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ABSTRACT

HABERMAS VS. MARCUSE: TECHNOLOGY AS IDEOLOGY

By

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The main objective of this thesis is to assess Jurgen Habermas's analysis of technology as an emancipatory philosophy. In order to make Habermas's complex analysis more managable, this thesis is divided into three sections. In section one, the debate between Habermas and Herbert Marcuse regarding the nature of technology is contextualized, and topics discussed include Marxism, the "modern era", Max Weber's notion of rationalization, and convergence theory. Section two is primarily expository, and focuses specifically on Habermas's and Marcuse's views on technology. Section three is a critical evaluation of Habermas's analysis of technology. It is my contention that Habermas's conceptual scheme forecloses any possibility of reconciliation with nature and hence the possibility of true liberation.

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INTRODUCTION

For many thinkers, particularly the members of the Frankfurt school, the events and horrors of this century are indicative of a fundamental flaw in the Enlightenment formulation of reason. As Max Horkheimer and Theodore Adorno noted in The Dialectic of Enlightenment, the incredible technological and scientific achievements of our time (i.e. the realization of reason) have not resulted in human happiness, but in violence, crime, starvation and hate unparalleled in human history; this most "enlightened" civilization is the most barbaric. By way of exploring this apparent paradox, I will look at the debate between Jurgen Habermas and Herbert Marcuse regarding the inherent logic of technological reason and the place of technology in the modern world.

This debate is rich in complexity and depth, although somewhat limited in scope. However, understanding this debate and the issues involved in it is helpful for understanding Marcuse's and Habermas's later work; much of the conceptual groundwork for their later writings is laid in the essays that will be discussed below.

This paper will be divided into three sections. In the first I will historically contextualize the debate in

question. Several major factors that influenced Habermas and Marcuse will be discussed, and include Marx and Marxist strains in Habermas and Marcuse's thought, what constitutes the "modern era" , Max Weber's notion of rationalization, convergence theory, and how all of this relates to the Marcuse/Habermas exchange.

Section two will focus specifically on the debate between Marcuse and Habermas regarding the structure of technology and the role of technology in the modern era. Their positions on this issue are stated most explicitly in Marcuse's essay "Industrialization and Capitalism in the Work of Max Weber" and in Habermas's essay "Technology and Science as 'Ideology.'" The differences between their views will be explored in some detail, and I will examine Habermas's distinction between purposive-rational action and communicative action particularly closely. Although Marcuse's and Habermas's views on technology undergo many changes and modifications over the years, for the purposes of this paper I am concerned only with their views as expressed in the two above essays. To give a comprehensive analysis of their views on technology as they changed and developed through the years is well beyond the scope of this, and perhaps any, paper. Some of their other works will be brought into discussion for purposes of support and clarification, but no substantive analysis of these other works will be attempted.

Having accomplished the above exposition, I will critically evaluate Habermas's analysis of technology and his

proposed solution to the problems posed by technology in modern advanced industrial society. The main objective of this paper is to assess Habermas's analysis of technology as an emancipatory philosophy, and such an assessment is the focus of section three. One of the goals of all the Frankfurt school theorists, and certainly of Habermas, is to create a philosophy of emancipation-- to conceptualize or conceive of an end to the domination and oppression of the current age. In "Technology and Science as 'Ideology'", Habermas makes a distinction between two kinds of rationality, instrumental and communicative. Humans' relationship with nature, he says, is necessarily an instrumental one; no other cognitive approach is possible. Nature is always the "other" to be technologically conquered. But it seems to me that Habermas is not formulating an emancipatory philosophy in his account of humans' relationship with nature. His conceptual scheme forecloses any possibility of reconciliation with nature and hence, I think, the possibility of true liberation. These claims will be fully argued and explained in what follows.

I. CONTEXT OF THE HABERMAS/MARCUSE EXCHANGE

To understand the thought of the Frankfurt school, one must certainly have at least a nodding acquaintance with Marxist theory. Marx's notion of historical materialism is one conceptual point that is of great significance both within Marx's own writings and in the social analysis undertaken by the philosophers of the Frankfurt school. Marx's notion of

base and superstructure is helpful for explaining historical materialism.

The base of capitalist society consists of the economy or, more precisely, the forces and relations of production. The superstructure consists of culture, religion, politics, etc. Social changes are ultimately rooted in alterations in the base, i.e., in material production. This is not to say that the superstructure plays no role in social change, but that its influence is indirect. For instance, political ideas could affect social relations of production (e.g., liberal ideas about the rights of individuals), which would in turn lead to social change. But the material base of society, the economy, is what directly effects social change; superstructural elements cannot do this. Material production is the true basis of human history. As Marx states, "The mode of production of material life conditions the social, political, and intellectual life processes in general"(Tucker 4).

Marx's concept of historical materialism is a powerful one, and Marx applies it in radical ways. The material production in the base shapes the happenings in the superstructure and thus, more specifically, "The production of ideas, of conceptions, of consciousness is at first directly interwoven with..material activity..."(Tucker 154) To state this another way, intellectual production is affected in fundamental ways by material production. In the context of a capitalist system, such a revelation is particularly striking

for, according to Marx, the mode of material production in such a system is steeped in exploitation and alienation. So, intellectual production, "ideas", "conceptions", and "consciousness", is embedded in an exploitative and oppressive system of material production; intellectual production thus can hardly hope to escape being influenced by these elements.

Not surprisingly, this is what Marx asserts. In any given historical era, there is an abundance of thought and scholarship. Certain ideas or theories become the accepted, recognized, or famous ones, the dominant ideas of the era. Marx says of this, "The ideas of the ruling class are in every epoch the ruling ideas, i.e., the class which is the ruling material force of society, is at the same time its ruling intellectual force"(Tucker 172). Intellectual production is not unbiased theorizing, but reflects the influence and the interests of the ruling material class. The ideas of liberalism are a good example of this. Liberalism has a supposed orientation to freedom which includes such things as: 1. the preservation of private property, and 2. respect for individual rights. Quite clearly, 1. guards the basis of a market economy, an economy from which liberal philosophers reaped great benefit and privilege. Positions from which influential thought could be formulated (e.g., universities) were only open to those who were privileged, and these people already benefitted from the dominant material/economic order; such men obviously had an interest in preserving this system.

2. is perhaps a utopian element of liberalism, but also serves an ideological function. By professing a commitment to the rights of the individual, the fact that many individuals' rights are violated in a laissez-faire economy is elided. Everyone supposedly has the same rights, but huge differences in power between capitalists and workers ensures that this could not possibly actually be the case. Liberalism is an idea by and for the ruling class, its utopian elements not withstanding.

Historical materialism is a particularly powerful concept when considered in relation to technology. Technology can and has been a profoundly influential part of material production in industrial society; the historical implications of this cannot be ignored, given that material production is the primary force in human history. Marcuse and Habermas acknowledge that technology has been of paramount importance in the modern world, and is key for understanding it.

The influence of material production over intellectual production is closely linked with Marx's concept of ideology. This concept plays a pivotal role in much of the theory of the Frankfurt school, particularly in the debate at hand. In using ideas to sustain and further their own interests, members of the ruling class are manipulating or deceiving their fellow citizens. Ideology is similarly deceptive, but it is more complex than that. There is an element of illusion or deception in ideology, an illusion which serves the interests of the ruling class; but there is also an element of <u>truth</u> to

ideology, which acts as a critical standard. In the example of liberalism, it was noted that the claim of respect for individuals' rights was ideological, for equal respect for each individual's rights is impossible given the lopsided power structure of capitalism. In this sense, liberalism is deceptive, because the respect for individual rights it advocates is impossible in a capitalist system. On the other hand, such respect is an ideal that should be realized, and thus serves as a critical standard for how things ought to be, even if they aren't that way. Marx's concept of ideology includes an element of illusion and an element of truth; understanding this is crucial for understanding the debate between Marcuse and Habermas. Since one of Marcuse's conclusions about technology is that it is ideology, it is important to understand what sense of "ideology" is intended.

