1989

Inquiries concerning the philosophy of technology

Dan C. Williamson
San Jose State University

Follow this and additional works at: https://scholarworks.sjsu.edu/etd_theses

Recommended Citation

Williamson, Dan C., "Inquiries concerning the philosophy of technology" (1989). *Master's Theses*. 3235.
DOI: <https://doi.org/10.31979/etd.h7un-thde>
https://scholarworks.sjsu.edu/etd_theses/3235

This Thesis is brought to you for free and open access by the Master's Theses and Graduate Research at SJSU ScholarWorks. It has been accepted for inclusion in Master's Theses by an authorized administrator of SJSU ScholarWorks. For more information, please contact scholarworks@sjsu.edu.

INFORMATION TO USERS

The most advanced technology has been used to photograph and reproduce this manuscript from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

U·M·I

University Microfilms International
A Bell & Howell Information Company
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
313/761-4700 800/521-0600

Order Number 1339661

Inquiries concerning the philosophy of technology

Williamson, Dan Christopher, M.A.

San Jose State University, 1989

U·M·I
300 N. Zeeb Rd.
Ann Arbor, MI 48106

INQUIRIES CONCERNING
THE PHILOSOPHY OF TECHNOLOGY

A Thesis

Presented to

The Faculty of the Department of Philosophy
San Jose State University

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

By

Dan C. Williamson

December, 1989

APPROVED FOR THE DEPARTMENT OF PHILOSOPHY

Dr. Thomas Leddy

Dr. Michael F. Schmidt

Dr. Scott Cook

Dr. Peter Hadreas

APPROVED FOR THE UNIVERSITY

TABLE OF CONTENTS

LIST OF ABBREVIATIONS.....	iv
----------------------------	----

Chapter

INTRODUCTION.....	1
I. HEIDEGGER AND TECHNOLOGY.....	7
II. TECHNOLOGICAL DETERMINISM.....	71
III. THE ESSENCE OF MODERN TECHNOLOGY.....	98
BIBLIOGRAPHY.....	115

LIST OF ABBREVIATIONS

QCT The Question Concerning Technology

INTRODUCTION

Everywhere one turns, the implements of technologies are evident. There is no phase of life, at least in Western Civilization,¹ which is not touched to one extent or the other by technology. It is all-pervasive. Many think that Humankind² is better off as a result of technology. Others feel the case to be exactly the opposite. Still others, while not happy with the consequences of technologies, would be loath to dispense with all the comforts such technologies offer. There are also, seemingly, as many attempts to come to grips with the ideas which go to make up technology as there are individual technologies, techniques, and tools. This thesis adds to that cacophony of voices with at least the minimal hope that it has carved out one small niche of ideas which will be of use to the

¹This thesis' stance restricts itself to what is broadly termed "Western Civilization." This excludes the Third World. The Third World's relation to modern technology is nonetheless important. It is the fitting subject of another thesis. It is, as is evident in current news accounts, an increasingly important issue for both the Third World and the "Old World." The burning of the rain forests is an example. Should they be doing this? Is nature just a reserve to be ordered about? Should the West even be meddling in their affairs when its own house needs to be put in order?

²The word "Humankind" has been selected over words such as "Humanity" or "Human Being." Both of these options are over-laden with presuppositions, outdated (with respect to the former), and over-used. No necessary philosophical stance is implied here. "Humankind" is capitalized only insofar as it is a form of address which preserves the objective requirements of this thesis. It is a fitting substitute for terms such as "we," "us," "them," "I," etc.

Philosophy of Technology. The intent here is to point out some questions and issues which are relevant to the Philosophy of Technology.

The main orientation of this thesis is centered on Martin Heidegger. Heidegger is admittedly a difficult philosopher to understand at times. He is clearly on a mission to save philosophy from itself. Many applaud him for this. Many turn the other way. Also, some may feel that Heidegger's approach to the issue of technology is unnecessarily dense and far too abstract to be of any use. It does not touch upon what should concern one the most. Heidegger does not provide the solutions to events such as oil spills or the "Green House Effect." This thesis does not seek to say that these problems should be ignored. But the kind of thinking which concerns itself with only the physical appearances of such problems overlooks the fact that in many cases such thinking implies that technology is only a set of tools and their relations and activities amongst themselves as well as with Humankind. This leads to the idea that all one has to do is fix the tool or tools and everything will be set aright. Heidegger points out that technology is not a tool, a collection of tools, or their relations to themselves and Humankind. The problems of technology start with how Humankind understands technology. This thesis is a working document on how one can go about understanding technology from Humankind's perspective. Engineering solutions will still be engineering solutions. But, if one wants to solve the problem of technology, one must not overlook Humankind's attitude towards it. This is where the story begins and, as the third chapter will show, where it ends. Certainly, this does not overlook the fact that Humankind may extinguish itself. As far as the Earth is concerned,

so what? Heidegger's position is essentially humanist. He believes that there is something about Humankind's essence which is essential to all Being, including this planet. This author shares this concern. Despite the fact that no one may be there to hear the last tree fall (Humankind), it does in fact matter. Perhaps only to a god...

Despite the obstacles Heidegger sometimes presents, it is the feeling here that the effort to overcome them results in some uncommonly rich thoughts for the Philosophy of Technology. The very broadness of his approach guarantees that one will find a source of reflection which goes beyond many narrow limitations in the attempt to grasp the central issues and problems of technology.

What the reader will find in the following is fairly straightforward. In the first chapter, an explication of Heidegger's main essay on technology, The Question Concerning Technology,³ is presented. The effort in that chapter is three-fold. First, it is important to disentangle what, in many cases, is a highly specialized language in order to understand the basic concepts in QCT. Heidegger, as has been noted, has a philosophical cause. Part of that cause is to write and think one out of a mode of thinking prevalent for the last two thousand years. Thus, he develops his own language which refers to specific concepts. This must be elucidated so that his comments on technology will make sense. Secondly, the chapter will, as a result of the above, map out Heidegger's central thoughts in QCT.

³Two editions will be used consistently throughout the thesis. These are: Martin Heidegger, The Question Concerning Technology, in Basic Writings from Being and Time (1927) to The Task of Thinking, ed. with General Introduction by David Farrell Krell (New York: Harper & Row, 1977), 283-317 and Martin Heidegger, The Question Concerning Technology, in The Question Concerning Technology and Other Essays, tr. with Introduction by William Lovitt (New York: Harper & Row, 1978; New York: Harper Colophon Books, 1977), 3-49.

Thirdly, it is important to show how deeply embedded his thinking is in QCT with the rest of his philosophical program. It is easy enough to use Heidegger's thoughts, as is done in chapter III. The intent is not to discourage this. The intent is to point out the complexity of his position as well as indicate where one must be sensitive to his specific position. Heidegger's ontology, for instance, is crucial to understanding his thoughts on technology. To ignore these or put them to the side takes a risk which should be compensated by an awareness of his position.

Chapter II, "Technological Determinism," takes up a single issue with Heidegger. Heidegger tries to overcome a major issue in his analysis of technology. That issue is the fact that Humankind has been profoundly changed by technology. Humankind's very perception of itself, its "humanness" has been altered by technology. Humankind's perception of the world has similarly been changed by what Heidegger calls the ordering of the world by technology. Humankind has also been captured in this ordering. That is called "enframing." Heidegger says that if Humankind does not become aware of the essence of modern technology as an ordering and enframing, it runs the risk of allowing truth itself to be covered over permanently. Heidegger, though, uses the Greeks time and again in what appears to be a desperate fight with the very thing he has described: ordering and enframing (what is termed his technological determinism). It is the conclusion of the chapter that Heidegger misuses and abuses the example of the Greeks in an attempt to defeat technological determinism. In the process he also contradicts himself. Heidegger does his own thoughts a disservice. It is a lesson well-learned for the philosophy of technology.

The lesson is: Do not look for the solutions to today's problems in the past.

Chapter III, "The Essence of Technology," takes up where chapter II ends. While Heidegger minces on the issue of technological determinism, his thoughts on the essence of technology are relevant to this age. Chapter III will take, first, a brief look at the essence of technology from a slightly different approach than Heidegger's. This approach does not rely as heavily on what is of significant ontological importance for Heidegger: the question of Being. Secondly, chapter III will examine what Heidegger says is the essence of modern technology: enframing. It will examine this concept in light of what are two important developments in the recent history of modern technology. These developments are: computers and artificial intelligence. It is the belief here that these two issues, more than any others which are current in modern technology, support-- in a significant way--what Heidegger says is enframing.

This will bring the thesis to a close. It is hoped that examining Heidegger's essay in detail, as well as examining at least two major issues stemming from QCT, will create a foundation from which to build further investigations.

Readers are encouraged, given the time and stamina required to read Heidegger, to pursue what is only briefly laid out here. Certain issues which have not been addressed directly, yet require special treatment of their own, are:

1. What is the concept of nature which Heidegger uses? How does one go about understanding the relationship between nature and Humankind which

Heidegger presupposes in the idea of "resources?"

2. What are the particular details of the intricate relation between science and technology? Heidegger says they are different. In fact, he says that technology precedes science and defines it. An excellent study here would be a close analysis of the development of the Atomic Bomb.⁴ The issue of technology and science begs for meticulous consideration on a case by case basis.

3. To what extent have the popular notions of both science and technology been colored by the essence of technology? This could be an effort either from the philosophical point of view or from current literary theory. Indeed, most of the popular conceptions of technology, over and above daily dealings with technologies, is through science fiction and fiction as well as some amount of popular histories. (Cinema is, of course, included.) The wealth of attitudes regarding technology in these works is seemingly endless. This author, however, feels that in reality much of what is written and/or produced has a certain irreducible set of principles. What are they? How do they affect Humankind?

These are just a few which are important. There are, naturally, many more. The more issues which are considered in technology will lead, one hopes, to a better understanding of technology. This certainly cannot help but to bring Humankind closer to coming to grips with modern technology. This beautiful Earth depends on it.

⁴A good starting-point is: Richard Rhodes, The Making of the Atomic Bomb (New York: Simon & Schuster, 1986; New York: Simon & Schuster, Touchstone Edition, 1988).

CHAPTER I
HEIDEGGER AND TECHNOLOGY

Explicating a text such as The Question Concerning Technology¹ is not unlike engaging oneself in a complex conversation which has been going on for some time prior to one's arrival. The conversation which is in QCT is an integral part of an extensive and complex authorship which has both a specialized language and a plentitude of concepts unique to itself. If one were to characterize Heidegger's approach in a general way, one would say that the approach is dictated by the demand that Western Thought free itself from the tradition of Philosophy which starts with Plato and the dawn of Western Civilization. The demand to reconstruct the perception of both Philosophy and the World is nowhere clearer than in QCT. The essay concerns itself with a definition of the essence of technology. But when Heidegger asks what is the essence of technology, he is also asking a series of other questions of both epistemological and ontological import. When Heidegger asks what is the essence of technology, he is really asking about "essence" itself as well

¹Martin Heidegger, The Question Concerning Technology, in Basic Writings, ed. with General Introduction by David Farrell Krell (New York: Harper & Row, 1977), 283-317. See also the following edition, Martin Heidegger, The Question Concerning Technology, in The Question Concerning Technology and Other Essays, tr. with Introduction by William Lovitt (New York: Harper & Row, 1978; New York: Harper Colophon Books, 1977) 3-49.

as Being, Truth, and Freedom. The issue of technology involves all of these concepts to one extent or another. As shall be shown in this explication, technology and the problems it poses do not dwell in the machine or the tool, but in this larger domain.

If all of the implications of QCT were to be examined, the resulting labor would be well beyond the limits of this paper and its concerns. Those concerns focus on several main issues. The first issue is to explicate Heidegger's critique of the "means-ends" conception of technology. Following from this is a second issue. An appropriate definition of technology is not based in any example of the tools of technology. Technology's essence is not found in the tool, its materiality, nor its use. Rather, the essence of technology is found elsewhere in a complex body of characteristics whose influence goes beyond tools to affect wide and divergent areas of Modern Civilization. The third concern is to explain the ontological status of technology and its entity-like nature. Parallel with this will be several other themes including Humankind's relation to technology which Heidegger says is incorrect. A discussion of what Heidegger says about the new kind of essence which technology is will also be presented. The discussion will, as well, lead to reflections on the lethal character of technology which Heidegger thinks begins in technology's ontological status and ends in Humankind's misunderstanding and misappropriation of technology.

Another task of this explication is an inevitable result of working with Heidegger. He has a highly technical vocabulary of terms which are in his authorship. The terms he uses are sometimes so closely

interwoven as to be indistinguishable from one another. He does this for reasons which are very much a part of his philosophical stance. As Heidegger strives to perfect his own position contrary to the strong influence of two thousand years of philosophy, he builds his own language and his own way of writing. This is the mark of any original "first philosophy."

Since QCT is an essay placed in the midst of a much larger authorship, one is left without the necessary definitions to some of the key terms. This explication will overcome this limitation by discussing Heidegger's basic terminology in the context of QCT. The challenge is to bring these terms out carefully and patiently so as to show their relevance to what is being said about technology as well as to indicate the profound seriousness which Heidegger places on technology. There are several terms which will be encountered in the explication. Perhaps the most challenging and important are "concealment," "unconcealment," and "revealing." The definition of these terms will be a central concern of this entire chapter.

The general structure of QCT will be followed. The essay naturally divides itself into two sections. In the first section, Heidegger presents a definition of technology which is based on the Greek conception of technē. Heidegger draws heavily on traditions and thoughts which are found, at least partially, in the thought of Plato and Aristotle. In the second section, Heidegger presents his conception of modern technology which he separates from the earlier conception of technology as technē.

This division is significant and debatable. Is there even any

sense in dividing the concept of technology into two parts? There may be drawbacks to doing this which the second chapter will explore in detail. Heidegger may be contradicting himself by making such a dichotomy. Furthermore, what reasons does one have in considering ancient technology any different than modern technology? If the essence of technology is not in the tools used, but in a larger body of characteristics, then why even make a distinction? Why isn't technology a repetition of similar elements in different historical contexts?

Heidegger has specific reasons for this differentiation which shall be noted shortly. It will help here to note the general tenor of the differentiation and the problem it raises. The division of ancient and modern technology serves two purposes. First, Heidegger uses the example of technē to deny the idea that technology is a means to other ends. The example of the Greeks is a paradigm for rejecting incorrect concepts of technology. This paradigm helps one understand the true essence of technology. This first purpose is for the sake of argumentation. It is a paradigm which allows one to realize what the essence of technology is.

The second purpose is historical. The divisions distinguish an older form of technology from one which is contemporary. Heidegger is concerned with asking what separates these two forms of technology in so profound a manner. He asks this question to better understand the underlying themes of modern technology. He is looking for the central themes of the age of machines. How does it differ from older forms of technology? In asking these questions, Heidegger is already certain there is a historical division between ancient and modern technology. Something

distinguishes the two.

The purposes which the division serves presents a problem. The example of technē becomes ambiguous. Is technē merely the paradigm one uses to get an understanding of technology's essence? Or, is it the paradigm which one should use not only to understand technology's essence but also to pull Humankind free from the problems it has with technology now? This problematic will become clearer at the end of the discussion of QCT. It will become one of the issues addressed in the second chapter.

Technology and Technē

QCT begins by saying that technology is not neutral. The concept of neutrality is that technology is merely the tool used to do something. It disappears into the act in which it is used. The tool, technology, is the hammer and nails used to build a house. It is the space shuttle used to reach Earth orbit. In either of these disparate examples, the tools fade into the uses to which they are put. They have no weight nor substance other than in what they are used to build or fix.

A better metaphor for the meaning of technological neutrality is the word "transparent." The tool is a transparency which one moves through from point A to point B. The tool, whatever it may be or whatever it is used for, disappears. It has no relevancy nor intrinsic value. The value is in the thing done or the operation performed by the person using the apparatus.

Heidegger denies this claim in the strongest of terms:

Everywhere we remain unfree and chained to technology, whether

we passionately affirm or deny it. But we are delivered over to it, in the worst possible way when we regard it as something neutral...²

In other words, there is no sanctuary where Humankind remains outside the bounds of technology. Nowhere is the technological merely something one passes over or through. To consider technology some kind of transparent artifact which is neutral conceals the problem that technology presents to Humankind. Such an opinion diverts one away from serious consideration of technology's essence which is anything but a transparent vehicle of one's own desires or will to a specific end.

Another way of considering this issue is to see technology as a means to an end. This idea is prevalent and, to a certain extent, correct. Who would deny that a car is used to go somewhere? Who would say that a coffee grinder isn't for grinding or a briar pipe for smoking?

Heidegger says of this stance:

The current conception of technology, according to which it is a means and a human activity, can therefore be called the instrumental and anthropological definition of technology....But this much remains correct: modern technology too is a means to an end. That is why the instrumental conception of technology conditions every attempt to bring man into the right relation to technology. Everything depends on our manipulating technology in the proper manner as means. We will, as we say, "get" technology "spiritually in hand." We will master it.³

What Heidegger is saying here is two-pronged. First, technology is a means to an end. But this is only superficially correct. Such reasoning conceals the essence of modern technology. Secondly, that essence

²Heidegger, Basic Writings, 287-8. Heidegger, Question Concerning and Essays, 4. (Basic Writings used above.)

³Heidegger, Basic Writings, 288. Heidegger, Question Concerning and Essays, 5. (Basic Writings used above.)

has determined how Humankind will itself master technology. This will be a theme which will surface in the latter section of the essay. Technology has itself come to order Humankind to see the solution to the problems of technology.

Heidegger drops this line of inquiry temporarily to take up the issue raised by the instance of technology as a means to other ends. He thinks this point of view is merely correct. He bids his reader to look further at the concept of causality itself. By taking this path, Heidegger hopes to open up the door which conceals the essence of technology, both modern and ancient.

What does the concept of causality imply? What does it mean to contemplate means and ends? What are the origins of "B must follow from A?" Heidegger brings up an older sense of the word, "causality." In the ancient way of thinking there were four causes. These were: causa materialis, causa formalis, causa finalis, and causa efficiens.

Heidegger says of this doctrine:

Certainly for centuries we have acted as though the doctrine of the four causes has fallen from heaven as a truth as clear as daylight. But might it be that the time has come to ask, why are there just four causes?⁴

Why does one have this venerable doctrine? What is it about this doctrine which seems so clear? Heidegger answers these questions by way of an example which will bring him to an explanation of what he thinks are the central conceptions of technē and the fundamental essence of

⁴Heidegger, Basic Writings, 290. Heidegger, Question Concerning and Essays, 6. (Basic Writings used above.)

technology.

The example he uses is of a silversmith who produces a chalice. It is Heidegger's contention that one would normally see the process of making a chalice as an act involving a simple means to ends. The silversmith takes the resources at his or her disposal (silver, tools, etc.) to make the chalice. The tools and resources are the means to the end of producing a chalice. Heidegger says this is only one causal activity which, under the four causes, would be causa efficiens.

But there is too much over-simplification here for Heidegger. The focus is on only one part of an activity which holds all four causes together in a unison which works toward the act of creation itself. What is commonly focused upon is causa efficiens. According to Heidegger, that focus is a distortion of the original concept of causality which has been diminished by time and several misrepresentations. Considering causa efficiens the only valid cause has its root in an understanding of what the Romans called "causa." Heidegger says:

Causa, casus, belongs to the verb cadere, to fall, and means that which brings it about that something turns out as a result in such and such a way... Everything that later ages seek in Greek thought under the conception and rubric "causality"...has simply nothing at all to do with bringing about and effecting. What we call cause and the Romans call causa is called aition by the Greeks, that to which something else is ~~indebted~~.⁵

The conception of causality is based on an interpretation of a Roman concept which has been, in turn, over-laid back onto an understanding of what the Greeks said about causality. One should not understand causa

⁵Heidegger, Basic Writings, 290. Heidegger, Question Concerning and Essays, 7. (Basic Writings used above.)

as a bringing about nor effecting. It is rather, best understood as the Greek conception of indebtedness, aition.

Indebtedness is itself a significant portion of what Heidegger wants to say about the Greek notion of technē. But the part it plays is not at all the kind of understanding which has been put upon it by a misconstrual of the original Latin word, "causa." Aition, indebtedness, is not the expression of causality. Rather, indebtedness is an expression of the relationship between the four causes. It is what unifies each individual mode or stage of the causes together not unlike gravity binding a solar system together.

