Los Angeles: University of California Press, 1979), 118.

8. Ibid, 119.

9. Madison, "Hermeneutical Integrity: A Guide for the Perplexed", 7.

10. Gadamer, "The Problem of Historical Consciousness", 129.

11. Don Ihde, *Technology and the Lifeworld*, 9.

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