It is clear that technology is an aspect of the modern era that must be reckoned with. But what is the so-called "modern era"? It is generally agreed that the beginning of it was in the late 16th or early 17th century. The modern era has been described and conceptualized in numerous ways, and I will confine myself to a relatively general description of it. At the beginning of the modern era, there was an expanding faith in reason and in humans' ability to understand their rational powers. Reason began to be applied in numerous and innovative ways, and with this came the rise of science. The price of this enlightenment was, among other things, confusion, for many scientific claims discredited or contradicted traditional

beliefs. There were crises in religion, authority, tradition, and culture. Industrialization and the rise of science, among other things, resulted in the erosion of inherited belief systems and in alienation. Major changes were happening in human society, including urbanization, industrialization, and what Max Weber described as rationalization; the changes and consequences that technology has wrought stem from its position in a specifically modern context.

The emergence of the modern world was and is a complicated process; it came about in various forms and on various levels. Max Weber described this emergence as a process of rationalization. It is difficult to concisely describe what this term means for Weber, for there are numerous technical ways that he uses it. In its broadest form, rationalization refers to social organization becoming increasingly structured around means/end relationships. An example of rationalization is the spread of bureaucracy. Weber was writing during the modern period, and the crises in traditional beliefs was something that, as a social scientist, his theorizing must take into account. It seemed to Weber that the heritage of the Enlightenment was being realized. The price of enlightenment was the loss of traditional forms of legitimation and security, and a further consequence, according to Weber, was that rationality begins to dominate social relations. On a practical level, this means the bureaucratization of society.

Wellmer agrees with Weber that the direction of history

is toward large-scale rational systems and the erosion of the individual; "...the 'rationalization' of society does not carry any utopian perspective, but is rather likely to lead to an increasing imprisonment of modern man in dehumanized systems of a new kind..."(Bernstein 41) This is what Wellmer has called the "negative dialectics of progress." The dialectical relation between thesis (traditional beliefs) and antithesis (enlightenment) results not in human happiness, but human despair. The actualization of reason, the triumph of reason in the modern world over irrational and outmoded traditional belief systems results in "rationalized, anonymous administrative systems-- historical processes, in short, which tend to make human life mechanized, unfree, and meaningless"(Bernstein 43).

Both Marx and Weber had a profound impact on the theory of the Frankfurt school; conceptually and methodologically, Marxist and Weberian elements are clearly present. Frankfurt theorists sought to unravel the riddle posed by the triumph of reason-- that enlightenment leads to despair, depersonalization, and meaninglessness. In attempting to solve this riddle, and so conceptualize emancipation, historical materialism, ideology, and rationalization all play key conceptual roles. For, if historical materialism is correct, then a philosophy of liberation must do more than theorize, it must somehow alter the nature of material production. Theory, as part of the superstructure, cannot itself effect social change. Direct <u>action</u> is needed, for action, not simply

concepts, is what can alter material production and so result in change. As Marx stated, "Liberation is a historical and not a mental act..."(Tucker 169) Hence, in Frankfurt school theory there is a commitment to political practice as well as theory.

Also, in order to understand the world, i.e., to get beyond the distortions of ideology, one must be able to criticize ideology; this criticism is a fundamental part of Marcuse and Habermas's work. Obviously, the world we live in is not utopian, and critique is a necessary part of finding out why; such is the critique that the Frankfurt school undertakes.

Rationalization is also a crucial concept for understanding the modern world; human society is changing and has changed in sweeping and significant ways; the complexities of our age have never been seen before. There have been basic changes in the nature and structure of the social world, and anyone who functions in academia knows that bureaucratization has changed the way people can and do relate to each other.

So, these three ideas, historical materialism, ideology, and rationalization, play a fundamental role in Marcuse and Habermas's debate regarding the inherent nature or logic of technology and technological rationality. But this is not to say that the members of the Frankfurt school assimilated Marx and Weber uncritically; on the contrary, various criticisms and modifications were made.

One reason that modifications were made was because Frankfurt school philosophers were reading Marx and Weber in

light of what has been called "convergence theory."[1] This is the notion that so-called opposing social systems (e.g., communism as opposed to capitalism) are not opposing at all, but are converging and becoming the same. For instance, in Soviet Marxist society, there was a great amount of censorship of the press. In the United States, freedom of the press is guaranteed by the Constitution. But this does not mean that some kind of censorship is not imposed on the press in the United States; in the Persian Gulf War, the glorification of the Bush administration and the hype surrounding a victory over a nation a fraction of our size and wealth was staggering; the absence of printed dissenting opinions was quite conspicuous. One would have to be very naive to think that the government did not control what kind of articles were printed. In both capitalist and Soviet Marxist systems, the government manipulates the press; this is one respect in which these systems of government are not clearly opposed, but tend toward uniformity and domination.

Such a theory has profound implications for Marxist theory. Marx thought that the seeds of a communist revolution are contained in capitalist society; once capitalism has run its course, a communist revolution will follow. But convergence theory implies first of all that communist and capitalist-- and for that matter, socialist, fascist, and all social systems in advanced industrial society-- tend toward the same end. A communist revolution would lead to the same domination that was present in a capitalist system. A second,

related point is that after capitalism has run its course, a classless society will not emerge. Rather,

> [the Frankfurt philosophers] could agree with Weber--against Marx-- that the immanent logic of the capitalist modernization process pointed not to the emergence of a classless society but rather to the emergence of a closed system of instrumental and administrative rationality. (Bernstein 44)

According to the proponents of convergence theory (e.g., Daniel Bell, Marcuse), debate along party lines is anachronistic.

Although systems of government in modern industrial society tend toward uniformity and domination, Marcuse and Habermas are not willing to concede that such tendencies are inevitable and inescapable; on this point they disagree with Weber. Weber is correct in noting that bureaucratization and industrialization are trends in the modern era, but these trends are not the only possibilities, a point which Weber's idea of reason prevented him from recognizing: "[Frankfurt philosophers] adopted the negative dialectics of progress from Weber and, at the same time, criticized his notion of formal and instrumental rationality..."(Bernstein 44)

The fact that members of the Frankfurt school drew heavily on the work of Marx and Weber should not be taken to mean that such work was assimilated uncritically. Both of these criticisms are fundamental points of contention between Marcuse and Habermas; the logic of the modernization process and the possibility of an alternate rationality are crucial issues in the debate regarding the logic of technology.

Having discussed some core concepts underlying the debate

between Marcuse and Habermas, it is now feasible to examine the debate itself.

II. THE DEBATE

In discussing technology, there are a variety of terms that are distinct and should be kept so. For instance, science and technology are by no means equivalent: "...Marcuse and Habermas both tightly link science and technology. Technology, in this view, is little more than corporalized scientific reason. Conversely, science is but abstract technology[]"(Alford 12). Science for Marcuse and Habermas is the purest, most abstract form of instrumental (means/end) rationality, while technology is a concrete manifestation of this. Since the senses in which Marcuse and Habermas use technology in the course of their writings are numerous and fluid, I will not attempt a comprehensive definition of technology. Instead, I will note the various ways the term is used by Marcuse and Habermas in the essays at hand.

Another important distinction is between scientific and technological rationality. As I understand it, scientific rationality is the means/end rationality of "pure" scientific inquiry; this rationality does not serve extra-scientific ends (at least ideally), but serves the intra-scientific goal of knowledge for its own sake. Scientific rationality is what guides scientific inquiry. An example of this would be an investigation into the physical dynamics of systems of pulleys. Technological rationality, on the other hand, is used

strategically to attain a practically useful goal, e.g., using a system of pulleys to draw water from a well. Technological rationality guides technical progress and development.

One way that Marcuse and Habermas use "technology" is to speak of concrete objects (i.e., machines or tools) that have been produced through the application of scientific reason; machines and tools are both technology, though they are certainly different. Machines are human products that result from the application of scientific reason and can function and accomplish labor independently of direct human manipulation, e.g., a washing machine. Tools are human products that result from the application of scientific reason and in order to function depend on direct human manipulation, e.g., an iron. Max Weber describes machines as "...congealed spirit (Geist). Only by being this has it the power to force men into its service..."(Marcuse 222, 1968) I think that he is referring to both machines and tools. Technology as machines or tools is one meaning of "technology" that is relatively broad and simple to understand. In the following discussion, I will attempt to explain other uses of the word as they happen. It will be helpful to keep in mind that however "technology" is being used, the context in which technology is situated is assumed by Marcuse and Habermas to be advanced capitalist society.