Indebtedness, for Heidegger implies responsibility. He finishes the above quote by saying, "The four causes are the ways, all belonging at once to each other, of being responsible for something else."⁶ Indebtedness suggests responsibility among the four causes. The gravitational relationship of the Earth and Moon is such that they are co-dependent. The Moon's gravity is indebted to the mass of the Earth. At the same time, many occurrences on the Earth, such as the ocean tide, are indebted to the gravitational attraction of the Moon. Both objects share a responsibility to one another. Responsibility and indebtedness are both ways of viewing the same relation from a different perspective. Indebtedness implies responsibility. Responsibility implies indebtedness.

The relationship between the four causes under the concept of aition results in creation. Heidegger emphasizes this interdependence

⁶Heidegger, Basic Writings, 290. Heidegger, Question Concerning and Essays, 7. (Basic Writings used above.)

and creation by elaborating on the example of the chalice. First, there is causa materialis. The chalice, being made of silver, is indebted to the silver. It is the material from which the chalice is made. The chalice "...is indebted to, i.e., owes thanks to the silver..."⁷ The chalice is indebted to the very idea of chaliceness. It owes its own existence to the aspect, the eidos, of just what a chalice is. This is causa formalis. Heidegger says, "Both the silver into which the aspect is admitted as chalice and the aspect in which the silver appears are in their respective ways co-responsible..."⁸ Third, the causa finalis is the end for which the chalice is designed. In this case, it is the church services where it will be used. This use is, as Heidegger puts it, its "telos..."⁹ Normally, one would think that this end is where the cycle of creation ceases. The chalice is passed on to its use in church services. Yet, for Heidegger, the use of the chalice is itself part of the creation of the chalice. It is part of the creation of its meaning and purpose. Telos, here, does not signify a cessation of creation. It signifies a continuation of creation. Heidegger says, "...telos is responsible for what as matter and for what as aspect are together co-responsible of the sacraficial vessel..."¹⁰ Indebtedness and responsibility constantly shift between one another. They so so even past the

⁷Heidegger, Basic Writings, 290. Heidegger, Question Concerning and Essays, 7. (Basic Writings used above.)

⁸Heidegger, Basic Writings, 290. Heidegger, Question Concerning and Essays, 7. (Basic Writings used above.)

⁹Heidegger, Basic Writings, 290. Heidegger, Question Concerning and Essays, 7. (Basic Writings used above.)

¹⁰Heidegger, Basic Writings, 290. Heidegger, Question Concerning and Essays, 7. (Basic Writings used above.)

mere event of creation. They are in constant flux even as the object is being used.

Heidegger contends that one usually would assume the maker of the chalice to be the most important element in production. Yet, in Heidegger's analysis, causa efficiens comes last. The central importance of the craftsman has been over-rated. Heidegger says:

Finally there is a fourth participant in the responsibility for the finished sacrificial vessel's lying before us ready for use, i.e., the silversmith--but not at all because he, in working, brings about the finished sacrificial chalice as if it were the effect of a making....¹¹

In other words, the idea that there is a simple linear progression from the craftsman's bench to the finished product is over-simplified.

Causa efficiens is one part of a larger process in which he or she takes part. Heidegger says:

The three previously mentioned ways of being responsible owe thanks to the pondering of the silversmith for the "that" and the "how" of their coming into appearance and into play for the production of the sacrificial vessel.¹²

The instrumental definition of the creation of the object like a chalice is questioned by Heidegger in the above example. One does not simply have tools, craftsmen, and the finished object to consider. The silversmith, and by implication his or her tools, is not the focus of all of the activity of making. Instead, causa efficiens is only one part of a much larger process which culminates in a creation. The

¹¹ Heidegger, Basic Writings, 291. Heidegger, Question Concerning and Essays, 8. (Basic Writings used above.)

¹² Heidegger, Basic Writings, 291-2. Heidegger, Question Concerning and Essays, 8. (Basic Writings used above.)

silversmith is placed within the spheres of indebtedness/responsibility. But that position is not as the central cause nor the prime mover.

One can conceive of production solely in terms of the craftsman. But, according to Heidegger, this is correct but it is not the entire story. Such thinking encourages a linear conception of production and creation. In Step A, the craftsman assembles his or her materials and tools. Step B, is the proper use of the tools as well as the correct usage of materials. Step C is the finished product. At this point, the product is absorbed into another series which is confined to its use. Heidegger denies this understanding of technology. It is not the entire truth. Such an understanding covers over what is, in fact, involved. Heidegger proposes, instead, a circularity which is not unlike a solar system. Rather than having a clear and distinct set of linear boundaries, one has, as in a solar system, a series of larger and larger spheres whose interrelationships are bound together by their gravitational attraction. What starts with the Sun reaches out to each successive planet, binding them together in an everlasting series of indebtedness and co-responsibility.

This sense of making is parallel to what many writers, painters, and musicians say of their work. They say that their creation was as much a part of a larger process of which they were a part, as it was the stroke of the brush or the push of the pen. Heidegger is untapping this fundamental region of making and applying it to all forms of making. Technology is not bound solely to the craftsman. Heidegger is de-anthropomorphizing the concept of technology as it is understood in

the 'means to ends' formulation. As he does this, he is providing words for that which usually escapes ordinary attention and settles in the recesses of basic experiences felt but never expressed.

The idea that the activities of a craftsperson are not unlike those of an artist is not a new idea. Certainly it has been understood for some time that the woodworker, rug maker, or potter have, in addition to their technique, an aesthetic dimension which can only be expressed as artistry. The vases of Boticelli come to mind. Not only were they works of art, but they were also intended to be functional pieces taking their place in the household. The aesthetic dimension of technology will be discussed by Heidegger as intimately linked to the concept of poiēsis. Technē's dimension also includes the aesthetic, the artistic. As shall be shown, Heidegger expands this linkage even further. Technē represents Being. It will also be Heidegger's contention in the latter section of QCT that art, poiēsis as technē, is part of Humankind's salvation from the rigorous ordering of modern technology.

Before proceeding to explain what Heidegger does with the four causes, another example is required. The example of the silversmith is somewhat remote to this age where even the silversmith may be using computerized machinery. The example is that of the briar pipe maker. Creating a pipe is not unlike working with a diamond in the rough. The pipe maker is faced initially with a huge, ugly, root of the briar. A root can be several feet across and at least a foot or two deep, consisting of several hundred pounds of very ungainly material. Nevertheless, many beautiful pipes may result from its proper handling. But the pipe

maker must know where to cut in order to produce either straight grain or cross grain pipes. The pipe maker does not determine where to cut. Rather, the nature--the fundamental property of each root-- determines how and where he or she shall cut. In addition, the root determines what the quality of the pipes will be. The root is causa materialis. Notice that the pipe maker is in no way the sole authority of what the root will offer. The root is responsible for this. The pipe maker is indebted to the root for providing 'x' quality and quantity of pipes. Then, of course, the form is causa formalis. This is the basic form which will come from the root. It is the form of the pipe. The pipe maker is indebted to this concept as is the wood itself. Finally, there is the end to be considered. This is the use of the pipe to smoke. It must not only serve that function, but it must be attractive and light-weight for easy handling. Again, both the wood and the pipe maker are indebted to this concept as well as being responsible. There is, naturally, the pipe maker, himself or herself. This is the causa efficiens. But, as has been shown, the maker is in no way responsible as a sole cause. The pipe maker is in the midst of a series of causes of which he or she is merely a part. It is as much the nature of the wood, the idea of the smoking pipe, and its use which determines the creation of a smoking pipe. There is no singular identity which "makes." It is, instead, a whole solar system of orbits which are tied together by mutual interest.

One can also see how the above example includes the aesthetic. The pipe is not just a chunk of wood to be used for smoking. Despite its utilitarian features, it must have an aesthetically determined shape

which is pleasing to the eye as well as having a certain tactile quality to it not unlike a well-made piece of pottery or a good rug. The pipe maker must delve into whatever region necessary and be guided by the sense of shape as well as what the root itself demands. (Will it be long Canadians, Free Hands, or Billiards?) A way of aesthetic expression "happens" which is not up to the arbitration of the pipe maker alone.

Heidegger's explanation and argument for the understanding of causality as a complex of interdependant causes refutes the notion of causality as a simple "means to other ends" formulation. He does not stop at this refutation, however. There is something which the four causes point towards. Its arrival is heralded by the analysis of the four causes. The four causes, or four ways as Heidegger will sometimes refer to them, point to the event of creation itself. They point to the event of bringing something new into being. That creation is the focus of the four causes. It is really the most important aspect.

Heidegger states, "The four ways of being responsible bring something into appearance. They let it come forth into presencing (An-wesen)."¹³ What binds the four causes is indebtedness. They, in turn, become responsible for the creation, the presencing, of the object itself. They are bound to the presencing. Extending the metaphor of the solar system further, one can say that the surrounding universe, its existence, is where the activity of the solar system takes place. The four causes are placed in the midst of an even greater sphere whose boundaries rest at

¹³Heidegger, Basic Writings, 292. Heidegger, Question Concerning and Essays, 9. (Basic Writings used above.)

the boundary of Being itself. The four ways open up the realm of Being with the presencing, the creation, of the object itself.

A glance at Lovitt's footnotes to QCT may help to expand this notion of presencing (An-wesen):

By writing An-wesen, Heidegger stresses the composition of the verb anwesen, translated as "to presence." The verb consists of wesen (literally, to continue or endure) with the prepositional prefix an...¹⁴

Lovitt also says, in an earlier note:

"Essence" is the traditional translation of the German noun Wesen... Heidegger writes elsewhere that the noun Wesen does not mean quidditas originally, but, rather, "enduring as presence"...¹⁵

Presencing is an integral aspect of essence. The four ways bring something into presence. They are therefore responsible for presencing. Since they are responsible for presencing they are also, by implication, responsible for essence. They, the four ways, bring something into being. They are responsible for the essence of some thing.

What should be clear here is that the notion of essence is an activity. Some object is brought into being by virtue of the four causes. The object is revealed to the world. This is an activity whose complexity is evident according the Heidegger's analysis. Furthermore, the object which has been revealed, which has been brought into being, proceeds to be revealed in its use. Creation does not stop at production. For instance, the chalice is brought into being by the four ways. The silversmith, in conjunction with the other three causes, reveals it.

¹⁴Heidegger, Question Concerning and Essays, footnote, 9.

¹⁵Heidegger, Question Concerning and Essays, footnote, 3.

This is one form of revealing. It is a "first stage" of creation. The chalice is one thing to the artisan. Then the merchant acquires it. The chalice is an altogether different object to him or her. It is property to be bought and then sold at a profit. The chalice is, in turn, procured by the Bishop who, as a celebrant, uses it in church services. To this individual, the chalice takes on a wholly new dimension. The chalice is "created" once again in the rituals of the Holy Sacrament. Likewise, the supplicants see the chalice in another way as well. The chalice is the vessel which has been consecrated by the Bishop. It is what the Bishop offers them, the Blood of Christ. None of the ways in which the chalice is present is necessarily wrong. Yet each is a different way of revealing. Each is a different way of presencing the object. The chalice is the thing which endures in a presencing. That presencing is a continual source of activity. The chalice changes through each phase and yet remains a chalice. Like the law of conservation, it never really disappears. It keeps re-appearing in different roles.

The notion of presencing which is implicit in the four causes is one instance where QCT intersects with Heidegger's over-all philosophical concerns. Presencing, as creation, is a phenomenon whose constant changing is anchored in the over-all theme of "revealing." Revealing means here the manner in which something comes "to be." It is the way of existence. This is central to much of Heidegger's philosophy and, as shall be shown, plays an even larger role in technology. Presencing is a form of Being itself. Being, in turn, is the ground from which all activities, in their multifarious phenomenal appearances, arise.

Heidegger is challenging the fixity of many philosophical and scientific descriptions of the object as well as of the world itself. The object is not the sense datum. Nor is it the static classification and description of objects by scientific means, based on quantifiable laws of Nature. Such laws, descriptions, or sense datum are the merely correct which force a closure on a world whose central premise is enduring to presencing in all of its different forms. The ground of this presencing is not the "bedrock" of sense experience. It is, rather, Being which is the ground.

The idea of "enduring to presence" needs to be filled by further explanation. This shall be done in the following section by examining the concepts of concealment, unconcealment, and revealing. Presencing is intimately bound up with these ideas. It should also be noted here that the concept of enduring (fortgewähren) will play a central role in Heidegger's explanation of how Humankind can get out of the threatening grasp of modern technology.

Heidegger tells us that the Greeks had a word for this presencing. They had a word to describe this mode, in its profoundness, as a creation in the largest possible sense. That word is "aitia," which Heidegger translates as "occasioning." He states:

The principal characteristic of being responsible is this starting something on its way into arrival. It is in the sense of such a starting something on its way into arrival that being responsible is an occasioning or an inducing to go forward (Ver-an-lassen).¹⁶

¹⁶Heidegger, Basic Writings, 292. Heidegger, Question Concerning and Essays, 9. (Basic Writings used above.)

Presencing, the four causes, occasioning, and being responsible all go to make up the essence of technē. Technē is not simply the mastery of a trade or a simple memorization of Homer's poetry. Neither is it the trade of the Sophist. The meaning of technē is much broader. Its meaning is coextensive with poiēsis. Heidegger quotes Plato's Symposium:

Every occasion for whatever passes beyond the nonpresent and goes forward into presencing is poiēsis, bringing-forth (Her-vor-bringen).¹⁷

Any making is thus initially understood as an art. It is poiēsis. Poiēsis is, in turn, not just craft. It is a making which brings something into presence. It is a making which brings something into being.

Heidegger further says that poiēsis in this sense is not restricted to the arts or to a restricted aesthetic mode. Poiēsis is also physis. It extends to all knowing and doing. Thus, technē is a making in the broadest sense of that term. It is any making. It could be the creation of a ship, the mastery of a poem, the building of a temple, the life of a statesman, or the talent of the Sophoi. In other words, technē is a skill of mind, of existence itself, well before it is a mere "craft" or exercise in engineering. Heidegger says:

Technē is the name not only for the activities and skills of the craftsman, but also for the arts of the mind and the fine arts. Technē belongs to bringing-forth, to poiēsis; it is something poetic.¹⁸

¹⁷Heidegger, Basic Writings, 293. Heidegger, Question Concerning and Essays, 10. Heidegger is both quoting and translating from the Greek original. For another translation see Symposium, tr. by Michael Joyce in The Collected Dialogues of Plato Including the Letters, ed. by Edith Hamilton and Huntington Cairns, Bollingen Series LXXI (New York: Bollingen, 1969), 557. (Basic Writings used above.)

¹⁸Heidegger, Basic Writings, 294. Heidegger, Question Concerning and Essays, 13. (Basic Writings used above.)

Further along, Heidegger states:

...The word technē is linked with the word epistēmē. Both words are terms for knowing in the widest sense.¹⁹

Technē is not the ship which lies before one. Nor is it the tools or the craftsperson solely. The essence of technē is to be found elsewhere. It is found in bringing-forth, presencing, epistēmē, and in Being. Here Heidegger is echoing the observations of several scholars of technē.²⁰ Technē was never the concept of craft only. It is what craft, or craftiness,²¹ points to.

Technē is Humankind's Promethean and Faustian self which is implied in the notion of making. It is Humankind who steals the fire from the gods. In so doing, Humankind learns how to be a god. Technē is the act of creation. In one sense, Humankind can draw from this the necessity of

¹⁹Heidegger, Basic Writings, 294. Heidegger, Question Concerning and Essays, 13. (Basic Writings used above.)

²⁰There are several articles on technē which are of interest. The best analysis present on technē is by John Wild, "Plato's Theory of Technē, A Phenomenological Interpretation," Philosophy and Phenomenological Research 1 (September 1940-June 1941): 255-293.

²¹The thought here is about the Greek myth of Hermes. It is best described by Norman O. Brown, Hermes the Thief (Madison: University of Wisconsin Press, 1947). Hermes is normally thought of as the messenger for the gods. He is "fleet-footed" Hermes. This is really only one side of the myth which was subsequently appropriated under the Roman diety, Mercury. Originally, Hermes was also a thief who stole Apollo's cattle by subtle stealth and trickery. The idea of craft, then, comes also from a notion of trickery. Linked with the myth of Prometheus--also a thief--we see the idea of craft as being a certain kind of stealing; it is a theft of the sacred fire. There is a linkage of both craft and craftiness which comes down to us in the words. They refer to a subtler and broader range of concepts which, by themselves, point to the depth below the idea of mere tools or simple crafts. It is worth noting here that Heidegger also feels there is philosophical value to understanding the history of words. That history reveals something about the words which may not be completely evident in current usage.

humility. If Humankind cannot learn this lesson, it may suffer the fate of Prometheus. That fate was the result of his hubris. Such humility necessitates that Humankind discard the notion of technology as merely being a means to other ends or as a tool. Considering it to be either ignores the depth which is implied by the activities which go to make up technology.

Immediately following his comments on technē, Heidegger arrives at the central thesis of QCT. He says:

Occasioning has to do with the presencing (Anwesen) of that which at any given time comes to appearance in bringing-forth. Bringing-forth brings out of concealment in unconcealment. Bringing-forth comes to pass only insofar as something concealed comes into unconcealment. This coming rests and moves freely within what we call revealing (das Entbergen). The Greeks have the word aletheia for revealing. The Romans translate this with veritas. We say "truth" and usually understand it as the correctness of representation.

But where have we strayed to? We are questioning concerning technology and we have arrived now at aletheia, at revealing. What has the essence of technology to do with revealing? The answer: everything. For every bringing-forth is grounded in revealing.... Within its domain belong end and means as well as instrumentality.... Technology is therefore no mere means. Technology is a way of revealing.²²

Technology is not found exclusively in the instrument or the tool. Neither is solely a means to other ends. Technology's essence is in its relation to Being. The "means to ends" formulation of technology gives way to the ontological and epistemological status of technology as a bringing-forth.

It would be tempting to say here that Heidegger has merely relegated the concept of technology to the status of an abstract conceptualization. But, in later passages, Heidegger dismisses this. To see technology's

²²Heidegger, Basic Writings, 293-294. Heidegger, Question Concerning and Essays, 11-12. (Basic Writings used above.)

essence as an abstraction is merely correct. Rather, the concepts Heidegger uses, while having an abstract quality, are meant to convey ideas which have their complete sense in the world, in the acts of being and becoming.

Before going on to the next section, a few more words are in order. The essence of technology, as technē, is all-pervasive. There is no aspect of life, be it in the intellectual domain or in the physical, which it does not touch. All making is its field. Humankind cannot be the sole arbiter of technology anymore than it can change the orbit of the Earth. Humankind is in a proper relation to technology when it becomes part of the four causes. This relation itself suggests a certain necessary humility as well as sensitivity to what goes into the making, the creation. That creation is never caused by a demand. Neither is technology to be found in any machine. Rather, it is both machine and Humankind who are a part of the sphere which is the essence of technology, as technē.

This perception of technē is close to what Jacques Ellul calls "la technique."²³ Technique is the ability to do something. It is also all-pervasive (particularly in the modern context which Ellul is dealing with). It is so pervasive that all other systems (governments, society, etc.) are aligned underneath its influence. That is, "la technique" is a transcendental concept which orders and informs the task of any creation be it physical or mental.

²³Jacques Ellul, The Technological Society, trans. by John Wilkinson, with Introduction by Robert K. Merton (New York: Vintage Books 1964).

But, although Heidegger and Ellul converge at this point, they also radically diverge. That divergence is instructive of what Heidegger wants to say about technē and technology. Ellul's concept is still informed and motivated by a physical requirement. La technique is always expressed by some instrumentality or by a technique related in some way to a physical setting. The tool is still crucial to Ellul's conception of technology. Heidegger, on the other hand, denies this. Technology has nothing to do with any tool. Technē or technology is what might be called the background to any instrumentality. The background is composed of a complex set of interdependancies which Heidegger has characterized as responsibility, indebtedness, bringing-forth, etc. All of this is focused on making in the widest possible sense. Humankind is well advised to listen to this essence since its pervasiveness knows no wall nor boundary.

Concealment, Unconcealment, and Revealing

The concepts of concealment, unconcealment, and revealing are of central importance to understanding Heidegger's concept of both technē and technology. Heidegger leaves off his discussion of technē by saying that whatever is brought forth "comes to pass only insofar as something concealed comes into unconcealment."²⁴ This move into presencing is also something which "moves freely within...revealing."²⁵ Technē is this

²⁴Heidegger, Basic Writings, 293. Heidegger, Question Concerning and Essays, 11. (Basic Writings used above.)