It is also necessary to heed the difference between industrialization and capitalism. Industrialization refers to a large-scale, systematic employment of tools and machines in

the labor process, resulting in more efficient and prolific production. Capitalism, however, is a specific organization of labor and social relations that entails wage labor and private ownership of the means of production. While industrialization is needed for capitalism to be possible (for only then can abundant surplus value be generated), an industrial society need not be a capitalist one. Industrialization and capitalism have often gone hand in hand, but they are not the same thing. However, in capitalist society, technology has played a significant part in industrialization, and Weber, Marcuse and Habermas are focusing their analyses on technology in a specifically capitalist context. While it is important to recognize that industrialization and capitalism are different, it is also true that they are closely linked by technology in the modern era.

MARCUSE ON TECHNOLOGY

These distinctions are useful for understanding what is being said in Marcuse's essay "Industrialization and Capitalism in the work of Max Weber;" here, Marcuse reveals his views regarding the nature of technology via a critique of Weber. Marcuse is pursuing at least two issues here, a critical reformulation of Weber and an analysis of technology. I will emphasize the latter so that Marcuse's view on this subject can be clearly compared to Habermas's. I wish to make it explicit at the outset of this section that the following presentation of Weber's views is based on Marcuse's reading

and analysis of Weber, not on Weber's own texts and my original interpretation of them. My own reading of Weber would not do much toward revealing Marcuse's views on technology, but Marcuse's reading of Weber does.

Recall that for Weber, the direction of history is toward large-scale rational systems, erosion of the individual, the separation of pleasure and meaning from the public sphere, and their restriction to the private sphere. Weber, like all of us, is writing within a specific context, and Marcuse says of this, "The context of Weber's analysis is the historical context in which economic reason became the reason of domination-- domination at almost any price"(Marcuse 214, 1968). In such a situation, Weber was trying to establish the connections between capitalism, rationality and domination, which are distinct but seemingly related in transforming the modern world. For Weber, analysis of these three factors and their interconnections led to the conclusion that "Industrialization is thus seen as the fate of the modern world, and the fateful question for both capitalist and socialist industrialization is only this: what is the most rational form for dominating industrialization and hence society"(Marcuse 213, 1968)? Industrialization, as the basis for modern material production, is the key for controlling capitalist society; the influence of Marx's historical materialism is clear here. Weber further thought that the ways in which capitalism, rationality, and domination are related leads not only to industrialization, but that humans are

doomed to domination and institutionalized meaninglessness, trapped in the "iron cage" of the modern era.

Rationalization leads not only to this bleak fate, but also toward bureaucratization, which Weber views as intrinsic to industrialization: "Bureaucratic control is inseparable from increasing industrialization; it extends the maximally intensified efficiency to society as a whole"(Marcuse 216, 1968). So, not only is there increasing administrative control, that control extends beyond the domain of industry and into everyday life. The organizational apparatus that humans have created ultimately dominates them; even though humans supposedly "run" it, the logical demands for the efficient functioning of bureaucratic systems determine human behavior: "Properly speaking, it is the apparatus that dominates, for the control of this apparatus, based on specialized knowledge, is such only if it is fully adjusted to its technical demands and potentialities"(Marcuse 216, 1968). In controlling an administrative system, humans must abide by the requirements for the functioning of that system, and such requirements delimit human action. Since it is the apparatus that dominates, rather than, as Marx noted, domination of one class by another, class conflict has become masked, something that Habermas also recognized:

> For the power structure, aimed as it is at avoiding dangers to the system, precisely excludes 'domination' (as immediate political or economically mediated social force) exercised in such a manner that one class subject confronts another as an identifiable group. This means not that class antagonisms have been abolished but that they have become latent. (Habermas 109)

There is still the fact that a certain class is in control of the administrative apparatus, but as was just noted, the apparatus controls its controllers. So, those "in charge" are more cogs in the administrative machine than oppressors that can be held responsible for domination imposed on a class of people.

According to Marcuse's reading of Weber, bureaucratic systems not only restrict human action, they are also deceptive. These systems become entrenched and accepted, to the point that they seem to be facts of life. For instance, it seems like a fact of life that if you should want to adopt a child, you must fill out innumerable applications and information sheets, provide proof of financial stability, have a home study done, undergo various interviews, and so on. This is actually not a fact of life at all, but an imposed bureaucratic system; there are numerous ways that the adoption process could be structured, and other systems that could be imposed. Although bureaucracy is inescapable for Weber (and so at some level a fact of life), established bureaucracy conceals the fact that there are other ways that things (e.g., adoption) could be done. This is because "total dependence on the functioning of an omnipotent apparatus becomes the 'basis of all order' so that the apparatus itself is no longer questioned" (Marcuse 220, 1968). Once people have become accustomed to the functioning of administrative systems, it seems that the world couldn't be any other way; such systems mislead people as to possibilities for action and interaction

and, as such, are deceptive.

In addition to discussing the connections between industrialization and bureaucracy, Max Weber analyzes technology, and it is this topic that Marcuse addresses most fully. Remember that Frankfurt school theorists were profoundly influenced by Marx and so were historical in their social criticism; one can't describe "technology" (the term or the phenomenon) ahistorically, because the nature of technical efficiency is affected by and located in a social matrix. Efficiency has to do with the relations between means and ends, and the interplay of means and ends is affected by historically specific factors. For instance, in the textile industry in England in the 18th century, a desired end of the capitalists was to destroy the men's guild system within the industry, and the technological means for accomplishing this was steam-power. Or, in the 20th century, a desired end is increased consumption of products, and a means for achieving this is planned obsolescence. Technology is socially and historically located in a profound sense.

Technology, as a significant factor in material production, also has a great impact within the social world. According to historical materialism, material production "conditions the social, political, and intellectual life processes in general," and Marcuse states, "...the social mode of production, not technics, is the basic historical factor. However, when technics becomes the universal form of material production, it circumscribes an entire culture; it projects a

historical totality-- a 'world'"(Marcuse 154, 1964). The sense in which Marcuse is using technology (i.e., technics) here is as technical knowledge incorporated in material production; given that material production has a tremendous impact on culture, and technics has become the "universal form of material production," technics also has this cultural impact. It might be more precise of Marcuse to say not that technics itself, but technics as it is implemented in material production "projects a historical totality." Technology (or technics), as the "universal form of material production", prescribes cultural possibilities.

As a significant aspect of material production, technology not only affects the social world, but is a barometer of social values: "Technology is always a historical-social project: in it is projected what a society and its ruling interests intend to do with men and things"(Marcuse 224, 1968). Here, technology is being used not in the sense of simply technical knowledge, but as an historical project of the human species, as ongoing human activity. It is an illustration of how knowledge (i.e., technology) is used to serve the prevailing interests of society. Marcuse is implying that technology and its application are shaped by ruling interests, although later on he says that domination is an intrinsic feature of technology:

> In [One-Dimensional Man] Marcuse vacillates between the view that in contemporary society technical advances contribute to class rule because technique is organized and controlled in the interests of exploitation, and the view that technology in itself contributes to social oppression.(Peterson 139)

These claims are distinctly different in focus. This ambiguity should be kept in mind, particularly when considering Marcuse's "solution" to the domination and oppression in contemporary society. The first view cited above indicates that a change in social configurations of class rule is needed for liberation, while the second calls for a change in technology itself. Marcuse's liberatory solution will be more fully addressed below.

Technology is possible through the application of reason; if reason remained forever unapplied, we would still be walking around deprived of CD players and cellular phones. But Marcuse thinks that the application of reason is a kind of domination since it involves control or manipulation (of both natural resources and humans). Reason as logical thought, "...as conceptual thought and behavior is necessarily mastery, domination. Logos is law, rule, order by virtue of knowledge," according to Marcuse (167, 1964). He further states, "Abstract reason becomes concrete in the calculable and calculated <u>domination</u> of nature and man"(Marcuse 205, 1968). This is a controversial statement, both in how it identifies reason with domination and in how it links the domination of nature with that of humans; the latter connection will be further clarified below, and it is one that Habermas strongly criticizes.

In describing technology within the framework of advanced industrial capitalism, Marcuse states,

> The machine is the determining factor, but the 'lifeless machine is congealed spirit (Geist)'.. Yet because it is 'congealed spirit,' it is also domination of man by man; thus this technical reason reproduces enslavement. Subordination to technology becomes subordination to domination as such. (222, 1968)

Again, Marcuse is implying that technology (in the sense of machinery, which is one of numerous possible senses of technology) in and of itself contributes to domination; subordination to technology is subordination to domination. But this claim is problematic, for it is not clear that technology in and of itself reproduces enslavement. For Marcuse, one aspect of the term "technology," is machinery; machinery is "congealed spirit", that is, a human product. Since production is a social process, machinery is a product of social relations which is then used to organize social relations (labor); in other words, machinery is a product of labor that is then used to organize labor. Machinery is an embodiment of the social relations needed to produce it. Given this, it is far from obvious that technology (in the sense of machinery) itself is responsible for reproducing enslavement, for there is a significant social dimension to this process: "Marcuse is warranted to conclude not that technical reason is inherently keyed to domination (though this may be so whenever it is used to organize social relations), but that the rationality of technique always contains a social dimension"(Peterson 142). It is not clear that technology -- in the relatively broad sense of machinery-- is inherently domination.

However, according to Marcuse, technology in some sense is a kind of domination of both humans and nature. Such control is achieved in a number of ways, and a part of this achievement is universal quantification. Quantification facilitates the domination of nature because in quantifying something, qualitative differences are reduced to differences in number. Particulars are subsumed under general headings, and so qualitative differences between particulars are suppressed; this is a kind of conceptual domination which leads to concrete domination. An example of this is the destruction of the rainforests in South America. Farming technology requires land that has been cleared and otherwise been prepared for cultivation. Land is viewed in general terms-- not as rainforest, but as simply x acres of land that could be cleared and farmed. But particularly in a capitalist context, viewing land only in quantitative terms can be disastrous; many farmers in Latin America are eager for profit and perceive land quantitatively. These farmers are burning down rainforests to farm the land and so generate profit. But they are overlooking the quality of the land, which is such that it is unsuited for long-term cultivation. They are burning these forests down to the soil in the name of profit, and quantification is part of what makes this seem like a good idea-- x acres yields x dollars. Such wholesale annihilation of the rainforests certainly seems to constitute domination, in the sense of imposing one's will on other living things. As Marcuse states, "...universal quantifiability is a

prerequisite for the domination of nature"(164, 1964).

Marcuse thinks that the domination of nature and the domination of humans are linked. Technology entails the use of means to gain certain ends, i.e., entails manipulation. As such, when technology is applied to exploit nature, it cannot help but affect humans' perception of how "others" are to be treated. Marcuse says, "The technological a priori is a political a priori inasmuch as the transformation of nature involves the transformation of man, and inasmuch as the 'man-made creations' issue from and reenter a societal ensemble"(154, 1964). The domination of nature is linked to the domination of man. A case for this could be the current environmental woes that are plaguing humanity: skin cancer from a diminished ozone, birth defects from toxic waste dumps, lung cancer from air pollution, ad nauseam, all support the assertion that environmental domination ultimately produces human suffering. And, while suffering in and of itself is not a form of domination, suffering when it is imposed on humans without their knowledge or consent is, I think, a form of domination. "The scientific method which led to the ever-more-effective domination of nature thus comes to provide the pure concepts as well as the instrumentalities for the ever-more-effective domination of man by man through the domination of nature"(Marcuse 158, 1964).

But Marcuse makes the connection between the domination of nature and that of humans more explicit. Marcuse says, "The quantification of nature, which led to its explication in

terms of mathematical structures, separated reality from all inherent ends and, consequently, separated the true from the good, science from ethics"(146, 1964). If science has been separated from ethics, and technology is a kind of science, then technology has also been separated from ethics, i.e., ethical concerns are not a factor in how technology is used. Technology is governed by means-end rationality, which is strategic (i.e., concerned with expediency rather than ethical value) in using certain means for achieving certain ends; non-strategic concerns (e.g., ethical values) need not be considered. This has profound consequences, for human society has become inundated with technology. Upon experiencing the "good life" that technological innovations can provide, people become inclined to perceive technology as an acceptable part of their lives. This means that technological rationality becomes assimilated from the realm of science and industry into daily social life: "By virtue of the rationalization of the modes of labor, the elimination of qualities is transferred from the universe of science to that of daily experience"(Marcuse 157, 1964). Given this transfer, in addition to the exclusion of non-strategic concerns (e.g., ethics) from technological rationality, daily experience is in danger of becoming strategic rather than value-oriented. I am using value here to denote such things as honesty, integrity, compassion, etc.-- in short, things which have perhaps no strategic use, but are of significant ethical import. With the integration of technology into daily life, human interaction

is in danger of becoming purely instrumental.

Thus, one can infer from Marcuse's essay that the quantification of nature contributes to instrumental social interaction; such interaction is manipulative, and is a form of domination. So, the domination of nature does seem intrinsically related to the domination of humans. Marcuse makes this relation even clearer in One-Dimensional Man; here, he identifies "...the advance of science and technology as such with the domination of man" (Peterson 139). The domination of humans and the domination of nature are not simply related, they are identical, according to Marcuse. However, his position in "Industrialization and Capitalism in the Work of Max Weber" is simply that the above dominations are related rather than explicitly identical, and this is the view I will assume for the purposes of this paper.

Instrumental social interaction is domination on the level of daily, person to person relations. But on a more abstract level, it lends itself to large-scale oppression. Workers in a modern capitalist society which employs technology in material production are not free, for their labor is used as means for the production of surplus value. But technological rationality helps to reconcile them to their lot:

> For this unfreedom appears neither as irrational nor as political, but rather as submission to the technical apparatus which enlarges the comforts of life and increases the productivity of labor. Technological rationality thus protects rather than cancels the legitimacy of domination, and the instrumentalist horizon of reason opens on a rationally totalitarian society.(158-9, 1964)

Technological rationality helps to make domination and exploitation seem like necessary but palatable means to the end of living the good life.

Having described the evils of technology in industrial capitalism, Marcuse gives reason for hope. Remember that Marcuse was influenced by Marx and so had an appreciation for the historical content of human society; humans live an historical process, a process which is subject to change. "As political reason, technical reason is historical. If separation from the means of production is a technical necessity, the bondage that it organizes is not"(Marcuse 225, 1968). Separating the worker from the means of production need not result in the exploitation and alienation of the worker; in fact, it could be the key to the worker's liberation. "For, as 'congealed spirit' the machine is not neutral; technical reason is the social reason ruling a given society and can be changed in its very structure. As technical reason, it can become the technique of liberation"(Marcuse 225, 1968). If machines can accomplish production with only human guidance, then machines could ultimately replace the industrial worker, and hence free her from labor. I do not think that Marcuse believes that all human labor could be eliminated, for human supervision of machines would be needed; but machines could go a long way toward minimizing the need for human labor. Alford says,"[Marcuse's] new science, which posits man's reconciliation with nature, serves to conceal how urgently he seeks man's ultimate triumph over nature: the abolition of

labor"(Alford 20).

HABERMAS ON TECHNOLOGY

Habermas's essay "Technology and Science as 'Ideology'" is a response to Marcuse's essay "Industrialization and Capitalism in the Work of Max Weber," as well as to One-Dimensional Man, but Habermas is doing more here than simply responding to Marcuse. He is also reassessing key Marxian categories, responding to Marcuse's critique of Weber, reformulating Weber's concept of rationalization, all in addition to criticizing Marcuse's critique of technical reason. Habermas uses his reformulation of Weber's rationalization to frame his criticisms of Marcuse, and I will focus on this aspect of the essay.

Recall that both Habermas and Marcuse are critical theorists, not simply social theorists. The difference is that "Critical theory had distinguished itself from 'traditional' social theory by virtue of its ability to specify those real potentialities in a concrete historical situation which could further the process of human emancipation and overcome domination and oppression" (Bernstein 7). Marcuse and Habermas are interested not only in social analysis, but also in the historical locatedness of human society and the emancipatory possibilities therein. As McCarthy states, "The idea of a critical social theory incorporating an emancipatory interest takes us to the center of Habermas's thought" (76). As a critical theorist, then, Habermas does not examine technology

in the abstract or in isolation, but as something that is historically and socially situated; he recognizes that "the state of technical development does not represent a category of social analysis per se, because the effect of machinery is always bound up with the social relations in which it is embedded" (Peterson 153).