²⁵Heidegger, Basic Writings, 293. Heidegger, Question Concerning and Essays, 11. (Basic Writings used above.)

activity of revealing. Heidegger will also say, "What is modern technology? It too is a revealing."²⁶ It is obvious from the text that technology's essence, as well as technē's essence, is to be found in Heidegger's concepts of concealment, unconcealment, and revealing.

The relationships between these three terms is not discussed by Heidegger in QCT. Nor are the meanings of these terms explicitly defined in QCT except by inference to the ideas of bringing-forth and presencing. It is therefore necessary to use other means in order to coax the definition forward. Several approaches shall be used. First Lovitt's footnote regarding the three terms will be examined. Secondly, evidence from QCT will be presented. Following this will be a short formal outline of the relationships as they appear in QCT. In addition an example will be drawn from another essay by Heidegger.

One central idea can be drawn from what follows. Despite the abstract sense these terms take on, Heidegger intends them to be representative of fundamental structures of the World not unlike the basic phenomenal realm Husserl discusses when dealing with pre-predicative judgements.²⁷ The triad of concealment, unconcealment, and revealing go before the word in silence just as the pre-predicative judgement informs all reflection in its essentiality. Neither Heidegger nor Husserl are content with passing over it in silence.

²⁶Heidegger, Basic Writings, 296. Heidegger, Question Concerning and Essays, 14. (Basic Writings used above.)

²⁷Edmund Husserl, Ideas. General Introduction to Pure Phenomenology, trans. by W.R. Boyce Gibson (London: George Allen and Unwin, 1931; London: Collier-Macmillan, Collier Books, 1969).

Lovitt says of concealment and unconcealment:

Entbergen and Enbergung join a family of words all formed from bergen--verbergung (to conceal), Verborgenheit (concealment), das Verborgene (the concealed), Unverborgenheit (unconcealment), das Unverborgene (the unconcealed)--of which Heidegger makes frequent use. The lack of viable English words sufficiently numerous to permit a similar use of but one fundamental stem has made it necessary to obscure, through the use of "reveal," the close relationship among all the words just mentioned. None of the English words used--"reveal," "conceal," "unconceal,"--evinces with any adequacy the meaning resident in bergen itself;...²⁸

Unfortunately, Lovitt does not tell us what those subtle relationships are nor even what they exactly mean. Nevertheless, what Lovitt does do is to indicate that there is, in fact, a relationship between these terms.

In turning to QCT, one finds that it leads one to believe concealment and unconcealment precedes revealing as the dominant concept. Or it is the reverse. Revealing is the dominant theme which controls concealment and unconcealment.

In the passage quoted at the end of the previous section, Heidegger says:

Bringing-forth brings out of concealment into unconcealment. Bringing-forth comes to pass only insofar as something concealed comes into unconcealment. This coming rests and moves freely within what we call revealing (das Entbergen).²⁹

What is this "coming" of the last sentence? Bringing-forth comes, happens, only if a thing, which is concealed, comes into unconcealment. That is,

²⁸ Heidegger, Question Concerning and Essays, footnote, 10.

²⁹ Heidegger, Basic Writings, 293-294. Heidegger, Question Concerning and Essays, 11. (Basic Writings used above.)

the condition of bringing-forth, what has been termed creation, only comes about in terms of something which was hidden is now no longer hidden but unconcealed. Further, this coming 'moves freely within... revealing."³⁰ The terms of creation, bringing-forth, are such that they seem to be either enclosed or bracketed by revealing.

This interpretation makes revealing the primary mode. Yet this rendering is only partially correct. One could just as easily say that something's unconcealment is primary since it is the case that something is coming from concealment to unconcealment. This is the basic mode of bringing-forth itself. Even though a thing, such as a chalice, has been revealed to one by the four causes, its primary condition is that of something concealed which is now unconcealed. It is, in turn, revealed to one. Revealing becomes a term which does not bracket as much as serves as the foundation, as a mode, for unconcealment to occur. Unconcealment 'moves freely within what we call revealing."³¹ This arrangement is the most suitable interpretation of the above. More evidence is, however, required.

A discussion of the formal relationships of the three terms will help guide one toward a correct understanding. It is natural to think of the three terms thus: concealment/unconcealment and revealing. This arrangement is essentially correct, although it obfuscates the relation

³⁰Heidegger, Basic Writings, 293-294. Heidegger, Question Concerning and Essays, 11. (Basic Writings used above.)

³¹Heidegger, Basic Writings, 293-294. Heidegger, Question Concerning and Essays, 11. (Basic Writings used above.)

revealing has to both terms. Thus, it is better to arrange them as has been arranged: concealment, unconcealment, and revealing. An even better arrangement is the following: concealment and unconcealment/revealing. This arrangement fits statements by Heidegger in QCT. For example:

Technology is a mode of revealing. Technology comes to presence in the realm where revealing and unconcealment take place, where aletheia, truth, happens.³²

In this statement, revealing and unconcealment are paired, similar, events. Yet they still are obviously meant to be two different things, otherwise Heidegger would have used one of the terms but not both.

Revealing and unconcealment have one aspect to them which is basic to both. They both are moving from or coming from concealment. They arise from a common source. Concealment will be discussed shortly. But it is important here to note that concealment does not denote absence in a negative way. Absence does not mean nothingness. Concealment is not nothingness. Instead, concealment means that aspects of any given thing or event are hidden. They are covered over, but they are not the "nothing." Thus, the chalice is hidden from one in the silver. It is brought forward by the four ways. It is hidden from the Bishop until its appearance. In turn, the chalice may then become hidden to the silver-smith who no longer has possession of the item or who may also not know the services it will be used for. Thus, the chalice is hidden to him or her. But in no case is what is hidden mean nothingness. If any concept

³²Heidegger, Basic Writings, 295. Heidegger, Question Concerning and Essays, 13. (Basic Writings used above.)

could be used, it would be that what is concealed is that which has not yet come to presence.

Revealing and unconcealment imply each other. Unconcealment always implies revealing. Revealing always implies unconcealment. Yet, despite this relation, they are still separate ideas. This can be inferred from QCT. Heidegger calls technology a mode of revealing. He makes the separation between ancient and modern technology. Yet both are a revealing. They are a mode of revealing. This modality allows for the shifting and changing of technology which is still a revealing. Ancient and modern technology are still different, however.

Heidegger makes the distinction between technē (T_1) and modern technology (T_2). T_1 and T_2 are both a form of revealing, yet they are both different. Where technē is governed by poiēsis, modern technology is governed by a series of orderings of nature. (This is something which will be discussed at length in the next section.) They are, according to Heidegger, distinct epochs. Yet their distinction is still covered by revealing. Modern technology is, too, a revealing.

Among the many traditional positions of Western Thought which Heidegger is trying to move away from is historicism. His account of the notion of time is an attempt to radically disassociate himself from concepts such as the idea of a dialectically developing World Spirit. Yet, Heidegger does account for something like a history which is more like a proto-history. This proto-history is suggested by terms like revealing. Revealing is a modality of time. Historically, T_1 and T_2 are different. Revealing accounts for these differences evident to everyone, while re-

retaining a broad conceptual umbrella under which the changes occur.

What is different in time is different but still accounted for by revealing. Revealing becomes a mode itself of that which does not change in any time: unconcealment and concealment. Both of these latter terms, as shall be shown, are the givens of existence. Roughly, Chevrolets and Buicks change from year to year, but they are still Chevrolets and Buicks. All of them are made by General Motors.

One should also keep in mind that QCT points to technology as a revealing first. In several instances, some of which have already been shown, technology is a revealing. It is also an unconcealment. But this is true only inasmuch as all revealing implies unconcealment. (Naturally, unconcealment also implies a revealing. It is important to note that technology is first a revealing. The examples have already been weighted in favor of a movement from revealing to unconcealment.)

The above definitions of concealment, unconcealment, and revealing go part of the way toward explaining their meaning. But the definitions require further explanation. There are still some relations between revealing and concealment/unconcealment which need explication. In order to do this, another text will be used. The essay by Heidegger, Alētheia, Heraclitus Fragment B 16, is that source.³³

The concept of concealment is discussed by Heidegger in an example he draws from The Odyssey by Homer, Book VIII, 83ff. The story is about

³³ Martin Heidegger, Alētheia, Heraclitus Fragment B 16, in Heidegger, Early Greek Thinking, trans. and ed. by David Farrell Krell and Frank A. Capuzzi (New York: Harper and Row, 1975), 102-123.

Odysseus' stay in the palace of the Phaeacian King. He is being entertained with some music. The sound of the music overwhelms him with emotion. He covers his head in order to weep. One would naturally focus on concealment here to mean Odysseus had hidden himself in some way not unlike Socrates who covers his head in order to deliver a speech to Phaedrus.³⁴

Heidegger expands this interpretation of the event in The Odyssey. This elaboration illuminates what Heidegger is thinking about when he talks about concealment and unconcealment. Heidegger states:

The German translation by Voss comes closer to what the Greek says... "He concealed his flowing tears from all other guests"... (It) does not mean the transitive "he concealed" but "he remained concealed"--as the one who was shedding tears... "Remaining concealed" is the key word in the Greek. German, on the other hand, says: he wept, without the others noticing it. Concealment here defines the way in which a man should be present among others.³⁵

It is not the simple fact of the tears of weeping Odysseus which are hidden away or concealed. Nor is the example suggestive of how grown men should behave in public. It is Odysseus in his sadness which is hidden from the view of others. Likewise, Socrates must hide himself away so as to take possession of himself; so he is not distracted. The key here is not to regard the acts of either Odysseus or Socrates from the simple perceptual context of their being physically concealed. For Odysseus, he conceals the sadness which moves within him and cannot be

³⁴Plato, Phaedrus, trans. by R. Hackforth in The Collected Dialogues of Plato Including the Letters, ed. by Edith Hamilton and Huntington Cairns, Bollingen Series LXXI (New York: Bollingen, 1969), 484.

³⁵Heidegger, Early Greek Thinking, 106.

seen nor, perhaps, understood by his compatriots. For Socrates, it is a concealment of his own emotions in order to get through his speech to Phaedrus on the subject of lovers. Socrates conceals himself in order to reveal.

Heidegger, in the same discussion, says:

Accordingly, the Greek experience in the case of Odysseus does not proceed from the premise that the guests present are represented as subjects who in their subjective behavior fail to grasp weeping Odysseus as the object of their experience. On the contrary, what governs the Greek experience is a concealment surrounding one in tears, a concealment which isolates him from the others.³⁶

Odysseus has removed himself by virtue of his condition, his state, to one of a presence without acknowledgement. In the same sense, an individual can hide his head in shame. But it is not the physical act which is the "hiding." The physical act becomes a metaphor for a hiddenness; a concealment, which is much more profound.

An analogy can be drawn from current perceptual theories which will give a more complete sense of the idea of concealment. It is held, roughly, that the relation between the functioning of the eye and brain is such that there is a high degree of selectivity in what is seen, and recognized. The eye, in coordination both with the desires of the subject and the situation itself, focus on certain portions of what is available in the field of vision. What is not focused on is thereby concealed. Those objects which are not recognized, however, do not fall off into nothingness. They are still "there." Nevertheless, they are not the focus of attention. They remain concealed.

³⁶Heidegger, Early Greek Thinking, 107.

The chalice is not buried or hidden in the sense of it being cloaked or hidden away in a vault until it leaps upon one from nothingness. The creation of the chalice comes to be by virtue of the four ways or causes. The silver of the chalice, the idea of the chalice, its purpose, and the silversmith were all present before the chalice came to be. But prior to the creation of the chalice, prior to its presence, these elements (causa materialis, causa formalis, causa finalis, and causa efficiens) were concealed until the moment of presencing, of creation. They came into the domain of the unconcealed as a result of the process implied in bringing-forth. Hiddenness, concealment, is not nothingness. It is what "is" prior to the bringing-forth of presencing.

In concluding his discussion of Odysseus, Heidegger says, "Presencing is luminous self-concealing."³⁷ The very concept of concealment has in it its opposite which is unconcealment. The reverse can be true as well. Unconcealment can imply concealment. These two terms, while seemingly the negative of each other, imply each other. This is Heidegger's answer to the metaphysical problem of nothingness. There is no nothingness. There is only Being which is constantly shifting from concealment into unconcealment, from unconcealment into concealment not unlike the eternal swinging of a universal pendulum.

In the same essay, Heidegger states:

³⁷Heidegger, Early Greek Thinking, 114. For the purposes here, read "self-concealing" for concealment and "self-revealing" for unconcealment. The distinctions here between what this translation does and how Lovitt treats the same is illustrative of the difficulty in unravelling the terms unconcealment, concealment, and revealing. There is a great deal more that can be said about this. But, for the purposes here, it is relatively safe to assume the above similarity in terminologies between two different translators.

Self-concealing guarantees self-revealing its true nature (Wesen).
 In self-concealing, inversely, what reigns is the restraint of the
 inclination to self-revealing. What would a self-concealing be
 if it did not restrain itself in its tendency toward rising?³⁸

Replacing the notion of Being and Not-Being are the mutually interdependent concepts of concealment and unconcealment. The relation of concealment and unconcealment are not unlike the relationships of responsibility and indebtedness. Although Heidegger does not directly equate these terms, it is not far-fetched to say that they are similar expressions of the same core of ideas. The Earth is indebted and responsible to the Moon, and vice versa. There is also a constant rising and setting, a constant shifting of states, between the Earth and Moon. There is never a complete absence of one or the other. The Moon never really disappears, nor does the Earth.

As stated above, revealing is a natural partner to unconcealment. They are, as Lovitt has pointed out, nearly synonymous, yet distinct, terms. Revealing is paired with unconcealment as coming from concealment. Yet these terms were left in a duality which is artificial. The evidence from Heidegger was required to fill out these concepts. It can now be shown that revealing, inasmuch as it is linked to unconcealment, is as deeply embedded in its relation to concealment as unconcealment is. Revealing, the presencing of something in any kind of temporal setting, is subtly intertwined with the concealment of same. One cannot exist without the other like the Moon and the Earth.

Some further comments on unconcealment, concealment, and revealing

³⁸ Heidegger, Early Greek Thinking, 108.

as they pertain to Being are in order here, before going on to Heidegger's comments on modern technology. As has been noted earlier, Being and its story is behind the concepts which have been of concern to these two sections.

Concealment is a central feature of Being, as is unconcealment. Being can and will continue to hide itself from Humankind. It is only at luminous moments either in the history of an individual or in the broader histories of Humankind that it reveals itself out of unconcealment. The real problematic of Being is its constant shifting through concealment, unconcealment, and revealing. Being is always defying any laws of logic or the speech of science. It constantly avoids tacit, explicit, or implicit definitions.

Barrett has this to say regarding Heidegger's concept of Being:

...Being is the protagonist in the historical drama. Of course, Being is not an individual being, and cannot be an agent in any physical or human sense. Being never does or suffers anything. Being simply is. "What else do you expect Being to do?" Heidegger remarks in one fretful moment. Yet as its light waxes or wanes, it energizes the actions of men and is played out, and so is more active than any mortal agent could ever be. It is a strange protagonist, to be sure, for almost always it wears disguises. It does not appear as itself but in the semblance of something else. For most men, it has long since vanished into the disguise. Yet, though hidden, it is all the while the presence that enables them to see the disguise in the first place. And only in this light do we as the human chorus sit down at the end of the drama and seek to gather some wisdom from the epoch that has faded. ³⁹

One can see the parallels here to concealment and unconcealment. Being waxes and it is unconcealed. It wanes and it is concealed. Even as it

³⁹William Barrett, The Illusion of Technique, A Search for Meaning in a Technological Civilization (Garden City: Anchor Press, Doubleday 1978), 183.

is the master of all disguises, it "is all the while the presence that enables them to see the disguise in the first place."⁴⁰ As noted earlier, Heidegger says, "Presencing is luminous self-concealing."⁴¹ Concealment rests in unconcealment by virtue of Being's essence. The reverse is true. What is unconcealed becomes concealed in the eternal swing of the universal pendulum.

What is also interesting about this quote from Barrett is the statements it makes about Humankind's relation to Being. Being is the master trickster, that crafty fellow, who continually mocks Humankind with the play of masks. The quote suggests that even as Being conceals in its disguises and avoids any positive identification, cognitive or otherwise, it also is the platform from which the Human species can itself make any comments or have any insights into Being itself. Humankind is caught between the concealment and unconcealment of Being. This dilemma is one, however, that cannot be escaped. Nor would one want to given the opportunity. Being is the possibility of one's very existence.

Furthermore, "...Being is not an individual being, and cannot be an agent in any physical or human sense."⁴² Being is not a materiality nor is it the sum total of relations between things seen as ideas nor is it the universal history of the Spirit which carries Humankind within its destiny through the agency of the idea. Being encompasses all of these

⁴⁰Barrett, The Illusion of Technique, 183.

⁴¹Heidegger, Early Greek Thinking, 108.

⁴²Barrett, The Illusion of Technique, 183.

discourses as a transcendent "entity" which is more than the sum total of its parts.

Any attempt to explain Being in positivist terms, scientific terms, or otherwise is bound to failure. These discourses are captured by the disguises of Being and become diverted. The attempt to be complete, metaphysically or positivistically, always fails to appropriate Being. These explanations fail to describe it or to build discourses on it. This is because language itself and the entirety of Human thinking is a metaphor of Being. Language and Human thought are diverted by the disguises, one of which is language and thought itself. Nothing escapes the primacy of Being. Hence, all discourses are incomplete. Their fixity, their substantial reserve of empirical evidence, is built on sand. Being, at work in the world, is perpetually concealed and unconcealed.

Despite this, Heidegger does not think that one therefore cannot know Being in some way. In the possibility of concealment, there is always the possibility of the pendulum swing to unconcealment. Socrates may throw something over his head to read a speech. The speech is still heard by Phaedrus. Odysseus may hide himself with a blanket to weep. His hiddenness still has the possibility of understanding it. The chalice, though concealed prior to creation in the four ways, still finds its way into presence. Similarly, Humankind has the possibility of overcoming modern technology through the essence of Being, as shall be shown in the following section. The real act of freedom is to see one's own situation in relation to Being as well as to contemplate the essence of Being itself.

In so doing, one is freed from the eternal frenzy of this discourse or that discourse which claims the truth to be its own.

Although this inquiry will deal with modern technology shortly, it is important here to tie some of these remarks on Being in with modern technology as well as technology in general. Heidegger says that technology is a revealing. If it is a revealing, then technology is part of Being. If this is so, then technology can never be anything technological. It never can be solely a machine, a tool, or a technique. These are elements of technology, but not its essence. That essence is found, according to Heidegger, only when contemplating Being as a revealing.

Technology is a whole greater than the sum of its parts which participates, as a subaltern, in Being. Technology is the semi-diety which, like the crafty Hermes, speeds the message of the Diety, Being, on its way. One can also infer that technology's influence goes well beyond the borders of machines or tools to influence Humankind in its very essence. Heidegger uses this kind of understanding to make a point regarding the relation of technology to science. The influence of technology, as a revealing, precedes science and orders it.⁴³ Technology also has influenced the direction of Western Civilization in a profound way. This influence includes all science, philosophy, and machinery. Technology has already claimed all discourses and materiality as its own. Technology is, in short, the history of Being in this epoch.

⁴³This issue has generated some amount of scholarship. See, for instance: Don Ihde, "The Historical-Ontological Priority of Technology over Science" in Existential Technics (Albany: State University of New York Press, 1983), 25-46.

This is the power of Heidegger's argument. Technology goes well beyond the machine or the tool to encompass all being in its grasp. The car, the atomic bomb, genetic engineering, the eradication of small-pox, Madame Curie, Einstein (in short, the good and the bad) have been preceded by an invisible force called technology which sometimes conceals itself and sometimes is revealed. Humankind is finally seeing what has been, for some time, present, but ignored.⁴⁴

The preceding remarks regarding concealment, unconcealment, and revealing have been, to some extent, arcane. Heidegger's language and thought take on a strangeness. As has been noted, Heidegger's authorship is one which seeks to radically reorient the perception Humankind has of itself and the world from a philosophical point of departure. This is the inevitable result of working with a philosophy which takes no philosophical stance of the last two thousand years for granted. Everything must be re-explained. Furthermore, it can now be said that Heidegger is attempting to write and think his readers out of the collapse of classical philosophy and the subsequent rise of modern culture as seen in the epoch of modern technology.