Marcuse also recognized that technology and technical progress are socially located. However, his perception of technology is fundamentally different from that of Habermas. Marcuse concluded in his essay that "the very concept of technical reason is perhaps ideological. Not only the application of technology but technology itself is domination (of nature and men)" (223, 1968); the domination of nature and the domination of humans are linked, according to Marcuse. He further states, "Specific purposes and interests are not foisted upon technology 'subsequently' and from the outside; they enter the very construction of the technical apparatus" (224, 1968). Technology is not "pure" or "innocent", but is invested with political content-- "specific purposes and interests" and "domination." As Habermas says, "Marcuse is the first to make the 'political content of technical reason' the analytical point of departure for a theory of advanced capitalist society" (85). This political content is key for Marcuse, in that technical reason becomes the basis for political legitimation of the social order. Technology is ideology and a form of domination. But, it could also be a means of liberation, e.g., if it were used to minimize the

need for human labor rather than for the generation of surplus value.

Habermas has quite a different perception of technology; for him, the problem posed by technology in the modern period is not caused by the political content of technical reason, but by the place of technological reason in the life-world:

> The difficulty, which Marcuse has only obscured with the notion of the political content of technical reason, is to determine in a categorically precise manner the meaning of the expansion of the rational form of science and technology, i.e., the rationality embodied in systems of purposive-rational action, to the proportions of a life form, of the 'historical totality' of a life world. (90)

Habermas contends that technical reason, or, more broadly, purposive-rational action, is not politically loaded. The problem posed by technical reason is not due to its political content, but is due to its expansion into everyday life. This point will be more fully addressed below.

In the modern period, rationalization has resulted in the erosion and/or loss of cultural tradition; by cultural tradition I mean things like shared religious beliefs and social customs. This tradition, in pre-rationalized society, legitimated the social order. For example, christianity said that all of nature, including women, are for men to use and enjoy; so, the domination of women by men in a social framework is sanctioned by the church, and so legitimated. But in rationalized society, legitimation of domination in the existing social order comes not from cultural tradition, rather, "[capitalism] provides a legitimation of domination which is no longer called down from the lofty heights of

cultural tradition but instead summoned up from the base of social labor" (Habermas 96).

Not only has the source of legitimation changed from pre-rationalized to rationalized society, the social realm has been depoliticized; economic concerns have become primary, while political concerns have become of secondary importance. Habermas maintains that politics are fundamentally affected by economics, a clear reference to Marx's historical materialism: "It is now the political system which is justified in terms of the legitimate relations of production.. the institutional framework of society is only mediately political and immediately economic" (Habermas 97). Rationalization, in shifting social legitimation from the "top down" to the "bottom up" changes political questions to production questions, since politics is legitimated according to materially efficient relations of production. A good example of this is the way in which industry in the United States affects governance; many times, the economic interests and needs of major corporations determine the government's environmental policies, rather than vice versa. Policies that benefit the economy are perceived as legitimate political policies.

In changing political questions to production questions, rationalization has also led to what Habermas called "the expansion of the rational form of science and technology, i.e., the rationality embodied in systems of purposive-rational action" (97). Production legitimates the social

order, and purposive-rational action is crucial in production; hence, as production becomes increasingly important within the social order, so does purposive-rational action. Technology, as a kind of purposive-rational action, is an integral part of material production, and Habermas says of this:

> Hence the new [technocratic] ideology is distinguished.. in that it severs the criteria for justifying the organization of social life from any normative regulation of interaction, thus depoliticizing them. It anchors them instead in functions of a putative system of purposive-rational action. (112)

This technocratic ideology does not function in a vacuum, however. Habermas is referring to this kind of ideology as it functions in a capitalist society; unlike Marcuse, Habermas does not claim that technology itself is domination or ideology, but that it can function in these ways within a capitalist system. Technology per se is not deceptive, nor does it imply a utopian ideal. Not technology, but technocracy, i.e., the bureaucratization of technology, is ideology. Technology has been used to veil existing forms of power. Technocracy is both deceptive and utopian.

Capitalist society facilitates the expansion of purposive-rational action into all areas of life.

> ...the capitalist mode of production can be comprehended as a mechanism that guarantees the permanent expansion of subsystems of purposive-rational action and thereby overturns the traditional 'superiority' of the institutional framework to the forces of production. (106)

It is this expansion that "Weber meant to designate and explain as the rationalization of society" (Habermas 90), but Habermas thinks that neither Weber nor Marcuse adequately accounted for this phenomenon. In an attempt to succeed where

they failed, Habermas reformulates Weber's concept of rationalization, and puts particular emphasis on the distinction between work and interaction. Habermas then uses this interpretation of Weber to frame his response to Marcuse.

It seems to me that one point on which Habermas is criticizing both Marcuse and Weber is on their notions of rationality. These notions do not reflect the complexity of reason, and so are ultimately inadequate for making sense of the modern era; Habermas finds both Weber's and Marcuse's conclusions about the modern era unacceptable. Habermas attempts to formulate a multi-dimensional theory of rationality, and so to formulate a powerful conceptual tool for making sense of technology in the modern era. Habermas's theory of rationality includes a distinction between purposive-rational reason and communicative reason, which will be explained below.

Before proceeding, it should be noted that in Habermas's essay he uses the terms purposive-rational <u>action</u> and purposive-rational <u>reason</u>, as well as communicative <u>action</u> and communicative <u>reason</u>. The difference between action and reason, it seems to me, is that reason is what guides conduct, while action refers to conduct itself. So, a conversation is communicative <u>action</u> which proceeds according to communicative <u>reason</u>. An explication of Habermas's reformulation of Max Weber's idea of rationalization will help to make this point clearer.

In presenting his theory of rationality, Habermas is

making numerous specific distinctions. With regard to purposive-rational action, he states:

> By 'work' or purposive-rational action I understand either instrumental action or rational choice or their conjunction. Instrumental action is governed by technical rules based on empirical knowledge. In every case they imply conditional predictions about observable events, physical or social.. The conduct of rational choice is governed by strategies based on analytic knowledge. They imply deductions from preference rules and decision procedures.. Purposive-rational action realizes defined goals under given conditions. But while instrumental action organizes means that are appropriate or inappropriate according to criteria of an effective control of reality, strategic action depends only on the correct evaluation of possible alternative choices, which results from calculations supplemented by values and maxims. (91-2)

So, there are two moments of purposive-rational action, instrumental action and strategic action; the first is geared toward an effective control of reality, while the latter is directed at the evaluation of alternatives. Purposive-rational action is clearly fundamental in material production, as well as in technology, which require just such control and evaluation. In fact, technology is a kind of purposive-rational action in that it "organizes means" to effectively control reality, and also entails the "correct evaluation" of possible technical choices. Instrumental and strategic action are aspects of purposive-rational action, not sharply differentiated parts of it. Technology, insofar as it involves organizing means and evaluating choices, is a kind of purposive-rational action, and technological reason is a kind of purposive-rational reason.

Purposive-rational action is contrasted by Habermas with communicative or symbolic interaction. Habermas describes this

as

> ...governed by binding consensual norms, which define reciprocal expectations about behavior and which must be understood and recognized by at least two acting subjects.. While the validity of technical rules and strategies depends on that of empirically true or analytically correct propositions, the validity of social norms is grounded only in the intersubjectivity of mutual understanding of intentions and secured by the general recognition of obligations. (92)

Habermas is discussing social interaction, or social relations between individuals who are able to communicate; by communication, I think Habermas means the exchange of symbols, for social interaction and communicative interaction are also referred to as symbolic interaction. Although it is not clear from the text of "Technology and Science as 'Ideology'", McCarthy says that communicative interaction is also divided by Habermas into two types: social interaction that is governed by traditional consensual norms, and social interaction in "spheres set free (legally and morally) for the strategic maximizing of the individual's own pleasure or advantage" (25). As an example of the latter type of interaction, McCarthy cites law. As I say, this distinction is not obvious in the text of the article, and is not important in my ensuing discussion; I include it for the sake of completeness, but will be discussing communicative action in a relatively general sense.