Nevertheless, one may ask what use is there in the language which Heidegger employs. At least part of the answer lies in the problem of translation. As has been shown, many terms in QCT defy translation into

⁴⁴This explication, while it certainly considers the issue of Being, does not claim to have analyzed Heidegger's position completely. The best treatment of this is: John Loscerbo, Being and Technology A Study in the Philosophy of Martin Heidegger, Phaenomenologica, Collection Fondée par H.L. Van Breda et Publiée sous le Patronage des Centres d'Archives Husserl, 82 (Boston: Martinus Nijhoff, 1981).

English. It is compounded by a translation which is sometimes flowery and overly poeticized. Heidegger, in the original German, is anything but this.⁴⁵ Of course, the remainder of the problem lies in Heidegger's task itself.

One can only ask for some amount of understanding of these factors and difficulties. One must also reassert that Heidegger's rendering of terms such as concealment, unconcealment, and revealing are really meant to refer to the simplest of things. As he says:

We are too quick to believe that the mystery of what is to be thought always lies distant and deeply hidden under a hardly penetrable layer of stangeness. On the contrary, it has its essential abode in what is near by, which approaches what is coming into presence and preserves what has drawn near. The presencing of the near is too close for our customary mode of representational thought--which exhausts itself in securing what is present--the experience of the governance of the near and without preparation to think it adequately.⁴⁶

Modern Technology

This section will be devoted to an explication of what Heidegger thinks is the essence and problems of modern technology. The essential groundwork has been laid for an understanding of modern technology's essence. It is a revealing, as technē was to another age. But there are several fundamental features of modern technology which are strikingly

⁴⁵The original German text has been consulted. Martin Heidegger, Die Frage Nach der Technik in Vorträge und Ausätze (Pfullingen: Verlag Gunther Neske, Vierte Auflage, 1978) 9-40. Also see, on the translation Albert Borgmann and Carl Mitcham, "The Question of Heidegger and Technology, A Critical Review of the Literature," Philosophy Today, XXXI, 2-4, Summer 1987, 98-194. Lovitt is taken to task for his translation of QCT.

⁴⁶Heidegger, Early Greek Thinking, 121.

divergent from the older form of technology. These features are themselves the danger which modern technology holds for Humankind. That danger is the potential technology has to cover over the very source, revealing and Being, from which it comes. The pendulum swing could halt over concealment permanently.

The first task is to illustrate what Heidegger considers to be the chief aspects which are new to modern technology. Secondly, Humankind's relation to these aspects of modern technology which are exemplified in the concepts of enframing and destining will be examined. Thirdly, the danger which confronts Humankind will be explicated. This will lead to the consideration of how modern technology really threatens Humankind. Fourthly, a pathology of Humankind's condition will be used to describe what Humanity has become, based on Heidegger's analysis of modern technology. Finally, the new type of essence which technology is will be examined. What Heidegger considers to be the "cure" for the ills of modern technology will also be briefly reviewed.

Heidegger says of modern technology:

What is modern technology? It too is a revealing. Only when we allow our attention to rest on this fundamental characteristic does that which is new in modern technology show itself to us.⁴⁷

As long as one considers what the essence of technology is, one is on the right path to discovering what lies concealed there. But, if one strays into the consideration of technology as a means to other ends, one becomes lost.

⁴⁷Heidegger, Basic Writings, 296. Heidegger, Question Concerning and Essays, 14. (Basic Writings used above.)

One could object that a definition of technology has already been established in the example of technē. But this definition of technology is limited to ancient technology and does not cover the modern technology experienced now. One could also infer that the principles of revealing themselves (bringing-forth, poēisis, etc.) are out-moded. Heidegger acknowledges that at least there is a problem in understanding modern technology. He says:

In opposition to this definition of the essential domain of technology, one can object that it indeed holds for Greek thought and that at best it might apply to the techniques of the handcraftsman, but that it simply does not fit modern machine powered technology. And it is precisely the latter and it alone that is the disturbing thing.⁴⁸

In other words, the disturbing thing is that the example of the ancient Greeks, their technē, has given way to a modernity which has little or nothing to do with it. Heidegger still considers modern technology a revealing. It is still based in Being, concealment, and unconcealment. But how is it so? What allows it to be a revealing and at the same time so radically distinct from technē and poēisis?

Heidegger proceeds to delineate the main features of modern technology. This will be addressed shortly. It is important to note here that a distinct shift has occurred in Heidegger's argument. Heidegger has, up until this point, used the example of technē to bring the reader to the concept of the essence of technology which is a revealing. But, as the above shows, he is drawn to make a historical distinction between ancient

⁴⁸ Heidegger, Basic Writings, 295. Heidegger, Question Concerning and Essays, 13-14. (Basic Writings used above.)

and modern technology. Heidegger has shifted from an example used for the purposes of an argument to an example used to make a historical disjunction. This issue will be discussed in the following chapter. Heidegger's usage of technē and ancient technology is important. It does open up questions regarding the consistency of his stance. For now, it is important to regard what Heidegger says about modern technology.

What has the modern age to do with technē? What are the differences? Heidegger answers by saying that it is commonly assumed the modern age is one based on the principles of physics. It is that discipline which has provided the principles governing most modern technologies. Technology and physics have played closely interwoven roles throughout modern history. But this is mostly just historical fact which does not constitute the whole truth. In fact, according to Heidegger:

The decisive question still remains: Of what essence is modern technology that it thinks of putting exact science to use?⁴⁹

The essence of modern technology precedes and informs the main underpinnings of modern industrialized Western Civilization. Its influence is such that it and not physics has defined the limits, the horizon, of Western Civilization as a technological society.

The underlying essence of modern technology may be the same as technē, in that they are both a form of revealing. The constitution of modern technology is different, however. The circular relations of the four

⁴⁹Heidegger, Basic Writings, 296. Heidegger, Question Concerning and Essays, 14. (Basic Writings used above.)

ways have given way to a different system. There are major differences in the way modern technology reveals itself. Heidegger gives a thumbnail sketch of what he thinks are the tenets of modern technology in the following:

The fact that now, wherever we try to point to modern technology as the revealing that challenges, the words "setting-upon," "ordering," "standing-reserve," obtrude and accumulate in a dry monotonous, and therefore oppressive way....⁵⁰

The tenor of modern technology is much more strident. The pastoral life of Humankind with nature has been supplanted by an entirely new set of rules and norms. The approach to the world, to nature, has been altered to fit the demands of an age of machines whose revealing dances to the cadence of the piston or the electronic circuit, not the hammer of the silversmith.

It has been said that Heidegger's notion of technē has as its central principle concealment, unconcealment, revealing, bringing-forth, and etc. The sense of creation, as a form both of technē and poēisis, is a peculiar type of revealing in which the object is raised to what Heidegger has termed unconcealment; it has been raised to presence. The whole sense of this gathering together of the four ways and its culmination in presence has a certain "Eastern flavor" to it. There is a passivity in the individual's relations to the other causes. This passivity is expressed as an acquiescence to the forces of which one is a part. This sensibility is in the following comment by Heidegger. He is contrasting the older

⁵⁰ Heidegger, Basic Writings, 299. Heidegger, Question Concerning and Essays, 17. (Basic Writings used above.)

technē with modern technology:

The work of the peasant does not challenge the soil of the field. In sowing the grain it places seed in the keeping of the forces of the growth and watches over its increase.⁵¹

The peasant does not challenge nature as does modern technology. He or she is in some primal or dependent relation to nature, whereas modern technology's relation to nature is aggressive. It is a strident assertiveness.

Hans Jonas expands upon this point in a very lyrical way:

With all his boundless resourcefulness, man is still small by the measure of the elements: precisely this makes his sallies into them so daring and allows those elements to tolerate his forwardness. Making free with the denizens of land and sea and air, he yet leaves the encompassing nature of those elements unchanged, and their generative powers undiminished. Then he cannot harm by carving out his little dominion from theirs. They last, while his schemes have their shortlived way. Much as he harries Earth, the greatest of gods, year after year with his plough--she is ageless and unwearied; her enduring patience he must and can trust and to her cycle he must conform.....And no matter how many illnesses he contrives to cure, mortality does not bow to his cunning.⁵²

This relation as child to parent has been given over to challenging-forth, "Herausfordern." What was once co-dependence in older times is now a demand made to nature that it supply the basic needs of an industrial society (i.e.: coal, natural gas, oil, silicon, and etc.) Heidegger says:

And yet the revealing that holds sway throughout modern technology does not unfold into a bringing-forth....The revealing that rules in modern technology is a challenging-forth (herausfordern), which puts to nature the unreasonable demand that it supply energy that can be extracted and stored as such.⁵³

⁵¹Heidegger, Basic Writings, 296. Heidegger, Question Concerning and Essays, 15. (Basic Writings used above.)

⁵²Hans Jonas, Philosophical Essays From Ancient Creed to Technological Man (Chicago: University of Chicago, Midway Reprints, 1980), 5.

⁵³Heidegger, Basic Writings, 296. Heidegger, Question Concerning and Essays, 14. (Question Concerning and Essays used above.)

This demand, challenging-forth, orders nature to conform to what is perceived as required, be it the untapped reserves of uranium or the oilfields of Alaska. Nature is thus transformed and made to accommodate Humankind's needs. What comes of this demand is called "ordering" by Heidegger.

The concept of order and ordering, from the German root "stellen," is used widely in the latter section of QCT. Lovitt notes the following about "stellen":

The verb stellen (to place or set) has a wide variety of uses. It can mean to put in place, to order, to arrange, to furnish or supply and, in a military context, to challenge or engage. Here Heidegger sees the connotation of herausfordern...as fundamentally determinative of the meaning of stellen, and this remains true throughout his ensuing discussion.⁵⁴

Thus, stellen, ordering, means a challenging claim made against nature to provide, to be ordered. Obvious examples of this abound. The Silicon Valley itself, once a peaceful, rich, agricultural area was paved over to "make way" for the new technologies of computers and communications. This is a testament to the ordering of an agricultural area for other needs.

Nature, according to Heidegger, is ordered to "stand by," to await our needs. This aspect of ordering he calls the standing-reserve. Nature becomes the object which is changed about, twisted, and conformed to this neat package or that. It is put on hold to deliver. And behind this lies a complex series of events which is not unlike the relations of the four ways as expressed by the relations of indebtedness/responsibility:

⁵⁴Heidegger, Question Concerning and Essays, footnote, 15.

The revealing that rules throughout modern technology has the character of a setting-upon, in the sense of a challenging-forth. That challenging-forth happens in that the energy concealed in nature is unlocked, what is unlocked is transformed, what is transformed is stored up, what is stored up is, in turn, distributed, and what is distributed is switched about ever anew.⁵⁵

Indebtedness and responsibility are constantly balanced. There is, with the four ways, a sense of sharing which indebtedness and responsibility represented. Yet modern technology has a new twist. The balance has given way to that of ordering. Ordering demands, assertively, that resources be changed and transformed. What was once a harmony not unlike that of the planets has given way to the forward thrust of progress.

The above accounts for the general tenor of modern technology. It does not, however, account for the relation of Humankind to modern technology. This will be the main concern of the following. It is perhaps the most interesting and provocative analysis within QCT.

The chalice maker is not the means to the end of producing the chalice, nor are the tools. All mechanical production refers to a broader sense of creation which rests in the essence of Being itself. Similarly, Humankind is not the master of this modern technological ordering. The ordering and challenging nature of modern technology is a form of revealing and unconcealment. But, as with technē, Humankind takes its place within this newer cycle of creation which is the herausfordern and stellen.
Heidegger says:

But the unconcealment itself, within which ordering unfolds, is never a human handiwork, any more than is the realm through which man is already passing every time he as a subject relates to an object....

⁵⁵Heidegger, Basic Writings, 297-298. Heidegger, Question Concerning and Essays, 16. (Question Concerning and Essays used above.)

The unconcealment of the unconcealed has already come to pass whenever it calls man forth into the modes of revealing allotted to him.⁵⁶

Like the silversmith, Humankind is placed within revealing's and unconcealment's activities. It is not Humankind which determines the path of Being. Being already sets out the potentials which Humankind has to "be" with. The ordering of nature by modern technology, which Humankind usually thinks as being its own force or effort, is in fact already in full swing. It is already claiming Humankind to its own particular form of revealing and unconcealment.

The approach to nature which Humankind uses is itself symptomatic of the way in which Humankind has been ordered. It is not symptomatic, necessarily, of superior intellect or technical mastery. Heidegger says:

Thus, when man, investigating, observing, ensnares nature as an area of his own conceiving, he has already been claimed by a way of revealing that challenges him to approach nature as an object of research....⁵⁷

Modern technology is not the experiment which proves the over-coming by Humankind of nature by its intellectual powers. Those powers themselves have already been taken captive by ordering, challenging, etc. Being has claimed Humankind out of the concealed and unconcealed. This is true regardless of any discourse which seems to overcome the boundary of nature. Any discourse, as has been shown, is ultimately only a shadow of a shadow: the multiplicity of Being's disguises.

⁵⁶Heidegger, Basic Writings, 300. Heidegger, Question Concerning and Essays, 18-19. (Basic Writings used above.)

⁵⁷Heidegger, Basic Writings, 300. Heidegger, Question Concerning and Essays, 19. (Basic Writings used above.)

Heidegger is not only denying the concrete in the essence of technology. He is also de-anthropomorphizing the concept. He is taking away the child from the proud parents. He claims to have the information showing that Humankind is more the guardian or step-parents of a child whose parentage is, in the words of the Greeks, that of the gods.

Heidegger's expression for Humankind's relation to modern technology is "ge-stell." This is translated as enframing. Again, one sees the importance of the root verb "stellen" in "ge-stell." But, now it is Humankind who is being ordered, not simply nature. The same questions and demands are being place upon Humankind. Heidegger states:

Enframing means the gathering together of that setting-upon which sets upon man, i.e., challenges him forth, to reveal the real in the mode of ordering, as standing-reserve.⁵⁸

The rules for the direction of the use of nature as a resource have also claimed the one who thought he or she was the director. Returning to the example of the silversmith, the silversmith stands in relation to the four-fold ways as one part of the entire event of creation. Humankind is similarly placed in the midst of the challenging claims made to nature as stellen, the ordering.

The profundity of Humankind's capture by enframing is the fact that Humankind considers itself a resource. In a comment which is close to what are now called Human Resources rather than Personnel, Heidegger says:

If man is challenged, ordered to do this, then does not man himself belong even more originally than nature within the standing-reserve? The current talk about human resources, about the supply of patients

⁵⁸Heidegger, Basic Writings, 302. Heidegger, Question Concerning and Essays, 20. (Basic Writings used above.)

for a clinic gives evidence of this.⁵⁹

Ge-stell is a word which normally signifies a book rack or a skeleton. One can also understand it as a horizon, in the phenomenological sense, which encircles all questions posed and answered. But it is a horizon which does not shift and grow necessarily. Rather, it can have a fixity or rigidity to it which actually de-limits knowledge while deceiving Humankind to believe that it is expanding knowledge. This is the danger of modern technology, in part. One could also understand ge-stell as a bracketing which holds Humankind to a certain way of looking at the world. Its depth is the entire range of Human knowledge as well as the entire range of possible ways of dealing with the world and of approaching it. Humankind is "framed" in this realm. Humankind's activities, as the makers of machines, are already a symptom of our enframing or, better still, our enclosure. It is the house in which Humankind dwells. It is a familiar place. It is so familiar that it is easy to forget it, to take it for granted.

The precedence of modern technology over physics is an example of how Humankind is enframed, captured in the ge-stell. While Humankind thinks its modern physics to be the sole arbitrator and "tool" capable of understanding the world, it is actually the case that the essence of modern technology has captured physics. The ideas of a fixed system of classifications, ordered explanations of nature, and the use of nature itself to explain the laws are all symptoms of Humankind's enframing.

⁵⁹Heidegger, Basic Writings, 299. Heidegger, Question Concerning and Essays, 18. (Basic Writings used above.)

The sum of all of physics has been bracketed off by Being in the sense that the conversation which is physics has been captured in one disguise. It has been captured in one form of representation whose very insistence on its priority is actually the symptom of its deception. This issue is very close to Heidegger's concerns in QCT and elsewhere in the authorship. Despite its importance, it is important to note that the precedence of modern technology over physics is just a part, an example, in QCT. It is not the entire essay.⁶⁰

The way in which Humankind is captured is, according to Heidegger, forced or pushed along by a movement which is something like history. He calls this "geschick." This is translated by Lovitt as "destining." Geschick, like revealing, is a fundamental principle of Being. It precedes and informs such endeavors like history. Revealing has been called the subaltern, the messenger, of Being. To draw this metaphor out a little further, one should call geschick the chariot in which the messenger rides. It is the way the entirety of revealing comes about.

Destining is, for Heidegger, a sort of proto-history. It is something like the entire scope of "the story" in all of its contexts. It is never, however, understood objectively in its entirety. Like Being, it can never be appropriated by one discourse, one science, or even the combina-

⁶⁰ Despite this fact, critics focus on this claim exclusively. The opinion here is that this tends to distort the meaning of QCT by concentrating on a single issue. See the Bibliography for some of these articles. Specifically, Don Ihde, "The Historical-Ontological Priority of Technology over Science," Existential Technics, 25-46. Ihde also tends to try to provide a historical justification of Heidegger's remarks. This is not necessary since, as is shown in the following, a historical justification is irrelevant to Heidegger's concerns.

tion of all discourses, sciences, and history. Destining reminds this writer of the sense of history Tolstoy is thinking of in War and Peace.⁶¹

The story of the battle of Austerlitz is not understood except by taking in the entirety of the episode in all its detail. Even then, it is merely the "sense" of the episode which one is left with, not the event itself.

History is the fragments of destining written after the fact. It is destining which, in fact, conditions history. Heidegger says:

History is neither simply the object of written chronicle nor simply the fulfillment of human activity. That activity first becomes history of something destined.⁶²

Destining is any beginning which is always being concealed or covered over but, nevertheless, retains its importance. It is like the first steps one takes as a child or any experience, for that matter, whose remembrance is only a partial experience of what really was. Destining, as shall be shown, can even be concealed in the present, as it is experienced, if Humankind itself is not aware of its force.

To reiterate, no history nor record can understand or encompass it. History is never simply the object of written chronicle, if history is understood as destining. History as record is not the science one thinks it is.

And it is only the destining into objectifying representation that makes the historical accessible as an object of historiography, i.e., for science....⁶³

⁶¹Leo Tolstoy, War and Peace, trans. by Constance Garnett (Garden City: The Modern Library, 1931).

⁶²Heidegger, Basic Writings, 306. Heidegger, Question Concerning and Essays, 24. (Question Concerning and Essays used above.)

⁶³Heidegger, Basic Writings, 306. Heidegger, Question Concerning and Essays, 24. (Basic Writings used above.)

Destining is not unlike the sensibility one has of an important experience which never is completely recalled in the telling, unless the telling itself is another experience of similar caliber.⁶⁴

Enframing orders Humankind as it thinks to order and control nature. Destining carries Humankind and all revealing of modern technology along. Yet, it remains undisclosed in its totality. It is mysterious, untouchable. Destining and enframing combined make a formidable duo which might lead one to believe Heidegger is preparing an overture to an argument for a deterministic conception of modern technology. Both destining and enframing are portions of revealing. They therefore share a close bond with Being. Being, as revealing, is truth, alētheia. Truth, in turn, becomes a source of freedom if it is properly understood. The same things which threaten Humankind can also free Humankind. Heidegger states:

Freedom governs the open in the sense of the cleared and lighted up, i.e. of the revealed. It is to the happening of revealing, i.e., of truth, that freedom stands in the closest and most intimate kinship.⁶⁵

Humankind is not compelled, in the sense of being fated, to pursue a certain path within a revealing like modern technology. Nor is it ordered to do so in the sense of a command which cannot be reversed. The actual essence of modern technology, involving both freedom and alētheia, does rather the opposite. Heidegger himself is not arguing for anything like

⁶⁴This, perhaps, is the power and art of both poetry and story-telling. The telling, the saying, becomes the story or poem itself. This also has interesting suggestions about performance as opposed to just a reading from memory. (Not just the techne of recitation.)

⁶⁵Heidegger, Basic Writings, 306. Heidegger, Question Concerning and Essays, 25. (Question Concerning and Essays used above.)

strict technological determinism.⁶⁶

But Heidegger is arguing that a misappropriation of modern technology has led to the possibility of a technological determinism based on the misunderstanding of modern technology's essence. Heidegger is returning to what he began QCT with. Humankind cannot consider itself the master of technology who will get it in hand. This has been the leading sentiment of the entire essay. Humankind, placed within this world, takes its place within the greater sphere of Being. But Humankind has deceived itself into believing it is the master of modern technology understood as a mere tool.