In explaining the difference between work and interaction, Habermas includes a table to illustrate his point. In contrasting the rationalization of symbolic interaction with the rationalization of purposive-rational

action, Habermas writes of the former "emancipation, individuation; extension of communication free of domination" and of the latter "growth of productive forces; extension of power of technical control" (93). The contrast he is making here is between moral and ethical reason (which governs the sphere of communicative reason) and instrumental reason (which does not involve reflection on norms and values, but on efficiency). These two kinds of reason have become confused in the modern era-- technical questions have become confused with ethical ones. This has resulted in distortions in communication, for inappropriate criteria--effectiveness-- are used to decide questions of values and norms. Rationalization in the communicative realm would mean not the extension of bureaucracy (as it would if Habermas were using "rationalization" in the Weberian sense), but the recognition that issues of communication need to be settled by consensus rather than objectively; communication would be organized in the most rational, i.e., appropriate, way. This leads to emancipation because it results in communication free from domination, free from the imposition of inappropriate objective standards. Rationalization of communicative action would mean communication free from distortion. Reason is not just a matter of means and ends, but also of rational consensus.

Several of Habermas's critics have noted that the distinction that Habermas is making between purposive-rational and communicative action is misleading and perhaps inaccurate:

> One of the more obvious difficulties with this formulation is that purposive-rational action would seem (if the contrast is to have a point) to be not governed by social norms, not grounded in intersubjectivity, not sanctioned by convention, in short, not social. (McCarthy 26)

But obviously, purposive-rational action, as a form of human activity, is social in some sense, or at least occurs within a social framework. As McCarthy puts it, "...the ends of purposive-rational action are defined and pursued in a social context" (26). Given this fact, the point of Habermas's distinction becomes less clear, and the difference between purposive-rational and communicative action seems blurred. Habermas explains that what he is in fact doing is "analyzing a complex," i.e., purposive-rational and communicative action are interdependent but analytically distinguishable. So, he is not describing two absolutely discrete kinds of action, but "whether purposive-rational action or interaction predominates" (93, emphasis added). The problem of technology in the modern period, then, is not really that purposive-rational action has "crossed over" into the communicative realm, for the two sorts of action are to a certain extent always intertwined; the problem is that in realms where communicative action should predominate, it no longer does. Purposive-rational action is overly significant in areas where it should not be. Different kinds of reasoning are appropriate in different contexts; it would not be appropriate to decide a case of euthanasia according to strategic concerns.

It is important to note that Habermas is not saying that purposive-rational action and communicative action are

absolutely separate, but that they are analytically distinguishable. As a critical theorist and as a Marxist, Habermas recognizes that purposive-rational action occurs in a social context. He states,

> So I shall distinguish generally at the analytic level between (1) the institutional framework of a society or the socio-cultural life-world and (2) the subsystems of purposive-rational action that are 'embedded' in it. Insofar as actions are determined by the institutional framework they are both guided and enforced by norms. Insofar as they are determined by subsystems of purposive-rational action, they conform to patterns of instrumental or strategic action. (94)

It seems to me, then, that communicative reason is the one with larger scope, for communication is basic to human society. The institutional framework is possible only through the exercise of communicative reason, and subsystems of purposive-rational action are 'embedded' in this framework.

Remember that for Marcuse, technology is ideology, and "social emancipation could not be conceived without a complementary revolutionary transformation of science and technology themselves" (Habermas 85). Purposive-rational action, according to Habermas, corresponds to the structure of work (87), and technology is a kind of purposive-rational action. Hence, technology in some sense corresponds to the structure of work. Humans must work in order to survive, and Habermas thinks the structure of work is fixed rather than mutable. So, social emancipation via a transformation of work is not possible. The problem posed by technology in the modern world is not caused by the inherent structure of technology, nor is it caused simply by the capitalist context in which

technology is situated. Rather,

> the real problem, Habermas argues, is not technical reason as such but its universalization.. the extension of purposive-rational action to all spheres of life. The proper response, then, lies not in a radical break with technical reason but in properly locating it within a comprehensive theory of rationality. (McCarthy 22)

Technical reason has expanded from guiding purposive-rational action to guiding communicative action, and this is the key to understanding the confusion, devastation, and unhappiness of the present era.

This expansion means that human relations that are appropriately guided by consensual norms are instead governed by technical rules and strategic considerations. For example, in the United States, great strides have been made in the technology of human reproduction. Babies can be made in petri dishes, implanted in a woman's uterus, and carried to term; embryos can be frozen and then defrosted and incubated; women can choose sperm donations given by men they will never meet; and so on. Human reproduction has traditionally been socially located. And, in a sense, all human activity is socially located, including the new reproductive technology; but the social relation between biological mothers and fathers has diminished, and in many cases is dispensed with altogether. Humans who do not avail themselves of this technology still interact with their partners in communicative ways-- there is some sort of communicative interaction between them. But humans who <u>do</u> avail themselves of these technologies often no longer communicate with their biological counterparts. The

donor at the sperm bank does not take the recipient of his sperm out for a movie, dinner, and small talk; he probably does not even know who the recipient is, let alone interact with her. Human reproduction in this way has become governed by technical rather than by communicative reasoning. And perhaps it is this shift that has resulted in the thorny, confounding ethical questions that have accompanied the development of advanced reproductive technology; technology has impinged on a realm in which it does not belong, and the results of this are perplexing.

In modern society, "we are threatened today by the 'colonization of the life-world' by systematic rationalization processes" (Bernstein 23). Communicative action has become less visible and the distinction between purposive-rational and communicative action has become less apparent: "...with the institutionalization of scientific-technical progress, the potential of the productive force has assumed a form owing to which men lose consciousness of the dualism of <u>work</u> and <u>interaction</u>" (Habermas 105). With the primacy of material production in capitalist society and the importance of work in such a society, the importance of interaction in and of itself (as opposed to interaction as an aspect of work) is easily overlooked; if the importance of communicative action is recognized, it is liable to be perceived only as an aspect of labor rather than as significant in its own right. Work and interaction are not mutually exclusive, but they are distinguishable; interaction is an aspect of labor, and vice

versa, but they are not reducible to each other. Rationalized society is moving toward the absorption of communicative action by purposive-rational action.

This absorption affects people's interests and values. There is little "...unrestricted communication about the goals of life activity and conduct against which advanced capitalism, structurally dependent on a depoliticized public realm, puts up a strong resistance" (Habermas 120). As society becomes more means-end oriented, communication is of secondary importance to strategic effectiveness; this shift in values is illustrated quite clearly today in higher education. Huge funding is provided for colleges of engineering, business and science, while funding for the humanities has been drastically cut in recent years. The achievement of economic (as opposed to what Habermas terms "practical") goals requires the use of instrumental rationality. While human interaction used to be of great importance, now effectiveness is what matters most:

> Old-style politics was forced.. to define itself in relation to practical goals: the good life was interpreted in a context defined by interaction relations. The substitute program prevailing today.. is aimed exclusively at the functioning of a manipulated system. (Habermas 103)

By practical goals, I think Habermas means things like happiness, fulfillment, honesty, and so on-- in short, ethically good ways of living life. Now, however, life is strategically oriented toward succeeding in a rationalized life-world. Depoliticization and the increasing importance of purposive-rational action has resulted in a shift from an orientation toward practical goals to an orientation toward

strategic goals (e.g., efficiency, productivity, effectiveness) aimed at system maintenance. In this way, strategic concerns have encroached upon interaction relations.

Habermas has identified the problem of technology in the modern world differently than Marcuse has, and Habermas's idea of liberation is also different. Marcuse said that technology is intrinsically domination and exploitation, and the remedy for this is to change the ends for which technology is used. Habermas thinks that technological reason corresponds to the structure of work, and so cannot be changed: "Technological development thus follows a logic that corresponds to the structure of purposive-rational action regulated by its own results, which is in fact the structure of work" (87). The problem is not the structure of technology itself, but that purposive-rational reason has come to dominate the sphere of communicative reason. So, the solution to this problem is to apply purposive-rational reason in appropriate ways, not to transform technology. For instance, questions of technical efficiency, e.g., how to make a nuclear bomb, are properly decided using purposive-rational reason. But how technology is ultimately used, e.g., when and if nuclear bombs should be detonated, is a non-technical question. This is a value question, and is properly decided using communicative reason. In modern advanced industrial society, value questions are often confused with technical ones, and are answered according to purposive-rational reason. It is this that Habermas seeks to change. The expansion of communicative reason can reverse

the past overextension of purposive-rational reason: "Communicative reason operates in history as an avenging force" (Bernstein 25).

According to Habermas, a different relationship with nature is not feasible. "The alternative to existing technology, the project of nature as opposing partner instead of object, refers to an alternative structure of action: to symbolic interaction in distinction to purposive-rational action" (Habermas 88). Such symbolic interaction is not possible, for nature is not an acting subject; communication as we know it requires symbolic reciprocity. Habermas thinks that there is no alternative to existing technology, but that that does not stand in the way of human emancipation. If purposive-rational action can be confined to the appropriate realm, communication that is free from domination can occur:

> The domination of nature-- its utter disenchantment-- is accepted [by Habermas] as the price of human freedom from constant labor. The realm of human emancipation is confined-- once the material conditions of freedom are met-- to..the realm of communicative action. (Alford 12)

This seems to refer to Habermas's description of the rationalization of communicative action as "emancipation, individuation; extension of communication free from domination" (93). Rationalization of communicative action, in the sense of organizing communication in the most rational way, would result in communication that is free from domination.

Note that in confining the possibility of emancipation to the communicative realm, Habermas is differentiating humans

from the rest of nature; nature is dominated by humans, but humans are free even though nature must be exploited. This is clearly a contrast to Marcuse's position; according to him, the domination of nature and the domination of humans are linked, if not identical. According to Habermas, the domination of nature is needed for human freedom. Nature is confined to the realm of purposive-rational action, and is only viewed as an instrument or means for human goals.

For Habermas, emancipation is confined to the realm of communicative action, for purposive-rational action is necessary for human survival-- it is non-negotiable. In some respects, his position is more flexible than Marcuse's. Technology does not need to be fundamentally altered, but simply confined to the appropriate realm. However, I think that in other respects Habermas's scheme is unjustifiably rigid and forecloses certain emancipatory possibilities. This claim will be explained and discussed in Section III.

III. CONCLUSIONS

In this paper, I have attempted to explain and elucidate complex and difficult concepts and analyses as given by Habermas and Marcuse. Their positions on technology and its role in the modern era are quite different in both approach and implication; in the interest of closure, I will give a short summary of some major differences in Habermas's and Marcuse's analyses of technology. Then, I will critically evaluate Habermas's position and its emancipatory

possibilities.

One significant point on which Habermas and Marcuse differ is regarding the relation between the domination of nature and the domination of humans. For Marcuse these dominations are mutually enhancing, that is, the domination of nature contributes to the domination of humans, and vice versa. But Habermas does not think that this is the case. In fact, the domination of nature is a pre-condition of human freedom; the exploitation of nature is crucial in human liberty: "The domination of nature-- its utter disenchantment-- is accepted [by Habermas] as the price of human freedom from constant labor" (Alford 12).

A major factor in this difference of opinion is how each philosopher perceives humans' place in nature. Habermas categorically distinguishes humans from nature in that human interaction with nature is limited to the realm of purposive-rational action, while human society and interaction are communicative. Marcuse does not separate humans from nature in this way, and so thinks that the fates of nature and of humans are more closely related. Habermas's distinction between humans and nature will be more fully addressed below, but is useful here for understanding why he thinks that the domination of nature and the domination of humans are not mutually enhancing.

Another point on which Habermas and Marcuse differ is in how they interpret the term "technology." Marcuse, as was noted, interprets it in numerous ways-- as ideology, as

machinery, as a project, as domination. Technology as it is employed in the modern period is domination and is oppressive in part because it is used for capitalist ends (although Marcuse also has state socialism in mind.); capitalism entails an exploitative relation between the owners of the means of production and workers for the production of surplus value. As I interpret Marcuse, technology has become an integral part of capitalism due to its role in material production, and is a form of domination. Habermas interprets "technology" rather differently; it is a kind of applied science, and technological development "thus follows a logic that corresponds to the structure of purposive-rational action regulated by its own results, which is in fact the structure of work" (Habermas 87). Technology is not something that could be transformed, as Marcuse thinks:

> For Marcuse the basic structure of science is historically relative. A revolutionary change in social relations could bring with it a revolutionary new science as well. Habermas, on the other hand, assumes that the basic structure of science is given by the objective character of human labor. (Alford 4)

Technology is a kind of applied science, and so the contrast cited above also holds for Marcuse's and Habermas's perceptions of technology. Marcuse thinks that technology is historically relative, and could be revolutionized, while Habermas thinks technology is key in the survival of the species. Humans must extract natural resources in order to survive, and technology greatly expedites and increases this extraction. Habermas's and Marcuse's perceptions of technology's place in the modern world are quite different.

According to Marcuse, a reason that so much misery and despair has accompanied the rise of technology is that technology is used to exploit and dominate, both nature and humans. It has been employed ideologically, to serve the interests of the ruling class. "The very concept of technical reason is perhaps ideological. Not only the application of technology but technology itself is domination (of nature and men)-- methodical, scientific, calculated, calculating control" (Marcuse 224, 1968). But Habermas thinks that technology has caused problems in the modern world not because technology has been used for evil or ideological ends, but because purposive-rational reason has come to dominate spheres of activity that should be governed by communicative reason. The ends or uses to which technology has been put are not the cause of human unhappiness and suffering, but "... the extension of purposive-rational action to all spheres of life" (McCarthy 22).

Accordingly, Habermas thinks that the solution to the problem posed by technology in the modern era is not to change technology-- or, as Marcuse puts it, to formulate a "new science"-- but in "properly locating [technical reason] within a comprehensive theory of rationality" (McCarthy 22). This comprehensive theory is what Habermas is presenting in his essay, the formulation of reason as both purposive-rational and communicative. After gaining a clearer understanding of reason and action by virtue of this theory, the problem posed by technology in the modern world can be identified (as

purposive-rational reason overstepping its bounds) and solved (by relegating this reason to its proper sphere).

The above is largely a summary of points I have already made, but now I would like to take a closer look both at Habermas's analysis of technology and at his proposed "solution." According to Habermas, technical development, as a kind of purposive-rational action, corresponds to the structure of work. As long as humans need to extract and exploit natural resources in order to survive (and it is hard to imagine this need ever changing), work, and technology as a way of expediting work, will always be necessary. Changing the structure of work or technology is thus not possible and also cannot be a means of human emancipation-- such a change would probably mean extinction. Modern science and technology, according to Habermas, are "fixed," i.e., do not change with historical circumstances. Alford says of this:

> Habermas' claim that modern science and technology are given, and not subject to historical change, is based on his cognitive interest theory, which argues that the world is constituted (i.e., made knowable to man) under the horizon of two 'species interests': the technical cognitive interest in the control of nature and the practical cognitive interest in communication... Habermas means that the technical interest stems from the biological need of man to realize his natural drives by extracting his existence from nature... for Habermas this interest is more than just a biological drive. It fixes how nature can be known by man. The technical cognitive interest stems from man's nature, but it goes on to have a transcendental (i.e., knowledge constitutive) function: it limits how man may know the world. (6)

We can only know nature instrumentally, as an "other" to be manipulated and controlled; it is not possible to have a communicative relationship with nature, for two reasons.

First, communication is " symbolic interaction...[between] at least two acting subjects" (Habermas 92). Given this notion of communication, communication with, say, a shrub or a desert is not possible. The second reason a communicative relationship with nature is impossible within the framework of Habermas's analysis is because of the "species interests" described above-- humans' biological drives ultimately mandate the perception of nature as an instrument for human satisfaction. This is a Kantian strain in Habermas's thought.[2] Habermas is focusing on the question of how humans conceptually reconstruct the environment in order to survive; the answer to this is that humans objectify their environment (i.e., nature). Humans' cognitive approach to their environment is rooted in categories that are necessarily instrumental, according to Habermas. All this raises issues about Habermas's epistemological scheme, issues which I am not qualified to address. However, knowing that Habermas is a Kantian is helpful for more fully understanding the essay at hand.