Heidegger's comments on how Humankind may face a certain kind of technological determinism will be outlined in the following. In this argument, Humankind's delusion that it is the sole master of modern technology leads to far more serious consequences whose end could be extinction. The argument is as follows:

1. Humankind, when it does not consider the essence of technology as the unconcealed and as revealing, runs the risk of becoming nothing more than the middleman of the ordering of the standing-reserve as it is challenged-forth from nature. Insofar as Humankind does this, it can come to consider itself as a resource which is a mere thing to be ordered about like natural resources.

2. At the same time as Humankind is doing this, it thinks it is the master of the earth. Further, "...This illusion gives rise in turn to one

⁶⁶ Basically, technological determinism holds that Humankind may be directed, or ordered, by technology to behave in a certain way. It also holds that the knowledge Humankind has of the world and of itself is, in some profound way, altered by the presence of technology.

final delusion: It seems as though man everywhere and always encounters only himself."⁶⁷ The world is anthropomorphized. Humankind sees itself as the maker of the modern world. It is the "judge and jury of the Earth," "the final authority for control," or "the supreme triumph of evolution which now turns to shape evolution." This view is something like a "Fortress Mentality." Humankind retreats further and further into its own enclosure which is self-sustained, predictable, and guaranteed. The mentality is so thorough-going that the world is itself confused as being part of the same thing. Yet, this fortress is one which is made as a barrier, as a set of walls, against the opening of truth. What may have started in prehistoric times as the need for survival has now created a fortress whose walls bar any escape. Humankind is imprisoned in a profound exile.

3. The third step of the argument is that Humankind is no longer aware of its own essence. The walls of the fortress may have their defined boundaries around the city limits. The real walls, however, are already up inside Humankind. Humankind is not even able to conceive of its own essence.

4. Since Humankind is no longer "in touch" with its own essence nor that of modern technology, Humankind is banished "into that kind of revealing which is an ordering..."⁶⁸ The double error--first, of considering itself

⁶⁷Heidegger, Basic Writings, 308. Heidegger, Question Concerning and Essays, 27. (Basic Writings used above.)

⁶⁸Heidegger, Basic Writings, 309. Heidegger, Question Concerning and Essays, 27. (Basic Writings used above.)

masters of modern technology and, secondly, of ignoring Humankind's own essence--leads to the enslavement of Humankind in the forceful tempo of what has already been set in order: the destining of technology.

5. The final blow is that Humankind, engulfed by the tempo of ordering, finally can no longer see the essence of technology as a revealing. Enframing covers over the possibility of there being a revealing. It claims its own brand of ordering to be the only valid form. Revealing itself is covered over. All that remains is ordering in its sterility. Being, in one sense, has forced a closure on itself. This is the final brick to a fortress wall which has no exit.

Heidegger states:

Thus the challenging-enframing not only conceals a former way of revealing, bringing-forth, but it conceals revealing itself and with it that wherein unconcealment, i.e., truth, comes to pass.⁶⁹

In the final analysis, Humankind's assertions of dominance of the ordering of modern technology is the symptom of its own weakness. The master is, in reality, the slave. The slave is merely having delusions in the chambers of the King.

Heidegger says, "The essence of technology, as a destining of revealing, is the danger."⁷⁰ Being through the revealing that is modern technology, is threatening a closure on itself and upon Humankind. What could be a freeing claim, in Heidegger's words, is turned into a certain form of

⁶⁹Heidegger, Basic Writings, 309. Heidegger, Question Concerning and Essays, 27. (Basic Writings used above.)

⁷⁰Heidegger, Basic Writings, 309. Heidegger, Question Concerning and Essays, 28. (Basic Writings used above.)

mutually assured destruction.

The threat to man does not come in the first instance from the potentially lethal machines and apparatus of technology. The actual threat has already affected man in his essence.⁷¹

One can see that the truly profound result of the modern technological age is the closure it is forcing on all knowledge. For Heidegger, knowledge here can also mean the ability to see Being, at least partially, as a revealing which is central to all concerns. Truth is itself threatened by modern technology's influence which remains untamed, misunderstood, and distorted by Humankind. Poiēsis and technē were once considered to be far above the mere mechanics of the shipwright or even the poet. Technē was a much broader conception which included all directedness or purpose in human endeavors. Technē proceeds from the universal domain of Being. This is also true of modern technology. Its influence does not begin and end at the machine. The machine itself has nothing to do with modern technology's essence which is in the broader terms of ordering and challenging. Heidegger believes that it is in physics, and Western Science in general, where the ordering effect of technology is most pronounced. What he is saying is that all knowledge, especially scientific knowledge which is supposedly objective and true, has itself been ordered out of the destining of modern technology. In the end, the entire effect of modern technology has been the reverse of what is typically thought. Knowledge has not expanded. Rather, the sum effect is a diminishing of knowledge.

⁷¹Heidegger, Basic Writings, 309. Heidegger, Question Concerning and Essays, 28. (Question Concerning and Essays used above.)

There are two further points which should be made regarding QCT before going on to the next chapter. The first are some further reflections on Heidegger's concept of Humankind's place in relation to modern technology. There are (as has occurred to this author) an entire series of psychological motifs which are apparent. Secondly, Heidegger's summation of QCT ends with numerous reflections on the special qualities of technology's essence which affect the notion of essence.

Freud, at the end of Civilization and its Discontents, echoes many of Heidegger's sentiments as well as criticisms.

The fateful question for the human species seems to me to be whether and to what extent their cultural development will succeed in mastering the disturbance of their communal life by the human instinct of aggression and self-destruction. It may be that in this respect precisely the present time deserves a special interest. Men have gained control over the forces of nature to such an extent that with their help they would have no difficulty in exterminating one another to the last man. They know this, and hence comes a large part of their mood of anxiety.⁷²

Freud's thesis is that the development of civilization is dependent on the energies released from man's aggressive instinct which derives its power from the libido. Sexual activity is suspended in favor of structuring one's environment, including the ordering of nature.

Heidegger, like Freud, develops a model of a pathological condition Humankind experiences in its misappropriation of modern technology. Unlike Freud, he does not stop at sexual drives which still have their primary goals in ordering, mastery, and control. Rather, Heidegger sees Humankind's own proclivities and tendencies as already amplified and controlled by the

⁷²Sigmund Freud, Civilization and its Discontents, trans. and ed., James Strachey (New York: W.W. Norton 1962), 104.

essence of modern technology. Humankind's aggressiveness thus becomes a factor of its own control. Our greatest strength, that of pushing forward, of progress and the like, can become the chains which bind civilization. The final chapter comes well before any physical destruction and precedes Armageddon with the closure of Being and the possibility of revealing. The pathological condition, starting with self-deception, drives Humankind to an invisible edge.

This pathology's greatest traits are a self-consuming pride, aggression, and arrogance. In short--borrowing a term not used at this time--one is faced with blatant vanity. For Heidegger, this pathology does not have its basis and results in madness, as Freud implies, but in a profound sickness which perverts the basic underpinnings of epistemology and ontology. The current civilization is not healthy, but is in decay down to the bedrock of its very perception of the world.

In Civilization and its Discontents, one works from the individual to the social order. The psychological structure of the individual ultimately reflects his or her construction of society. One goes, in short, from the essence of the part to that of the whole. Heidegger stands this on its head. It is the initial structure of the whole, given as the essence of modern technology, which ultimately affects the entirety of civilization right at its basis. (This includes the ideas, structure, and existence of that civilization as well as each individual; both simultaneously.)

Humankind's aggressiveness, at least as it is manifest in its relation to nature as a standing-reserve, has already been ordered and controlled by the essence of modern technology. If one were to take an intellectual

risk, one could say Heidegger is responding to Freud's claims--at least ⁶⁵ indirectly--by saying that the psychological underpinnings of sexuality have themselves been claimed by a whole, the essence of technology, well before any individual pathological condition has arisen. If not this, then at least one could say that the psychological proclivities of the individual and the civilization are magnified and distorted by the underlying essence of modern technology which has been misappropriated by the same Humankind. It is that same Humankind which strives through its sexuality to liberate itself. The initial inclinations of Humankind have a natural outlet in technological stellen and herausfordern.

In agreement with Freud, Heidegger says essentially the same thing about self-destruction. It is Humankind's failures to recognize itself and technology which leads to disaster. (Freud: Humankind's failure to rectify and open up the dialogue of one's own sexuality and its implications leads to trauma.)

What Heidegger seems to imply in his own reasoning is that Humankind has or could become something like a paranoid schizophrenic. This is someone who, not being secure in the world (the various shocks of nature), retreats into his or her own world. But it is a fantasy world created exclusively by the deranged consciousness. It is, for the paranoid, very natural, complete, self-contained, and self-rationalized. But, it is not the real world (as revealing). It is a world saturated with fancy baubles and trinkets (the gadgets of technology) which play out, like toys, the illusion of the paranoid. The furthest the toy can go is as far as the paranoid's delusions can take it. But, ultimately, the paranoid may realise

the limitations which are in his or her toys. By implication the paranoid will come to realize the deception. When this realization comes about, a true madness takes hold which results in a cataclysmic trauma which has its final extension in violence.

Destining, in this pathological personality, becomes an unconscious factor. This "mind" recalls as well as experiences the entirety of its past. But its expression comes out in fits and starts which fail to capture what was or is "there." The unconscious mind of the paranoid simultaneously appropriates certain threads of the truth hiding in the shadows of concealment. The appropriation, however, is distorted by his or her own fantasy world which has been captured in his or her vanity, in his or her certitude that the world is an oyster, the means, for the paranoid schizophrenic's ends. The truth of the matter is that truth has been covered over, concealed, by the individual who probably would reject that truth if it came to be known. This is a double concealment: first, by the pathology of our imaginary patient; secondly, by the proclivities of Being itself. The threat is, for Heidegger, that this kind of pathology may fall into a trap already laid by the proclivity of Being to always see-saw between concealment and unconcealment. In this case, the pendulum is already weighted in favor of concealment in the essence of modern technology as stellen. The pathological condition of Humankind is merely weighting the pendulum a little bit more; so much so that it stops.

To reiterate, Being works in and through Humankind. It works through a series of distortions, to its own conclusion. This is what Heidegger is concerned about. This threat, implicit in Being, is magnified by what has

become of the notion of essence itself. Essence, the concept, has been changed by the revealing and destining of modern technology. It is here that Heidegger focuses his concerns in the last pages of QCT. It is the mysterious essence of technology which threatens Humankind. This mystery magnifies the whole question and problem of technology by its very mysteriousness; its ghost-like appearance whose very intangibility leads Humankind to the very edge of the abyss in an attempt to grasp it, while it shifts, wafts, and defies all theories of essence, be they ancient or modern.

Heidegger says:

Thus enframing, as a destining of revealing, is indeed the essence of technology, but never in the sense of genus and essentia. If we pay heed to this, something astounding strikes us: It is technology itself that makes the demand on us to think in another way what is usually understood by "essence." But in what way?⁷³

On the preceding page in QCT, Heidegger dismisses the notion that technology's essence has anything to do with quidditas, "whatness." One cannot point to technology as one can point to several types of trees, name them, and then say that they all belong to the genus "tree." Technology is not the sum product of individual units or types. It is not a collection of many different groupings under one heading.

Heidegger asks:

Is then the essence of technology, enframing, the common genus for everything technological? If that were the case, then the steam turbine, the radio transmitter, and the cyclotron would each be an enframing. But the word "enframing" does not mean here a tool or any kind of apparatus...The machines and apparatus are no more cases and

⁷³Heidegger, Basic Writings, 311. Heidegger, Question Concerning and Essays, 30. (Basic Writings used above.)

kinds of enframing than are the men at the switchboard and the engineer in the drafting room.⁷⁴

Technology is nothing technological. It is a whole, a revealing. The essence of technology is not found in an aggregate sum of parts. To consider technology, as a revealing, as something mechanical is absurd since it ignores and conceals the factor of revealing as well as thrusts the inquirer back onto lines which suggest a solution held fast to "the will to master it."⁷⁵

Neither is the essence of modern technology understood as an idea in the sense of a Platonic ideal which lasts or endures over and above all material considerations.

But it can never in any way be established that enduring is based solely on what Plato thinks as idea and Aristotle thinks as to ti en einai (that which any particular thing has always been), or what metaphysics in its most varied interpretations thinks as essentia.⁷⁶

The essence of technology is not captured by the explanations of either thing or idea. Its fundamental essence is something radically different.

Heidegger will ask rhetorically:

Does the essence of technology endure in the sense of the permanent enduring of an Idea that hovers over everything technological, thus making it seem that we mean some mythological abstraction?⁷⁷

This is clearly not Heidegger's intention. But what, then, is the essence of

⁷⁴Heidegger, Basic Writings, 311. Heidegger, Question Concerning and Essays, 29. (Basic Writings used above.)

⁷⁵Heidegger, Basic Writings, 314. Heidegger, Question Concerning and Essays, 32. (Basic Writings used above.)

⁷⁶Heidegger, Basic Writings, 312. Heidegger, Question Concerning and Essays, 30. (Basic Writings used above.)

⁷⁷Heidegger, Basic Writings, 312. Heidegger, Question Concerning and Essays, 30-31. (Basic Writings used above.)

technology as a new concept of essence if it is "none of the above?"

The essence of technology is paradoxical or ambiguous. It has a set of characteristics which has the appearance of an entity which can influence, direct, and control. Yet it defies any way of pinpointing it as a definable thing, conscious or not. Nevertheless, one is hard-put not to deny that technology, in the broad sense in which Heidegger conceives of it, does not have some influence on Humankind which has thus far eluded any technological assessments, laws, or moral dissertations. Technology is and it is not. It outstrips the conventional metaphysics and the common place of common sense with its very presence. The very paradox calls for a need to reassess the metaphors of traditional philosophical reasoning in order to come up with a new paradigm which encounters this phenomenon successfully.

Technology, as has been shown, is directly linked to Being itself through concealment, unconcealment, and revealing. The crisis in technology, modern technology, is really the focus technology has become in its relation to both Being and Humankind. It is the focus of the problematic of Being, for Heidegger. What has been said about technology can also be said about Being. Being conceals as does technology. Both resist definitions in any "classical" philosophic or scientific sense. Modern technology really challenges, from its essence, all knowledge and description of the world itself. Its seeming success, by virtue of the sciences, is an illusion brought about Humankind's misappropriation of modern technology. Heidegger is pushing his readers to over-throw the present conceptions of knowledge, since they are inadequate to the task of coming to terms with

modern technology.

But if it is true that modern technology defies all attempts to define it, given the metaphors at our disposal, then where is the salvation? Heidegger answers by saying that what also covers over and conceals, even Being itself, can also find itself unconcealed and/or revealed. Being and/or modern technology never resists some kind of understanding. There is a possibility to understand Odysseus and Socrates despite their concealment.

Heidegger feels that the new essence of technology is in the idea of enduring to presence.⁷⁸ He returns his reader to the concepts found in technē, in the circularity of the four causes. What endures is constantly accessible to revealing. Heidegger appeals to the possibility that one may overcome Humankind's deception by acquiring what it has lost in the re-working of all knowing. Essentially, Heidegger calls one to his task here. The solution is evident in his approach, the correct approach, to Being.

What is interesting in the notion of enduring to presence is its attempt to encounter the rapid changeability of the world, its constant shifting as well as the seeming compression of time and events. Heidegger suggests that one concentrate on the form these events take on rather than their content. One should focus on the revealing, on the act of creation, as the firmest footing.

⁷⁸ Heidegger, Basic Writings, 310-315. Heidegger, Question Concerning and Essays, 28-33.

CHAPTER II

TECHNOLOGICAL DETERMINISM

Technological determinism is a term used in the philosophy of technology.¹ Technological determinism holds that Humankind is in some profound way being affected, compelled, or ordered by technology. It does not hold that it is merely the machine which affects Humankind. Rather, it holds that technology is altering Humankind's knowledge, perceptions, and beliefs of the world. Technology is also altering Humankind's perception of itself. There is a wide range of positions regarding this issue which go from absolute technological determinism to the denial that there is such a force. An absolute technological determinist would hold that technology has completely affected Humankind's knowledge of itself and the world in such a profound way that it excludes the possibility of any other kind of knowledge. There are certainly many positions between this and an outright rejection of the position. These positions hold that there are varying degrees of control which technology may have over Humankind. The outright rejection of this concept simply says the machine or tool may affect Humankind in a way which is not important. Technology is nothing more nor less than a tool or machine.

¹There are many sources for this term. Two are: Larry Hickman, ed., Philosophy, Technology, and Human Affairs (Texas: Ibis Press of College Station, 1985), 217-249. Langdon Winner, The Whale and the Reactor A Search for Limits in the Age of High Technology (Chicago: The University of Chicago Press, 1986), 9-10.

Heidegger holds that while Humankind is in danger of being completely controlled by enframing, there is still a chance Humankind may overcome that control by paying attention to the true essence of technology. On this account, then, Heidegger is not a technological determinist. Yet, if one considers what kind of forces are at work in technology's essence, then one must conclude that Heidegger slips precipitously close to becoming a technological determinist. Heidegger, as shall be shown, does not provide sufficient arguments to prevent one from believing that the issue of technological determinism is, at the very least, problematic for Heidegger. While Heidegger may not want to be a technological determinist, his own arguments and contradictions compell him to become one even against his own philosophical stance in QCT.

The order of the arguments will be as follows: First, Heidegger's historical distinction between ancient and modern technology will be challenged. There is no reason to think that ancient technology was any less an ordering and enframing than it is now. The difference is one of degree, not kind. (This position does not reject Heidegger's use of technē as an example meant to help one understand the essence of technology.) If it is the case that there is no reason to believe there is any distinction between ancient and modern technology, then one also has no reason to think that Humankind hasn't always been ordered and/or enframed. This is certainly not Heidegger's intent in QCT. It is clear from the preceding explication that Heidegger thinks ordering and enframing, his form of technological determinism, is a modern problem with modern technology. Counter-arguments from Heidegger's point of view will be offered as well as responses to these counter-arguments.

The result of the first step in the argument is not conclusive. What it does do is open the door to the second step which is a further consideration of how Heidegger uses the examples of the Greeks and ancient technology. It will be shown that Heidegger contradicts himself. While he says that both ancient and modern technology are a form of revealing and are therefore necessarily equivalent, he believes that ancient technology is fundamentally better than modern technology.

This contradiction leads to a third, and final, point regarding QCT. Heidegger needs the example of the Greeks to reinforce his own philosophical stance. The saving power of that which endures to presence, the capacity of technology to unconceal or reveal itself, may not be enough to prevent an absolute technological determinism. It may not be enough to prevent Humankind from slipping into a permanent enframing. Heidegger needs the Greeks to overcome what he cannot deny: the overwhelming power of enframing to cover over revealing itself. It is at that point that Humankind becomes controlled unequivocally by enframing. The Greeks are used to support Heidegger's own ontological presuppositions. Yet, if concealment leads also to unconcealment and revealing (an ontological condition Heidegger assumes), then why are the Greeks needed?

The use of the Greeks and ancient technology point out a weakness in Heidegger's reasoning. This, in turn, points out that technological determinism is problematic for Heidegger. He is compelled to take this position, though, despite his own theories. The importance of this is two-sided. First, the issues raised here seek to critique the positions taken in QCT. Secondly, the critique seeks to use the problems in QCT to

illuminate problems raised when trying to overcome technological deter-⁷⁴
minism. For example, one should not look to a supposedly "better" past
for solutions to today's problems. Heidegger's essay, QCT, is a useful
case study of what to avoid when thinking of ways to overcome enframing
and ordering; i.e., technological determinism. The need to be clear on
the issue of technological determinism is important. The third, and
final chapter, will show that Heidegger's fears regarding enframing and
ordering are correct. If this is so, then it is important that any
contradictions and potential mistakes are cleared up from the start.

As has been shown in the first chapter, Heidegger uses the example
of technē in two ways. First, the example of technē is used to define
what technology is. Bringing-forth, poiēsis, and epistēmē all assist
Heidegger to explain how the essence of technology is a revealing.
There is no reason why this should be rejected for reasons of consistency
in argument. It serves its purpose as an example which leads him to what
he feels is of paramount importance about technology.

Secondly, Heidegger uses the example of technē to make a distinction
between it and modern technology. He makes a historical distinction between
ancient and modern technology. What one has, according to Heidegger, in
this difference is one of kind but not degree. The revealing of modern
technology is radically different than the revealing of ancient technology.
What was once embodied in the circularity and interrelatedness of technē
has given way to the stridency of ordering. Heidegger, as has been noted,
is quite conscious of these differences. He makes it fairly clear that
he considers them important to his concerns. He says:

...One can object that it [techne or ancient technology] indeed holds true for Greek thought and that at best it might apply to the techniques of the handcraftsman, but that it simply does not fit modern machine-powered technology. And it is precisely the latter and it alone that is the disturbing thing.²

It seems to Heidegger that there is no question there is a difference in kind between ancient and modern technology.

Heidegger remains consistent to this historical distinction in the kinds of examples used to explain technē as opposed to modern technology. The example of a silversmith, among others, was used to clarify the meaning of technē. One has an image of a diligent craftsperson at work in a fairly basic, if not elementary, surrounding. Perhaps one could imagine to oneself a workshop from ancient times. There is a stone fireplace, several containers of molten metals bubbling on the fire, and so on. The images contained here are best summed up by the word "rustic." This scene has none of the trappings of a modern setting. Associated with the image of the craftsperson is the tiller of the land, the peasant, whose tending of the land is in some subtle and primordial relation to nature. There is also the forester who tends the timber yard which his or her ancestors tended for many past generations.

These images tend to evoke a sense of Humankind living with and through nature. Technology, as technē, is the culmination and representation of the subtle relations one has with the craft understood in the four ways of causality. It is also a pastoral sense of existence in which Humankind compromises with the necessary exigencies of nature. The tiller

²Heidegger, Basic Writings, 295. Heidegger, Question Concerning and Essays, 14. (Basic Writings used above.)

of the land selects his or her area for cultivation on the basis of what is already given. He or she does not demand something from nature. The tiller accommodates both the area and the crops to what is already provided from nature.

Opposite these images are those associated with modern technology. It is the airplane standing on the field (as standing-reserve), the modern sawmill replacing the old mills of the Black Forest, and the hydro-electric plant which dams up the Rhine River, as a resource, to produce electricity as society requires it. Humankind has shifted from a pastoral, receptive, role to an aggressive role. It is nature which now must yield to the demands of ordering, challenging, and standing-reserve. The tiller of the land no longer accommodates himself or herself to what nature provides. The tiller now demands that nature be shifted and altered to fit his or her demands.

One may say that this historical distinction is compelling. It is not uncommon to see the individuals of one age looking back upon the lives of individuals with a certain fondness. It is also not uncommon to think that those past eras were somehow simpler, less controlled, and living in harmony with the elements. But there is no reason to think that the aspects of modern technology as an ordering and enframing have not always been the case. Just a cursory reflection of history will reveal this. Heidegger claims that Humankind has come, in this modern age, to see itself as a resource. Part of the seriousness of enframing and ordering is in this claim. But let one consider for a moment the institution of slavery which, up until a hundred years ago, has been a fact of life for Humankind.

A whole series of past civilizations were built upon the basis of slave labor. Entire populations or captured armies were considered a fair source of labor who only needed to be minimally fed and clothed. What is this but a consideration that another human being can be a resource which can be exploited?

In many cases the slave was not looked upon as a human being. Rather, the slave was seen as a convenient resource to be used. This outlook magnifies the issue of enframing. One faction of Humankind looks upon the other as sub-human. "They" are a resource. This provokes the suspicion that the dominant class has been ordered by enframing to see the slave as an resource to be ordered about. The technological needs of ancient civilization demanded that certain humans be looked upon as a useful resource. The demands of technology's essence led Humankind astray in the ancient world as much as it threatens to do so in this modern world of "free men."

Many other examples can be drawn from just an elementary understanding of the ancient world's history as well as by consulting any number of books on technology.³ All point to varying levels and degrees of technological sophistication in past civilizations as well as suggesting a conscious use of nature and humans as a resource.

Certain of Heidegger's comments do not hold up under historical scrutiny either. Consider the following:

The hydroelectric plant is set into the current of the Rhine. It sets

³See, for instance: T.K. Derry and Trevor I. Williams, A Short History of Technology From the Earliest Times to A.D. 1900 (New York: Oxford University Press, 1961).

the Rhine to supplying its hydraulic pressure, which then sets the turbines turning. This turning sets those machines in motion whose thrust sets going the electric current....Even the Rhine itself appears as something at our command. The hydroelectric plant is not built into the Rhine River as was the old wooden bridge that joined bank with bank for hundreds of years...In order that we may even remotely consider the monstrousness that reigns here, let us ponder for a moment the contrast that speaks out of the two titles, "The Rhine" as dammed up into power works, and "The Rhine" as uttered out of the art work, in Hölderlin's hymn by that name.⁴

What Heidegger overlooks here is that that old wooden bridge may have been a part of dams built in the Medieval Period. It was a common practice in that period to secure mills and partial dams to supply the energy required for driving miscellaneous machinery. In other words, this is not the first time rivers have been used as resources for power and other purposes. Jean Gimpel, in his book The Medieval Machine The Industrial Revolution of the Middle Ages,⁵ chronicles how entire sections of both Britain's and Europe's waterways were used as extensive networks of basic power derived from dams. In many cases, dams were set up on several different parts of the same river by competing interests all intent on using the river. The river was seen as a source of power. This outlook, in turn, fits into an intricate network of social, political, and economic interests. The river was a thing to be ordered for the uses of each locale. "The Rhine," which Heidegger is thinking of, may never have been seen as such except as a vision coming from a form of poetry which romanticizes the reality.

⁴Heidegger, Basic Writings, 297. Heidegger, Question Concerning and Essays, 16. (Basic Writings used above.)

⁵Jean Gimpel, The Medieval Machine The Industrial Revolution of the Middle Ages (New York: Holt, Rinehart and Winston, 1976; New York: Penguin Books, 1986) 1-28. The entire book makes several interesting points regarding the sophisticated level of technological achievements in the Medieval Period.

Consider still another comment from QCT:

The revealing that rules in modern technology is a challenging (herausfordern), which puts to nature the unreasonable demand that it supply energy...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.⁶

One can respond with two comments here. First, Gimpel⁷ here also casts some interesting insights into the issue. Windmills, like dams, were seen as a supplier of a resource. They were part of the same intricate and sophisticated political and economic machinery as were the dams.

Secondly, what is there about a windmill that doesn't use a natural force for specific ends?⁸ Heidegger, in the above quote, seems to suggest that the windmill and the wind are simply "there" for one another. The wind blows and the windmill catches it in an arbitrary fashion. Yet, the wind's consistent use by a series of agencies, including the windmill, can be construed as a form of ordering. There was a conscious and deliberate action with a specific end in sight. If nothing else, one can certainly say this is a form of enframing where the individual consciously goes out to use nature to a specific end based on some device which is, in turn, ordered by technology.

These examples make it clear that the Medieval Period, and in some

⁶Heidegger, Basic Writings, 296. Heidegger, Question Concerning and Essays, 14. (Basic Writings used above.)

⁷Jean Gimpel, The Medieval Machine, 1-28.

⁸Grateful acknowledgement is made here to Dr. Michael F. Schmidt, Department of Philosophy, San Jose State University, for suggesting this idea.

cases considerably earlier on, had sometimes sophisticated and sometimes crude social mechanisms in place which treated nature and human beings as an orderable object. Both nature and human beings were a standing-reserve to be ordered about. The intellectual apparatus of these periods were no less prone to the actions of technology's essence which includes that of enframing. Humankind has been ordered in a mode of revealing for some time. The distinction between ancient and modern technology is not as clear-cut as Heidegger makes it out to be.

The difference between ancient and modern technology is one of degree, not of kind. This is the reverse of what Heidegger suggests. The distribution of modern technology, both as an essence and as machinery, is far more uniform and intense than it has been in past times. Yet, there have been high-points in past civilizations long since vanished or absorbed into others which bear the characteristic marks of the same kind as modern technology.

Heidegger could counter these arguments with his own responses. These responses are readily available from the material in QCT. He may, for instance, respond by using his notion of destining. Destining, as it has been shown in the first chapter, is Heidegger's idea of history. Destining, rather than its being a written record or chronicle, is the ground for the possibility of such records and chronicles. It has been termed here a proto-history. One cannot necessarily recall with any exactitude one's first steps and the context in which they took place. Similarly, one cannot pinpoint a specific beginning to any given essence, including that of modern technology. Heidegger could say that destining

allows for the manifestation, in written history, of isolated instances of what is, at present a major epistemic and ontological problem. But any attempt to make a specific historical point is doomed to the same kind of failure which one would encounter if one were to attempt to describe Being completely. Destining, like Being, cannot be appropriated by any one written record.

He may grant that slavery is a difficult question. But he might also ask that one consider the Egyptians. They did have slavery. But one must also not forget the entire context of that past civilization. The Egyptians also had firmly established animistic religions which deified nature and the cosmos. One could only approach this cosmos with the kind of respect which is entirely lacking in this modern era. He may also buttress this with other counter-examples such as the evidence of several primitive cultures whose religious basis and cosmological outlook put Humankind in the position of a suppliant begging the favors of the gods in nature. This approach to nature is not the strident tone of stellen and herausfordern. Rather, it is more of a compromise Humankind has established with nature for its survival. Ancient technology, its essence, embodied within it certain indelible attitudes towards nature which are the opposite of modern technology. Those beliefs were an understanding of Humankind's place within the order of nature and, for Heidegger, Humankind's correct relation, in a primordial fashion, with Being itself.

Thus, while there may have been isolated instances which suggest ordering and enframing, there is also plenty of evidence to believe that the context of previous civilizations refute the claim that they are

examples of ordering and enframing as it is understood now. Destining may suggest the outline of things to come. But the actual impact, the actual force of their presence, is not relevant until one gets to the epoch of modern technology.

One could respond to the above by pointing out that destining can go both ways. It can be used to justify what has been imagined to be Heidegger's response to the idea that one has no reason to believe that there is any difference between ancient and modern technology. But destining may prove just the opposite. Destining could be used as easily to say that there has, in fact, been only one type of revealing, that of ordering and enframing, which has been the case all along. Being, as has been shown, has the tendency to cover over or conceal its own truth. This is as true of the essence of modern technology. It is concealed until revealed or understood as a revealing. The essence of modern technology is the history of Being in this epoch. Further, it is destining which carries the movement of the essence of technology on its way. If this is so, what reasons does one have to believe that destining hasn't covered over the actual truth of all technology? What reasons does one have to believe that what is concealed from one is the fact that technology has always been an ordering and enframing? Why not say that one has always been deceived and, perhaps, carried away by what is more comfortable to believe?

Heidegger is no less vulnerable to misreading Being than the rest of us are. Therefore, all his claims to the contrary, he is suspect to error regarding that which he has gone to great lengths to elucidate as

an ungraspable totality which is constantly in the flux of the universal pendulum of concealment and unconcealment. Margolis makes a similar point when he asks what guarantees Heidegger's claims to knowing the truth about ordering and enframing when there is no evidence offered to support the possibility that Heidegger is as subject to ordering as anyone else is.⁹ In other words, one can object that the elusive transcendental nature of Being, as Heidegger describes it, is the crucible of his and others' potential failure. Being covers over the truth. This is doubly so regarding the essence of technology as an ordering and enframing. Ordering and enframing themselves guarantee self-deception to those who are not in an appropriate relation either to technology or themselves; i.e., to Being itself. One can become the victim of one's own theories regarding Being and technology.

Heidegger may retort to the above analysis of destining by bringing up the written evidence of Plato and Aristotle. The writings and, therefore, the thoughts of Plato and Aristotle on technē are evidence that such thoughts were in circulation at a certain time in Greek History. If this is the case, then one may conclude that such evidence supports the thought that there was an ancient form of technology, as technē, which is distinct from modern technology.

One may respond to this by saying that this may indeed be true. But is there anything which supports the claim that either Plato's or Aristotle's

⁹ Joseph Margolis, "Pragmatism, Transcendental Arguments and the Technological," in Philosophy and Technology ed., Paul T. Durbin and Friedrich Rapp, Boston Studies in the Philosophy of Science, 80 (Boston: D. Riedel 1983) 291-309. Margolis may mean his comments in a humorous vein. It is not entirely clear from the text. One can read his comment in a much more serious vein. This will become clearer in the latter portion of this chapter. Heidegger may be the victim of his own theorizing.

works were the accepted norm of their day? Were they the status quo? Perhaps not. Plato's authorship alone speaks to the contrary. His protagonist, Socrates, is a gadfly, a trouble-maker, whose entire mission is a quest after the truth which he never finds entire (at least not 'here!'). In the process of his search, he disrupts the established beliefs of an Athens which is involved in sophistry and the belief that all crafts are the mere memorization of formulas be it for building ships, reciting poetry, or making speeches. The Athens of Socrates is an infidel in the temple of technē, not its exemplar. If nothing else, one could say that what Plato offers as a critique of his time is parallel to what Heidegger does in his time.

Heidegger may want to say that regardless of whether or not Plato and Aristotle are a reliable source on the idea of technē, the idea of technē still stands. Technē offers one a way of understanding the essence of technology as well as pointing toward a better way of comprehending modern technology. Yet, even here one could raise some objections.¹⁰ Technē, according to Heidegger, implies the four causes. The craftsperson, causa efficiens, is both indebted to and responsible for the remaining three causes: causa materialis, causa formalis, and causa finalis. The concept of indebtedness and responsibility call up a fairly benign image. The diligent craftsperson is a suppliant who begs the favors of the remaining three causes. Working in harmony with them, he or she produces the chalice.

What guarantee does one have that the ideas of the four causes aren't

¹⁰ Grateful acknowledgement is again given to Dr. Michael F. Schmidt, Department of Philosophy, San Jose State University, for suggesting the following objections.

themselves an instance of enframing and ordering? Heidegger certainly lends a "poetic air" to his example which is reinforced by the other examples mentioned above. (One is thinking here of the Rhine, the tiller of the fields, the peasant, etc.) This tends to obfuscate the possibility that the four causes may indeed hold the craftsperson fast in a set of demands. When the craftsperson is ordered to see the world from the remaining three causes, that craftsperson is being enframed by technē. Enframing, as a potential form of technological determinism, orders the individual to perceive the world in a certain way. This perception has altered the individual's consciousness in a way which would not have happened otherwise. But, the craftsperson has already been enframed at the moment he or she comes into relation with the other three causes. It is at the moment that one considers only these ways or causes, and nothing else, that the true weight of enframing is apparent. It is not just the execution of the object. Technē conceals the truth of its demands just as Being can conceal the truth of its essence. Other ways of revealing are closed to the craftsperson. This is exactly what Heidegger says is the danger in the essence of modern technology as an enframing. It covers over the possibility of other revealing as well as covering over revealing itself. Thus, while the four causes have a muted sense of ordering and enframing--nothing like the stridency of modern technology--they are still capable of demanding the correct way from the craftsperson. It is a pleasant dictatorship, but a dictatorship nonetheless.

Heidegger may respond by saying that the four causes are not an isolated set of principles. They are necessary to other concepts. Those

concepts are truth and freedom. One must use the four causes to, as Heidegger would say, step into the clearing in the field, the lighting upon the way.¹¹ Freedom, rather than being a concept of free will, is really a function of the truth, alētheia. One must know the truth (in a move reminiscent of Plato) in order to be free. Furthermore, the four causes must be in place for bringing-forth, presencing, to take place. Without presencing, one does not have unconcealment or revealing. Without these, one does not have the truth.

Two things may be said of this possible response. First, the placement of the four causes in a larger ontological and epistemological framework does not make it any less an ordering or enframing. Secondly, the appeal Heidegger may make merely provokes in one the suspicion that Heidegger has, all along, been begging the question in QCT. Heidegger has set up the definition of technē and modern technology based on the suppositions of his own ontological stance which are not fully explicated in QCT. Aspects of technē and modern technology are accepted or denied based on their relation to what is most important to Heidegger (concealment, unconcealment, revealing, bringing-forth, presencing, truth, freedom, and Being).

Despite this, one may want to give Heidegger the benefit of a doubt. QCT is an essay set in the midst of a much larger authorship. Thus, while it may seem that he is begging the question, one can also appeal to more extensive works which do detail these basic principles. There is no final answer here either. One is, however, left with the notion that Heidegger

¹¹This is a paraphrase from another work, Martin Heidegger, "On the Essence of Truth," in Basic Writings, 113-141.

may be setting up an example which, when seen from his stance, offers no problems. Yet, the example of the four ways can be construed to be an enframing and ordering on the basis of Heidegger's definition of modern technology.

While the above arguments are not entirely conclusive, they do show that Heidegger may not be able to support his contention that there is a historical distinction between technē and/or ancient technology and modern technology. One may have no reason to think that what Heidegger seems to think is ancient as opposed to modern technology is any different than what he has characterized as the essence of modern technology. If this is the case, then technology--considered as one type of revealing, ordering, and enframing--may have always posed the kind of threat Heidegger says only modern technology poses. Enframing and ordering, the central doctrines of Heidegger's technological determinism, may have always been the case. Therefore, Humankind has always been threatened by technological determinism from the very basis of the essence of all technology, whether it be modern or ancient. This is problematic for Heidegger, since he thinks that Humankind still can be saved from technological determinism. But, if the danger is intractable, then there is no way to "save" Humankind simply because ordering and enframing have been the substance of technology for all time. It is clear that Heidegger thinks, or wants to think, there are alternatives. This alternative has been discussed at the end of the preceding chapter. This alternative will be investigated in the following.

In the second and third point of the argument here, it will be shown that Heidegger's attempts to clear up a way for hopeful thinking mires him

in a contradiction and then in an act of desperation. The Greeks are, again, at the center of the problem for Heidegger. His use of the Greeks, however, merely makes one question the whole idea in the first place. Why are the Greeks so important? Should they ever have been used to justify and/or explicate the essence of technology? They are, for Heidegger, more trouble than they are worth.

Heidegger says that there is nothing demonic about modern technology. There is nothing in modern technology's essence as a revealing which is threatening in and of itself. The dam is not evil. There is nothing evil in strip-mining either. Heidegger says:

What is dangerous is not technology. Technology is not demonic; but its essence is mysterious.¹²

As a kind of revealing, it is not the danger. Ancient and modern technology are both forms of revealing; thus they are coequal to that extent. Neither one nor the other can be any better, worse, or evil than the other.

Despite this stance, Heidegger's comments in QCT are clearly weighted in favor of ancient technology. Technē, for example, is portrayed in the light of an insight by those who had a primordial awareness of Being. The Greeks knew technē as something whose basis was in the domain of ontology and epistemology as much as it was in ethics or aesthetics. Furthermore, the tiller works the land in a gentle, nurturing, fashion. Similarly, the forester sets to his or her work in a simple way. There was

¹²Heidegger, Basic Writings, 309. Heidegger, Question Concerning and Essays, 28. (Basic Writings used above.)

some sense of life, in ancient technology, which, when linked with technē, makes one understand the true essence of technology.

Over and against this is modern technology as an ordering and en-framing. As has been noted, everywhere one looks there is strident assertiveness. It is almost as if Heidegger describes modern technology as the proto-form of Fascism, not on the level of a single movement in Germany, but on the level of an entire civilization which includes democracies and dictatorships alike.¹³ Everything is to be ordered about and mercilessly exploited. The tools are not Panzers. They are the common implements of the Industrial Revolution. The Rhine, once the subject of Holderlin's poem, is now dammed up with something intrinsically "monstrous"¹⁴ about it.

One may attribute this negativity to an individual who has seen a once beautiful land torn and ravaged by two world wars as well as brutalized by modern heavy industry. (Anyone familiar with German history will recall

¹³There is quite a bit of controversy regarding Heidegger and the Nazis. It has been sponsored, in part, by a recently published book in France: Victor Farias, Heidegger et le nazisme, trsn. from Spanish and German into French by Myriam Benarroch and Jean-Baptiste Grasset (Paris: Editions Verdier, 1988). A review has been written by Thomas Sheehan, "Heidegger and the Nazis," The New York Review of Books, 16 June 1988, 38-47. The book has yet to appear in English translation. The issue of Heidegger's past is certainly problematic. While this thesis cannot add to it directly, one can see the obvious metaphors of Fascism in the concepts of modern technology as ordering. It also is possible that Heidegger changed his position regarding technology. It may be that one time, the essence of technology as an ordering of resources was the essence of Humankind as Dasein! See Hubert Dreyfus, "Between Techne and Technology: The Ambiguous Place of Technology in Being and Time," Tulane Studies in Philosophy, XXXII (1984), 22-35. Heidegger's position has shifted since then. Is the essence of modern technology as enframing and ordering an externalization of what was one the essence of Humankind; i.e.: Dasein? This suggests several ideas. Among them: Is Heidegger's struggle depicted here part of a larger problem in his authorship? This is another avenue of Heideggerian research.