In Habermas's theory of rationality, humans' relationship with nature is confined to the realm of purposive-rational action and reason. This claim in itself is not obviously problematic. But in light of other statements made in the essay "Technology and Science as 'Ideology'", the situation of humans' relation with nature in strictly the purposive-rational realm <u>is</u> problematic. Recall that Habermas recognized that purposive-rational action occurs within a social context. He stated: "So I shall distinguish at the analytic level

between (1) the institutional framework of a society or the sociocultural life-world and (2) the subsystems of purposive-rational action that are 'embedded' in it" (94). There is the "institutional framework of society", and purposive-rational action happens within that framework. Humans' relation with nature is confined to the realm of purposive-rational action, i.e., humans relate to nature in solely instrumental terms, and this relation is "embedded" in the institutional framework of human society. The reason I find this problematic is that it seems to me that the institutional framework of human society, or simply human society, is in some sense "embedded" in nature-- that is, it exists in the natural world, regardless of the pains humans have taken to insulate themselves from that world. My point is that humans' relation with nature is not simply "embedded" in the institutional framework of human society; this framework is itself located in nature. Human society is in some sense embedded in nature, humans' relation to nature is not simply within the purposive-rational realm of human society.

It could be that Habermas is presupposing the fact that human society is situated in nature, and thinks this fact is too obvious to be worth mentioning. But it is not clear that he is presupposing this; an equally tenable interpretation of Habermas's scheme is that the institutional framework of society constitutes a fundamental break with nature, that social institutions have taken humans "out of" nature. To use a Marxist example, a worker in a factory has in some sense

been separated from nature. His work schedule is governed by a supervisor (rather than by the demands of nature), his work environment is climate controlled, the materials he works with have been obtained for him-- in short, he has little or no contact with nature, and natural demands have minimal impact upon his work. The institution of the factory has resulted in the worker's alienation from nature. It is not clear that Habermas would view this worker as somehow situated in nature; he could perceive this worker as separated from nature. This distinction is an important one, but this difference is ambiguous in the text of Habermas's essay.

It seems that both Habermas and Marcuse are assuming an adversarial relationship between humans and nature; nature is the "possessor" of that which humans need to live, and humans must wrest these resources away from nature. Marcuse thinks nature must always be manipulated to a certain extent, but that other cognitive approaches toward nature are possible; a relation of exploiter and exploited is not the only possibility. Habermas thinks nature must always be exploited for human ends, and that humans can only conceptualize nature in instrumental terms. Given that Habermas perceives humans' relation with nature as adversarial, and that humans must relate to nature instrumentally, I think that Habermas views the institutional framework of society as a separation of humans from nature, i.e., I do not think he is assuming that human society is embedded in nature, but rather separate from it.

The significance of human society situated in nature rather than separated from it is relatively great; if one views the world holistically, one recognizes that, as beings situated in nature, human action upon nature also affects humans themselves. One realizes that abuse, exploitation, and carelessness toward nature will have an impact on oneself; these practices destroy humans' place in the world (i.e., nature). If nature is viewed as something relatively separate from human society, then actions that affect nature seem to have little or no significance for humans, and seem to have little or no impact on the quality of human life; consequences of the exploitation of nature seem to be relatively unrelated to humans' own situation. I say relatively unrelated because the exploitation of nature is significant in the functioning of capitalism, and capitalism is something that clearly <u>does</u> affect humans-- their standard of living, their level of comfort, and so on. But the benefits of the use of nature is what is counted as significant in capitalist terms, rather than the devastation that can and does result from it. Natural resources are seen as a means to capitalist ends, and the negative consequences that may result from this are viewed as separate, as something that need not concern humans. There is abundant evidence that this is in fact the prevalent attitude toward nature in capitalist society: nuclear waste, the pollution of the Great Lakes, the lumber industry, oil spills galore, etc., are all evidence that profit, not the preservation of nature, is a primary human/capitalist concern.

Again, a primary reason that such an attitude toward nature is possible is because humans perceive their society as separate from or insulated from nature rather than as situated within it. It is my contention that the former is an assumption that Habermas is making. In his theory of rationality, humans' relations with nature are confined to the realm of purposive-rational action, and subsystems of purposive-rational action are governed by institutional norms (since they are embedded in the institutional framework of human society). That is, humans' relation to nature is governed by institutional norms, rather than institutions being subject to natural laws. Habermas thinks that humans' cognitive relation to nature is and can only be instrumental. I think his grounds for this belief are his Kantian epistemological commitments, and also his assumption that human society is separate from nature. If he thought that human society is in fact a part of nature, i.e., situated within it, it would not make sense to perceive nature in strictly instrumental terms. For instance, I am a member of a family-- I am part of it. For me to view my family solely as an instrument for my own gain is ridiculous. I obviously feel solidarity, affection, love, and concern for my family. Habermas would probably say that I have these feeling because I can communicate with other family members, not simply because I am part of a family. But I disagree. An aspect of the solidarity and concern that I feel for my family is due to my recognition of the fact that I am part of a whole (family),

and that the state of the whole affects me. It is in my own interest to promote the good of a whole of which I am a part.

A second objection that I have is to Habermas's concept of communication. According to him, communication consists of "symbolic interaction [which] is governed by binding consensual norms, which define reciprocal expectations about behavior and which must be understood and recognized by at least two acting subjects" (92). This concept of communication is what allows Habermas to exclude nature from the communicative realm and place it strictly in the purposive-rational realm. But I think this formulation is both unacceptably and indefensibly narrow, and that the placement of nature in only the purposive-rational realm is not well-founded, necessary, nor realistic. Communicative action could consist of things other than symbolic interaction-- facial expressions, posture, drawing away from a stimulus, changing color (blushing, for instance), and so on, are all acts of conveying a feeling, attitude or response, i.e., are acts of communication. I think that what Habermas is describing is an aspect of human interaction, rather than communicative action per se. Humans can communicate with non-humans, and vice versa. Anyone who has ever been confronted by an angry dog or a friendly racoon knows that this is true. Humans' relations with other natural creatures can involve communication.

Habermas might grant that humans can relate to other creatures in the ways I've described, but deny that this has any significance for how humans must perceive nature, i.e.,

instrumentally. But I disagree. In realizing that other "parts" of nature (creatures other than humans) could be included in the communicative realm, humans could come to view nature in general more holistically-- as something in which humans are included, rather than as something that is categorically separate. And, I think, such a holistic perception could result in thinking of nature as something other than simply an instrument for human use, and of the status of nature as having an impact on human happiness, well-being, and survival.

Humans must labor to survive. Habermas is correct on this point. But it is not clear that this means that humans can only think of nature as an instrument of their survival; clearly, this is one sense in which nature is conceptualized. But it seems to me that there could also be other conceptions of nature, but that Habermas's unrealistically narrow concept of communication prevents him from seeing or being able to acknowledge such alternatives. It is true that Habermas allows for other attitudes toward nature (e.g., aesthetic), but no other cognitive approach save an instrumental one is possible. Habermas is not owning up to the fact that his analysis of technology and its relation to nature is assuming capitalist goals-- more specifically, the infinite need for labor to produce infinite surplus value. Once humans' subsistence needs are met, there is no compelling need to continue to exploit nature on a grand scale except in the name of profit. The reason Habermas thinks nature can only be thought of

instrumentally is that he is assuming an ongoing need to exploit nature; but this need is only ongoing on a large scale if humans wish to produce beyond their basic needs.

I think that Marcuse was correct in thinking that technology could eventually minimize the need for human labor; labor does not have to be a focal concern of humans, and neither must an instrumental perception of nature; but the desire for profit in a capitalist society is inescapable, and nature, as a source of that profit, must be viewed instrumentally for the capitalist enterprise to thrive. The reason that Habermas thinks nature must be viewed instrumentally is because in "Technology and Science as Ideology" he is assuming a capitalist context. But capitalism is an historically variable situation, even if Habermas thinks that the structure of labor is not. Labor in a different context (a society freed by technology from the need to labor) could result in a different conception of nature. Habermas has not taken into account the significance of the context within which labor is situated.

So, I think that Habermas's conceptual scheme forecloses emancipatory possibilities that Marcuse's scheme does not. Although Marcuse recognizes that humans will always need to manipulate nature in order to survive, this does not mean that this is the only possible cognitive orientation that humans can have toward nature; humans can be "free" of such a singular, adversarial perspective. Habermas's theory of reason identifies both communicative and purposive-rational

reason, and is useful and accurate; it is a complex, multi-dimensional account of reason, and is an improvement over both Weber's and Marcuse's relatively simplistic notions of reason. However, I do think that Habermas's account imposes unnecessary constraints on our perception of nature-- perhaps in some sense it is ideology, for it misleads humans as to possible alternative relations to nature.

ENDNOTES

1. Thanks to Richard Peterson for this insight and information.
2. Thanks to Richard Peterson for this insight and information.

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