¹⁴Heidegger, Basic Writings, 297. Heidegger, Question Concerning and Essays, 16. (Basic Writings used above.)

the fact that the Ruhr Valley was one of the most heavily concentrated areas of industry in all of Western Europe from the early 1900s on.) Or it may just be whimsy or a certain natural form of Romanticism all may have had at one time or the other. This reflection may be one which is applicable to understanding Heidegger as a man. But it overlooks the importance of the issue here which is his consistency in QCT.

Any weighting of one form of revealing against the other contradicts Heidegger's own thesis that all forms of revealing are coequal. Modern technology is, too, a revealing. Yet it is clear from the above examples, including those drawn from the first point, that Heidegger thinks there is something better about ancient technology. The Greeks, in particular, have a special appreciation of what Heidegger considers to be important. On the other hand, one can say that Heidegger is not pleased with the revealing of modern technology. Despite his claims to the contrary, there are several instances where he does at least imply that ancient technology was better than modern technology. It seems that one ought to think that all revealing is coequal even though one knows modern technology is terrible. Heidegger therefore contradicts his own line of reasoning regarding revealing.

These criticisms lead one to the third point of this chapter. Further considerations of the consequences of the second point will be combined with those of the third and concluding point of this chapter.

At the end of the last chapter, it was shown that Heidegger says that the essence of technology as an enframing can be unconcealed as well as revealed. Put directly, he is saying that enframing can be known and therefore overcome if one takes the time to understand the essence of

technology. As was said in the first chapter, while it is true that both Odysseus and Socrates are concealed, it is still possible to know and understand both Odysseus and Socrates. Unconcealment/concealment and revealing are in a perpetual motion from one to the other. Heidegger believes, further, that concealment implies unconcealment/revealing. The reverse is also true. As Heidegger has said, "Presencing is luminous self-concealing."¹⁵ Technology, despite its power as an enframing which can cover over revealing, can be known because that essence also contains within it the potential to reveal.

(This stance undoubtedly grates upon the ears of those who are trained in logic. One may say that it is part of Heidegger's philosophical posture to do just that. He calls into question the very notion of easily separable distinctions such as those between what is right and wrong and true or false. It is not this author's position here to justify Heidegger's over-all position. As shall be shown shortly, however, there are other reasons one may have to reject the kind of moves he makes; mainly that he uses and abuses the Greeks.)

Heidegger says:

...Enframing comes to pass for its part in the granting that lets man endure--as yet inexperienced, but perhaps more experienced in the future--that he may be the one who is needed and used for the safe-keeping of the essence of truth. Thus does the arising of the saving power appear.¹⁶

Enframing, while it threatens Humankind, also preserves Humankind. That

¹⁵Heidegger, Early Greek Thinking, 114.

¹⁶Heidegger, Basic Writings, 314. Heidegger, Question Concerning and Essays, 33. (Basic Writings used above.)

preservation is itself a ground from which Humankind can, if even a little bit wiser in the future, save truth. Similarly, while Being conceals or disguises itself from Humankind, it also serves as the necessary ontological ground for Humankind's own being. Thus, Humankind can overcome the essence of technology from that very essence's potential as an unconcealment/revealing.

Heidegger, from his own position maintained in QCT, has justified what he thinks is the solution to the essence of technology as an enframing. He is simply asserting one should take up the full position which he has adopted. Yet, Heidegger hesitates at this juncture. It is as if he pauses in his own thought and thinks to himself that this may not be enough. He says:

But might there not perhaps be a more primally granted revealing that could bring the saving power into its first shining-forth in the midst of the danger that in the technological age rather conceals than reveals itself?¹⁷

Isn't there something more, in other words, which can cure the patient, Western Civilization, of what has been diagnosed as its paranoid schizophrenia? Perhaps appealing to what Heidegger believes to be the truth is not enough. Perhaps Heidegger thinks there must be some more powerful rationale.

After the above remarks, Heidegger says:

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 appearance was also called technē.¹⁸

¹⁷Heidegger, Basic Writings, 315. Heidegger, Question Concerning and Essays, 34. (Question Concerning and Essays used above.)

¹⁸Heidegger, Basic Writings, 315. Heidegger, Question Concerning and Essays, 34. (Basic Writings used above.)

Further along, he says:

At the outset of the destining of the West, in Greece, the arts soared to the supreme height of the revealing granted them. They illuminated the presence of the Gods....And art was simply called technē. It was a single, manifold revealing. It was pious, promos, i.e., yielding to the holding sway and safekeeping of the truth.¹⁹

Heidegger returns to the central theme of technē which, in his interpretation, ontology, epistemology, aesthetics, ethics, and religion were all found linked together in one understanding. They were all understood as the search for ideal truth in presencing itself: alētheia.

Heidegger admits that this understanding of technē was true for one brief moment in the history (destining) of the West. But, he speculates that a resurgence of at least the spirit of the essence of technē, as the Greeks were to have practised it, may save Humankind from technological determinism as an ordering and enframing. He says:

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 vision of that which grants and our trust in it?²⁰

Heidegger answers with a qualified "yes." But even here he hesitates and adds a provision near the end of QCT:

But certainly only if reflection upon art for its part, does not shut its eyes to the constellation of truth concerning which we are questioning.²¹

¹⁹Heidegger, Basic Writings, 315-316. Heidegger, Question Concerning and Essays, 34. (Basic Writings used above.)

²⁰Heidegger, Basic Writings, 316. Heidegger, Question Concerning and Essays, 35. (Basic Writings used above.)

²¹Heidegger, Basic Writings, 317. Heidegger, Question Concerning and Essays, 35. (Basic Writings used above.)

Only if art keeps itself to the original sense of the Greek concept of technē, can it be of help to Humankind in the present age.

Isn't Heidegger indulging in a little "bad faith"? Why does he require the Greeks and their conception of technē and/or art to support or add to what in and of itself should be enough? The principles of unconcealment, revealing, and concealment are serious and central themes of the ground of Heidegger's ontology. It has been shown that he says, both in QCT and elsewhere, that these terms contain within themselves the potential of their opposite. Unconcealment and revealing can lead to concealment. Concealment, however, can lead to unconcealment and revealing. Heidegger thinks these are central features of Being itself. To reiterate, he says that technology's essence, as a revealing, can save Humankind. It can save Humankind because that essence, from his own philosophical position, has the potential to reveal or become unconcealed as much as it does to conceal. By bringing in the Greeks at the last moment in QCT, Heidegger is equivocating on his own professed ontological presuppositions.

He is also doing Humankind a disservice. By appealing to the Greeks to support his position, he is, by implication, telling the rest of Humankind that it is not capable of doing precisely what he says Being and Humankind's being can do. Namely, he says that Humankind cannot realize its own salvation without the assistance of some past civilization. Heidegger is telling the rest of Humankind that it may not progress. Indeed, Humankind may be able to do nothing but await the final danger of Heidegger's technological determinism: the closure of the possibility of revealing itself.

If this were not enough, consider this fragment taken from a quote, above, "At the outset of the destining of the West, in Greece..."²² Destining, as has been shown, is Heidegger's conception of a proto-history. It is what makes history, as written chronicle, possible. Thus, destining cannot be exactly pinpointed, as a written chronicle, in any one period or time; it can't be pinpointed in any instance of a historical fact. Such facticity, as an objective truth, is not the sense of the meaning of destining. Destining is the entirety of the event of Being in time. Yet, Heidegger has said that there are different destinings.²³ There is the destining of technē. Similarly, there is the destining of modern technology. Neither, presumably, can be pinpointed in any one specific time. But Heidegger is certainly doing just this as evidenced by the above quote. Is one to think that two destinings, technē and modern technology, over-lapped? Or has it been one destining? If this is the case, then technē cannot be the destining. Heidegger has excluded this possibility by assuming both a historical separation of technē and modern technology as well as insisting that the essence of modern technology, as a destining, has its own specific essence as stellen and ge-stell. Is he implying, even against his own argument, that the essence of modern technology has, after all, been the singular destining of all technology? Furthermore, if one

²²Heidegger, Basic Writings, 315. Heidegger, Question Concerning and Essays, 34. (Basic Writings used above.)

²³Heidegger, Basic Writings, 306. Heidegger, Question Concerning and Essays, 24-25. Heidegger says, "Enframing is an ordaining of destining, as is every way of revealing. Bringing-forth, poiesis, is also a destining in this sense.

can go back as far as the Greeks, then why not go back to the civilizations which influenced them? (Why not, for example, include the Minoans, the Babylonians, the Assyrians, or the Egyptians?) Why doesn't one simply say that the entire history of Being is the singular destining of all Human Culture? Heidegger is going against what appear to be his positions regarding destining. He resorts to the kind of historical facticity which he says destining forms the ground for, but is not itself the essence of destining. In so doing, he raises more questions and problems which are not answered, except in the consideration that the Greeks are perhaps too important for Heidegger.

To reiterate, Heidegger's use of the Greeks makes one question the whole idea in the first place. Why use the Greeks as he uses them? It would have been best to clearly use them to understand the essence of technology. Heidegger, however, uses them for so much more. He uses them to make a historical distinction between ancient and modern technology. Then, as the second point shows, he clearly favors ancient technology over modern technology. As a result, he contradicts himself. Then he uses the Greeks to support his desires and hopes for a saving power. In so doing, he calls his own ontological presuppositions into question as well as causing some confusion regarding what he means by destining. Heidegger may have been better off leaving the Greeks well enough alone. Using them as he does merely confuses the important issues Heidegger sees in the essence of modern technology as an enframing and ordering.

In sum: If Heidegger can make a historical distinction between

ancient and modern technology, then he can point to a different understanding of technology's essence (technē). This allows him to make a distinction between ordering and enframing and an earlier, purer, sense of technology.

The latter can be construed as better, intrinsically, than the former. This move, in turn, allows him to appeal to ancient technology, as technē, to save Humankind from technology. In other words, the entire approach to ancient technology has been generated by Heidegger's need to somehow stop the advance of the very thing he hypothesizes: technology as an ordering and enframing (technological determinism). But, as has been shown, these moves are fraught with numerous errors. One concludes with two points. First, the Greeks become problematic for Heidegger. But this problem merely indicates a deeper problem. Heidegger is attempting every possible move to shore up a position against something which he may himself believe to be unconquerable: technological determinism. Technological determinism is, in a profound way, problematic for Heidegger.

This chapter does not seek to negate the entirety of Heidegger's thesis on technology. What it does do is illuminate the true concerns, the ultimate risks, Heidegger's line of reasoning takes. It is a lesson well-learned. It is certainly a cautionary tale. One should not look to the past for the solutions to this epoch's problems. This author agrees that things like Heidegger's old wooden bridge have an appeal. Old wooden bridges still have lessons which one is advised to learn. It does not follow, however, that these lessons contain the solutions to what plagues this epoch. The problems of this epoch have to be met head-on in what can sometimes be a gruelling combat with what is taken for granted.

CHAPTER III

THE ESSENCE OF MODERN TECHNOLOGY

The previous chapter showed that the essence of modern technology, as an enframing and ordering, is a serious, problematic, issue for Heidegger. While the essence of modern technology is central to QCT, it seems to set Humankind on an unalterable course toward technological determinism. This chapter will not seek to resolve this dilemma. The issue here is to look, first, at the essence of technology as it applies to both modern and ancient (including technē) technology with the assistance of some additional ideas and examples. Then the essence of modern technology, as an enframing and ordering, will be examined in the light of two new developments in recent history. Those are: computers and artificial intelligence. These examples substantiate the fact that modern technology's essence leads Humankind to technological determinism. Heidegger's fears, while causing him many philosophical problems, are well founded. The issues surrounding computers and artificial intelligence are not restricted to better and faster tools. Neither are they just a philosophical question of whether or not such machines constitute intelligence or consciousness. The concepts of ordering and enframing show that it is, more importantly, an issue thought from the essence of modern technology. The problem is not concerning machines. The problem is concerning how Humankind understands the machine and/or the tool.

First, the issue of the essence of technology will be considered. Heidegger, as has been shown, says that the correct understanding of technology is as an essence. Technology has a specific essence which is more than just the set of all tools. With the example of technē, he shows that the essence of technology is a revealing. In the first chapter, revealing was characterized as a creation. Technology brings something forth into the world as a presencing which, for Heidegger is a revealing. Revealing, in turn is associated with concealment and unconcealment. These ideas, in turn, are a portion of a larger ontological category which is Being. These are the central tenets of Heidegger's ontological stance. The essence of technology is, then, an ontological category as well as an epistemological, aesthetic, or ethical category.

One does not have to subscribe to Heidegger's specific ontological stance in order to understand the essence of technology. One can also understand technology's essence to mean: The essence of technology is more than the sum of its parts. Technology is more than a tool, a set of all tools, the idea of the tool, and/or its activities and relations concerning tools and Humankind.

A reflection on how the word "technology" is used will assist here. One has the words: "technology," "technologies," etc. One may use these terms in specific ways. One such way is, for example: "This technology over here can perform this task." The meaning is clear. When using the word "technology" in this sense, the word is referring to some specific tool and its use. Similarly, one can use a plural form like; "technologies." For instance: "These technologies can perform or do such and such."

Again, the context is fairly clear. This set of tools can do "x."

There is another sense in which the word "technology" can be used. Consider the following: "Technology will either hinder or assist Humankind into the 21st Century." Here "technology" does not refer to a single tool.

Nor does it refer even, necessarily, to a set of tools. Such a statement can be construed to be saying this. It, however, has another meaning which is far more significant. That meaning is what is commonly associated with statements such as the above. The speaker is thinking in terms of "technology" as a force or, better, as a means of Humankind's progress. The word "technology" has shifted its meaning from the tool to an abstract concept whose meaning is not dependent on merely understanding a tool or set of tools. It is dependent on the assumption that there is something about "technology" which carries Humankind along. It is more a set of rules, principles, or facts which are pertinent to the concept "technology." It is Heidegger's contention that this is the sense in which the word and concept "technology" should be understood. It has an essence which is more than the sum of its parts. It has an identity which can be seen as a set of rules, principles, and/or facts which are unique to technology. That set is the essence of technology.

Maurice Mandelbaum's essay, "Societal Facts,"¹ illustrates a position similar to the one Heidegger takes. Mandelbaum argues that there is an irreducible set of societal facts. These facts cannot be ascertained by

¹ Maurice Mandelbaum, "Societal Facts," in Theories of History, ed. with Introduction and Commentary by Patrick Gardiner (New York: Basic Books, 1959), 476-488.

reducing certain general principles to empirical sets of experiences. The example he gives is one in which an individual who is "foreign" to the ways of the West is brought into a bank. Mandelbaum contends that no matter how many instances are given of what happens in the bank and why, there will be a remainder of facts which are never explained. Rather, their explanation can only be understood in terms of certain general rules, laws, or facts. There is a context in which all these individual activities take place. This context cannot be reduced to the facts of bank exchanges nor, Mandelbaum argues, by the psychological states of the individuals participating in banking activities. There is a remainder which is contained in a whole which is greater than the sum of its parts.²

The parallels to technology, which is a whole greater than the sum of its parts, are apparent. One cannot reduce the essence of technology to simple acts, relations, or uses which a tool may involve. Neither can one account for something like technology by claiming it is only the sum of the individual person's psychological states. The essence of technology cannot be explained solely in terms of the wills, intentions, and desires which go to make up one's relation to the use of a tool or tools. There is a remainder which is not reducible to any single event or set of events.

An example from Ryle³ will assist here as well. Ryle relates an amusing anecdote. A fellow comes to Oxford and asks to see the "university."

²Mandelbaum, "Societal Facts," 479-480. Mandelbaum says he is not a believer in holism. "Society is a whole greater than..." is holism by his definition. His example is interpolated, then, with the context here.

³Gilbert Ryle, The Concept of Mind (London: Hutchinson, 1949; New York: Barnes and Noble, 1949), 1-18.

He is shown about the Commons, the Don's quarters, the student quarters, and etc. At the end, he thanks his host. But, then he asks, "When are we going to see the University?" Ryle's point is that the "university" and some individual collection of parts are not the same thing. The "university" is a principle of organization, a set of rules, and a setting of activities. It is not just reducible to a set of buildings and acreage.

Just as the university is not simply the collection of buildings and activities, so too technology is not to be identified with individual instances of technology or even with the class of all those instances. As with "university," "technology" refers to a principle of organization. Both terms refer to something which is more than the sum of its parts.

To reiterate, "technology" is a word not unlike "government," "society," or "university." All these words refer to something whose understanding is not necessarily dependant upon individual, perhaps empirical, instances. For example, one does not (nor ever would) point to a legal manuscript, a judge, or a senator and say "That is government." Similarly, no one would point to an individual and say, "That person is society." The statements are as ludicrous as they are incongruous. The essence of technology, as it is understood here, is not found in tools, their concept, or in any relations and activities amongst themselves and Humankind.⁴

⁴ It has been suggested that this argument is an example of a Straw Man fallacy. No one believes that technology is a tool, its concept, and etc. There are several instances of this type of thinking, however. One example will suffice here. See Frederick Ferre, Philosophy of Technology, Prentice Hall Foundations of Philosophy Series (New Jersey: Prentice Hall, 1988), 26. Ferre says:

We shall respect ordinary usage, while tightening its looseness, by stipulating "technologies" in the context of this book shall mean practical implementations of intelligence. The word technology, as we are using it, is simply a general term for "technologies." "Practical"

The essence of technology does have an ontological status. But it is an ontological status which Heidegger says is an entirely new way of thinking about essence. The essence of technology is not like a Platonic essence. It is not hovering above one's head in a Heaven of Ideas. Nor is it an Aristotlean essence understood as either genus or species. Technology is not the genus or species of all tools. Rather, this essence should be understood, to paraphrase Heidegger, enduring to presence as a revealing.⁵

But, as Heidegger has said, this essence "is in a lofty sense ambiguous."⁶ Technology's essence is not existent in the same sense as chairs, houses, or trees are existent. It cannot be separated out, defined, and categorized in the normal fashion. Neither can it be seen or analyzed anymore than the ocean can be seen and analyzed by the sound and presence

requires that they not be wholly ends in themselves; "implementations" entails that a technology be somehow concretely embodied, normally in implements or artifacts, sometimes simply in social organizations...

Later on, the clincher to this definition is given:

This definition will restrict technologies to something embodied in artifacts...

According to Ferré, then, the word "technology" is a general term for technologies. Technologies are something embodied in artifacts. Artifacts are tools or implements and are concrete. Therefore, technology is an artifact (read tool). Quod erat demonstrandum

⁵Heidegger would go further and say that this new concept of essence has actually conditioned its own possibility. Technology's essence has made Humankind think of essence in an entirely new way. One is lead here to think that since modern technology's essence as an enframing has altered Humankind's perception of the world, from physics on, that the new sense of essence has also conditioned the possibility of one's understanding other essences such as governments, societies, and universities.

⁶Heidegger, Basic Writings, 314. Heidegger, Question Concerning and Essays, 33. (Basic Writings used above.)

of the surf. In a similar fashion, the essence of government or society cannot be seen, touched, nor heard. Their essence is not reducible to individual instances. Yet, these essences have some sort of "existence" which defies the ordinary conception of essence as a house or tree. The essence of technology is an entirely new way of considering essence.

Still, one may be hesitant to accept the idea that there is an essence of technology. It seems so evident that Humankind is the creator of technology as well as technologies. How can such an essence "be," if it is so clear that Humankind is creating technologies? Heidegger does not deny that Humankind has an essential role to play in technology. Nor does he deny that Humankind is involved with the essence of technology. He says that technology is pushed forward by Humankind. Heidegger does deny, however, that this is the entire truth. There is a reciprocal relation between the essence of technology and Humankind. Humankind pushes technology forward. Technology, in turn, pushes Humankind forward.

These ideas are evident in Heidegger's explanation of both ancient technology (as technē) and modern technology. The silversmith certainly pushes technology forward. He or she is causa efficiens. Yet, the silversmith is also indebted and co-responsible to the remaining three causes: causa materialis, causa formalis, and causa finalis. Similarly, the remaining three causes are indebted and co-responsible to the silversmith. The relationship is reciprocal or, as has been noted, circular. Modern technology has the same basic form. Humankind pushes technology forward as an ordering. It puts to nature the demand to supply resources which shall be structured to result in "this way or that." But, modern technology

pushes Humankind back. Humankind comes to think of itself as a resource. Humankind also orders itself in fundamental ways; it comes to think of its own essence in terms of an ordering. Humankind thinks of the world in a similar fashion. This is the meaning of Heidegger's claim that the essence of technology precedes modern science. Technology claims Humankind as Humankind is in the process of claiming technology. This reciprocal relation, in the essence of modern technology, Heidegger calls enframing.

One may say that the essence of technology is dependent on Humankind. Yet, that dependency does not imply a strict causal relation from one to the other. Nor does it mean that the essence of technology is a necessary result of Humankind's essence. It is not a corollary to the being of Humankind.

Mandelbaum makes similar points in "Societal Facts." He is responding to arguments against an ontological status of societal facts. He says:

It (objections) consists in holding that societal facts cannot be said to have any status of their own since no such facts would exist if there were not individuals who thought and acted in specific ways. Now, to hold the view which I hold, one need not deny that the existence of a society presupposes the existence of individuals, and that these individuals must possess certain capacities for thought and action if what we term a society is to exist. Yet, this admission does not entail the conclusion...: one need not hold that a society is an entity independent of all human beings in order to hold that societal facts are not reducible to the facts of individual behavior. ⁷

One set of facts may depend for its existence on another set of facts and yet not be identical with the latter.⁸

⁷Mandelbaum, "Societal Facts," 484. One should read "technology" for "societal facts" and "society."

⁸Ibid., 485.

Dependency does not imply that the two terms, technology and Humankind, must be the same or in a strict causal relation where one follows from the other. The essence of technology can be dependent, yet separate, from the essence of Humankind.

Heidegger contends that the correct relation between Humankind and technology is in the reciprocal sense noted above. Heidegger also says that this relationship is being ignored in the present epoch. A paradoxical situation arises as a result. Humankind is convinced that it, alone, is pushing technology forward. It has technology "in hand." Heidegger says this is wrong. Humankind allows itself to be controlled by modern technology when it thinks this way because Humankind does not acknowledge that modern technology has had a reciprocal effect upon Humankind. The very thought that Humankind thinks it is in control is symptomatic of its capture by modern technology. Humankind, rather than being in control, is, in fact, being controlled. This is, again, the idea of enframing.

The above comments regarding the essence of modern technology brings this discussion to the second point of the chapter. The examples of the computer and artificial intelligence will support what Heidegger has to say about enframing. It will also serve as an example of how the essence of technology can affect Humankind. Technology is not the handiwork of Humankind, solely. These examples will also show that one has every reason to believe that technological determinism, as an enframing and ordering, is a real danger to Humankind. With these examples, one can see that Humankind will be well advised to consider the essence of modern technology, as Heidegger has described it.

The example of the computer will be addressed first. The main purpose the computer is to arrange, shift about, and manipulate information. It takes data, processes it, and produces either answers or further arrangements of information. The computer does exactly what Heidegger says modern technology does. That is, the computer orders a specific resource about to other ends. Those ends, in turn, are used for further reasons such as quarterly financial reports or corporate presentations. Humankind is pushing this machine or tool forward. Humankind decides what is required. It organizes the abilities to suit the required tasks. This is the function of a computer programmer, MIS operator, etc.

There is no problem considering the computer in the above fashion. But it is a problem if Humankind thinks that this is the beginning and end of how the essence of modern technology affects it. The problem lies in how Humankind considers the computer and its main function which is the generation of information. The resource the computer uses is information. Information, in this sense, is not a print-out or a data-sheet. It is not the what or how of the computer's internal workings. Rather, the important issue is how the concept of information has itself been altered by Humankind who looks to using it in a new set of technologies.

This aspect of computers has been addressed by several authors⁹ as a source of serious concern. Information, if it does not constitute knowledge, is at least one major factor in what one understands as knowledge. Further, information as it is used by the computer is coming to be considered as

⁹See, for instance, Jean-Francois Lyotard, The Postmodern Condition: A Report on Knowledge, trans., Geoff Bennington and Brian Massumi, Theory of History of Literature, 10 (Minneapolis: University of Minnesota Press, 1986).

essential to one's concept of the world, if not of knowledge itself.

The computer and its raw material, information, has come to be the central machine or tool essential to business, industry, education, and the military. The use of computers, their importance, may be, in some subtle way, re-ordering and disposing of knowledge itself. Humankind's understanding of what knowledge is, is being transformed. It is being transformed into something which the computer can generate and use. The resource and its use is transforming a portion of the traditional concept of consciousness.

Again, the importance of the example of the computer here is in how Humankind has altered its perception of information. It alters it, supposedly to make a computer go quickly. Data which is not easily assimilated by a computer cannot be used as efficiently. Humankind is pushing technology forward. But as it does this, the essence of modern technology is pushing back. Humankind is altering its perception of information to suit the orderly disposition of information. Humankind is being ordered as it is ordering the computer to be more productive.

There is another aspect of the example of the computer which is significant. Heidegger concerns himself with physical resources. Resources are a tract of land, a river and its dam, and strip-mining. The resources are found "over there" in nature. The resource of the computer is altogether different. That is, as is noted above, information. It is not the data, again, which concerns one here. It is not the print-out. Rather, it is information as Humankind conceives of it. That information, as a resource, is found not in a coal-mining district, but in Humankind itself. The subject

(Humankind) has, in the past, altered and arranged the object (nature). But now, it is the subject which alters itself as an object. The subject is, in fact, manipulating the subject. This is a literal example of enframing. Heidegger had to mediate his example of enframing and the reciprocal relation it implied with Humankind with illustrations drawn from his era. Yet, this era has produced an example which couldn't be a better example of his line of reasoning. Heidegger used examples which forced him to explain how the object was rendered into a concept, ordering, by Humankind. Here there is no need to do so. Information is itself already a concept.

Heidegger has said that enframing leads to the supreme danger which technology's essence poses. That danger is the closure of other possible forms of revealing. The revealing that is modern technology, as an ordering which shifts and alters both resources and Humankind, will smother all other forms of revealing. Technē, even as an example, will no longer be seen. as the lesson it is. Not only this, but revealing itself, creation, will be concealed. No one will see it. Everyone will be too busy programming computers to make things run more efficiently.

Indeed, if one were to take everything Heidegger has said into account, then it is Being itself which will conceal itself. The Humankind which is in sole possession of the means to preserve Being will have let it slip away unnoticed. The example of computers and the use of information raises this possibility for Humankind. If it is true that in some way a fundamental aspect of knowledge, if not all knowledge, has been transformed by the computer, then the very "humanness" of being human has itself been

altered. In being altered, Humankind has, to some extent, reformed its own image of itself. It has transformed itself into a resource, into a scrap of information. The computer itself, as a tool, is not important. It is not what affects Humankind through the essence of modern technology. That essence has the power of covering over, concealing, one's own being from oneself. In other words, the problems of computers and their use is not confined to ethical or engineering questions solely. It is also an epistemological question. If one accepts Heidegger's ontology, it is also a question of being human. It may even be a question of Being itself. Heidegger had every reason for thinking that Humankind was in danger of being overcome by technological determinism.

The second example to be considered is artificial intelligence. The important question that is of concern here is not whether Humankind will or will not create what appears to be consciousness or a "thinking thing." It is of no concern whether or not the computer can think. These are debatable questions. They have been successfully taken up by others elsewhere.¹⁰ The question which is of concern is how Humankind's understanding of itself will have changed. How will the essence of modern technology transform Humankind's most dearly cherished image of itself; i.e., the conscious being, the rational animal, and so on?

Many engineers, neurobiologists, and cognitive scientists are going forward under the assumption that some kind of artificial intelligence is possible. Perhaps some day a sufficiently powerful and fast computer may

¹⁰ See John Searle, Minds, Brains and Science (Cambridge: Harvard University Press, 1984.)

be created. That will at least simulate intelligence, if not be a form of intelligence in its own right. Again, it is not the concern here whether or not "that thing over there" is really thinking or is even conscious of what it is doing. The concern is how Humankind will take this new thing. Humankind pushes technology forward. In turn, technology pushes Humankind back. Humankind has, as has been noted, only considered the former position, but not the latter. The example of the computer shows that Humankind can become engrossed with a machine to the point that it starts to alter its own conception of information and/or knowledge. Heidegger contends that Humankind does not know this is going on because it considers itself the sole creator of technology. If this is the case, and Humankind ignores the latter aspect of modern technology, then what will happen when this "thinking thing" is created? What guarantee is there that this thing will not be thought to be what a conscious being is; i.e., the essence of being human? A deluded Humankind will think it only has created itself in its own image. It does not consider that that image may have simultaneously been altered not to fit the machine but to fit its "new image" of itself. That "new image" will be tailored by the essence of modern technology as an enframing.

The symptoms of the alteration of the idea of human consciousness have already started to appear.¹¹ Consciousness is already being ordered about to fit the computer. Naturally, it is seen as a way of bending consciousness to fit "that thing over there." It is an experiment to see

¹¹ See John Haugeland, ed., Mind Design Philosophy Psychology Artificial Intelligence (Cambridge: The MIT Press, 1981; Cambridge: The MIT Press, A Bradford Book, 1985).

if one can't get a machine to think. Thus, the entire concentration of the exercise is focused on the tool or machine "over there." But this thinking fails to grasp that a subtle alteration of one's idea of what consciousness is, is taking place. Consciousness is being thought of in terms of memory storage areas, RAM, software, debugging, hard-wiring, internal language of the brain, and so on. Consciousness is being altered to fit the machine. This is no problem as long as it is externalized in the manipulation of the object. It is a problem when one considers that enframing may be taking Humankind to the point where it no longer sees this. Humankind has then confused itself with the object, the "thinking thing." This may already be happening. The question of whom or what is being altered will no longer be externalized. It will, rather, have been internalized by Humankind as its definition of itself.

An allegory may be in order here. One is having a very bad dream. It is a philosopher's dream. It is a Cartesian Nightmare. In the dream, the philosophical world has been turned on its head. Cogito ergo sum has been altered beyond recognition. In a move worthy of double-think, it now reads: "It thinks, therefore I am." One is standing before a mirror. The reflection in the mirror is the "thinking thing." One is conscious the whole time of "where" one is. But, suddenly the entire scene has shifted. "I" is what stares out at "it." The "thinking thing" has become the definition of what constitutes intelligence. One knows, as this is going on, that in fact the shift has already happened. There was something so recognizable about that figure in the mirror. Someone one had seen before.

Every story has at least a grain of truth to it. This little allegorical tale has its truth, too. What has happened can be drawn out by Heidegger's analysis. Again, modern technology pushes Humankind forward as Humankind pushes modern technology forward. Humankind is content with creating new tools and machines. Its finest achievement will be a "thinking thing." But in the delusions of Humankind's grandeur are the seeds of its destruction. For as it obsessively pursues these new technologies, it overlooks the fact that the definition of "human" as a consciousness has changed. The "thinking thing" will have the character of a self-fulfilling prophecy rather than a great new advance. The crowning achievement of Artificial Intelligence won't be a "thinking thing." The crowning achievement will be the new human being or, from Nietzsche, the Last Man.

If this were to come about, revealing and Being could be closed over forever. The essence of being human will have been changed by the essence of modern technology as an enframing. But, without Humankind and its awareness of its own essence, Being will be allowed to slip away unnoticed in the frenzy of ordering. Once consciousness is altered, defined, and perhaps even patented, nothing more is left than the continuous orderly disposition of knowledge and action. When consciousness is covered over in this fashion, the frontiers of knowing will have been concealed by those who perverted that knowing without being aware that this was happening all along. Revealing, Being, concealment, unconcealment, truth, freedom--all knowing and doing--will have been concealed by the very caretakers who were to have maintained it.

This may never come about. One certainly hopes that it won't. The frightening thing about such an event is that the crime will have gone completely unnoticed. It will pass in silence. Humankind will have come to re-order its own conception of itself. Humankind, however, has had its attention diverted by the "thinking thing over there." Humankind has overlooked the possibility that technology is more than a sum of tools or machine. It has overlooked the fact that the essence of modern technology as an enframing and ordering has been quietly going about its work in Humankind. Humankind adjusts a machine "out there" while modern technology is adjusting Humankind itself. The irony is that the essence which is doing this, while separate from Humankind as an essence, is still dependant upon Humankind. But, by ignoring the essence of technology, Humankind has overlooked the only true way it can control technology: by understanding its essence. Humankind does not control modern technology by pushing it forward, solely. The risk here is the very definition of what "consciousness" is.

These concerns, while they are only concerns, direct one to continue to consider what Heidegger has had to say about modern technology as well as technology in general. It may be better to believe that it is true now, instead of finding out later that one should have believed.

SELECTED BIBLIOGRAPHY

- Agassi, Joseph. Technology Philosophical and Social Aspects. Episteme V. 11. Boston: D. Reidel Publishing, 1985.
- Arendt, Hannah. The Human Condition. Chicago: The University of Chicago Press, 1958.
- Barrett, William. The Illusion of Technique A Search for Meaning in a Technological Civilization. Garden City: Anchor Press, 1978.
- Borgmann, Albert. Technology and the Character of Contemporary Life A Philosophical Inquiry. Chicago: The University of Chicago Press, 1984.
- Brown, Norman O. Hermes the Thief. Madison: University of Wisconsin Press, 1947.
- Brumbaugh, Robert S. Ancient Greek Gadgets and Machines. New York: Thomas Y. Crowell, 1966.
- Bury, J.B. The Idea of Progress An Inquiry into its Origin and Growth. New York: Macmillan, 1932; New York: Dover Publications, 1987.
- Derry, T.K., and Trevor I. Williams. A Short History of Technology From Earliest Times to A.D. 1900. New York: Oxford University Press, 1961.
- Dreyfus, Hubert. "Between Technē and Technology: The Ambiguous Place of Technology in Being and Time." Tulane Studies in Philosophy XXXII (1984): 23-35.
- Durbin, Paul T., and Friedrich Rapp, eds. Philosophy and Technology. Boston Studies in the Philosophy of Science, V.80. Boston: D. Reidel Publishing, 1983.
- Ellul, Jacques. The Technological Society. Translated by John Wilkinson. New York: Alfred Knopf, 1964; New York: Vintage Books, 1964.
- Ferré, Frederick. Philosophy of Technology. Prentice Hall Foundations of Philosophy Series. New Jersey: Prentice Hall, 1988.
- Freud, Sigmund. Civilization and its Discontents. Translated and Edited by James Strachey. New York: W.W. Norton, 1961.

The Frontiers of Knowledge. Forward by Brooke Hindle. The Frank Nelson Doubleday Lectures. Garden City: Doubleday, 1975.

Gadamer, Hans-Georg. "Theory, Technology, Practice: The Task of the Science of Man." Translated by Howard Brotz. Social Research (Autumn 1977): 529-561.

Gimpel, Jean. The Medieval Machine The Industrial Revolution of the Middle Ages. New York: Holt, Rinehart and Winston, 1977; New York: Penguin Books, 1986.

Hamilton, Edith and Huntington Cairns. The Collected Dialogues of Plato Including the Letters. Bollingen Series LXXI. New York: Bollingen, 1969.

Haugeland, John, ed. Mind Design Philosophy Psychology Artificial Intelligence. Cambridge: The MIT Press, 1981; Cambridge: The MIT Press, A Bradford Book, 1985.

Heidegger, Martin. Basic Writings from Being and Time (1927) to The Task of Thinking (1964). Edited, with General Introduction by David Farrell Krell. New York: Harper & Row, 1977.

_____. Being and Time. Translated by John Macquarrie and Edward Robinson. New York: Harper & Row, 1962.

_____. Early Greek Thinking. Translated by David Farrell Krell and Frank A. Capuzzi. New York: Harper & Row, 1975.

_____. The Question Concerning Technology and Other Essays. Translated with Introduction by William Lovitt. New York: Harper & Row, 1978. New York: Harper Colophon Books, 1977.

_____. Vorträge und Aufsätze. Pfullingen: Verlag Gunther Neske, 1978.

Hickman, Larry, ed. Philosophy, Technology and Human Affairs. Texas: Ibis Press, 1985.

Husserl, Edmund. Ideas General Introduction to Pure Phenomenology. Translated by W.R. Boyce Gibson. London: George Allen and Unwin, 1931; London: Collier-Macmillan, Collier Books, 1969.

Ihde, Don. Existential Technics. Albany: State University of New York Press, 1983.

_____. Technics and Praxis. Boston Studies in the Philosophy of Science. Synthese Library, V. 130. Boston: D. Reidel Publishing, 1979.

Jonas, Hans. Philosophical Essays From Ancient Creed to Technological Man. Chicago: University of Chicago Press, Midway Reprints, 1980.

Kasson, John F. Civilizing the Machine Technology and Republican Values in America, 1776-1900. New York: Grossman Publishers, 1976; New York: Penguin Books, 1984.

Landesman, Charles, ed. The Problem of Universals. New York: Basic Books, 1971.

Leder, Drew. "Modes of Totalization: Heidegger on Modern Technology and Science." Philosophy Today (Fall 1985): 245-256.

Loscerbo, John. Being and Technology A Study in the Philosophy of Martin Heidegger. Phaenomenologica Collection Fondée par H.L. Van Breda et Publiée sous le Patronage des Centres d'Archives-Husserl, 82. Boston: Martinus Nijhoff Publishers, 1981.

Lyotard, Jean-François. The Postmodern Condition: A Report on Knowledge. Translated by Geoff Bennington and Brian Massumi. Theory and History of Literature, V.10. Minneapolis: University of Minnesota Press, 1984.

McKeon, Richard, ed. The Basic Works of Aristotle. New York: Random House, 1970.

Mandelbaum, Maurice. "Societal Facts." Theories of History. Edited with Introduction and Commentary by Patrick Gardiner. New York: Free Press, 1959: 476-488.

Marx, Leo. The Machine in the Garden Technology and the Pastoral Ideal in America. New York: Oxford University Press, 1964; New York: Oxford University Press paperback, 1967.

Mitcham, Carl and Robert Mackey, eds. Philosophy and Technology Readings in the Philosophical Problems of Technology. New York: Free Press, 1972.

Mitcham, Carl and Albert Borgmann. "The Question of Heidegger and Technology A Critical Review of the Literature." Philosophy Today. XXXI (Summer 1987): 98-194.

Mumford, Lewis. The Myth of the Machine The Pentagon of Power. New York: Harcourt Brace Jovanovich, 1970.

_____. Technics and Civilization. New York: Harcourt, Brace and World, 1934; New York: Harcourt, Brace and World Harbinger Books, 1963.

Nisbet, Robert. History of the Idea of Progress. New York: Basic Books, 1980.

- Noble, David F. America by Design Science, Technology, and the Rise of Corporate Capitalism. New York: Alfred A. Knopf, 1977.
- Rhodes, Richard. The Making of the Atomic Bomb. New York: Simon & Schuster, 1986; New York: Simon & Schuster, Touchstone Edition, 1988.
- Rossi, Paolo. Philosophy, Technology, and the Arts in the Early Modern Era. Translated by Salvator Attanasio. Edited by Benjamin Nelson. New York: Harper & Row, Torchbook Library Edition, 1970.
- Rousseau, Jean-Jacques. The First and Second Discourses together with the Replies to Critics and Essay on the Origin of the Languages. Edited, Translated, and Annotated by Victor Gourevitch. New York: Harper & Row, Perennial Library, 1986.
- Ryle, Gilbert. The Concept of Mind. London: Hutchinson, 1949; New York: Barnes & Noble Books, 1949.
- Searle, John. Minds, Brains, and Science. Cambridge: Harvard University Press, 1984.
- Sheehan, Thomas. "Heidegger and the Nazis." New York Review of Books. 16 June 1988: 38-47.
- Spengler, Oswald. Man and Technics A Contribution to a Philosophy of Life. Translated by Charles Francis Atkinson. New York: Alfred A. Knopf, 1932.
- Tiles, J.E. "Technē and Moral Expertise." Philosophy The Journal of the Royal Institute of Philosophy. 59 (January 1984): 49-66.
- White, Lynn Jr. Medieval Technology and Social Change. Oxford: At the Clarendon Press, 1962.
- Wild, John. "Plato's Theory of Technē A Phenomenological Interpretation." Philosophy and Phenomenological Research. 1 (September 1940- June 1941): 255-293.
- Winner, Langdon. Autonomous Technology Technics-Out-of-Control as a Theme in Political Thought. Cambridge: The MIT Press, 1977; Cambridge: The MIT Press, 1978.
- Winner, Langdon. The Whale and the Reactor A Search for Limits in an Age of High Technology. Chicago: The University of Chicago Press, 1986.