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Meaning, Being, and Technology in Heidegger and Marcuse

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Heidegger's use of the term "being" has given rise to much confusion and controversy. He explains clearly that by "being" he does not intend the sheer physical materiality of what is. Thus "being" is not a synonym for "existence," a role it sometimes plays in philosophy and everyday speech. The "is" implied in Heidegger's discourse does not posit being but rather meaning. It resembles the synthetic "is" as Kant understands it, and in fact Heidegger's Kant interpretation culminates in a consideration of the nature of being.

Yet, this is not quite right either. Kantian synthesis is the form of certain propositions in which meaning is posited and of the perceptions of objects articulated in those propositions. But Heidegger does not identify being with either its propositional expression nor with passive perception but explains that it is present inarticulately and without focused perception of things in our everyday activities. Furthermore, Heidegger relates being to finitude, to the ultimate submission of Dasein to reality in perception, thought and action.

Once again there is a possibility of confusion in this account. Dasein's encounter with reality cannot be fully understood in causal terms because on those terms no world appears but only isolated stimuli and response. Being refers us to the existential enactment of meaning through which worlds come to be. But despite the rejection of a causal account, the encounter with meaning is described in more or less passive terms as a revealing, a disclosure, an opening, not a construction. Heidegger's language struggles to evoke this enactment, which is taken for granted and indeed must be taken for granted, for everyday life to go on.

Why begin with these perhaps over-familiar reflections on Heidegger's vocabulary? Because, it seems to me that insufficient attention has been paid the nature of the enactment in which being is operative. This relative neglect is I believe due to the entwinement of Heidegger's argument from the very beginning with a phenomenological concept of the technical that challenges philosophy to leave its ivory tower and engage with concrete social reality. His work promises a new basis for politics in a radical reevaluation of the structure and relevance of everyday experience in its technical aspect.

That Heidegger himself failed to fulfill this promise, that his attempts to concretize philosophy are still excessively abstract, that his early vision of the technical later degenerated into a global critique has authorized much evasion and obscurity. And where philosophers attempt to fulfill the promise of Heidegger's technical turn, they all too often attribute to him intentions that he no doubt should have entertained rather than recognizing the limitations of his actual position. Such appropriation of Heidegger's philosophy begins with the early writings of his student, Herbert Marcuse. I will return to this connection in the second part of this paper.

The infamous Rectoral Address contains an intriguing ambiguity relevant to my argument. The subject of the Address is "Wissenschaft" and its place in the university. At this time, Heidegger imagined that he could realize his own philosophy through collaboration with the Nazi regime. He hoped to stimulate a reform of the university that would bring its disciplines

into a renewed version of the original “Greek” relationship to the world. That relationship he described as one of fearless questioning of reality combined with submission to “fate.” Characteristically, Heidegger failed to provide any concrete guidelines for accomplishing this in modern Germany. But even while remaining at an ineffectually high level of abstraction, his argument hints at an interesting alternative to the status quo.

In considering what he says, we need to keep in mind the very broad significance of the word “Wissenschaft” in German. Heidegger is here addressing disciplinary knowledge in general, including literary and historical as well as natural “sciences.” He quotes a saying attributed to Prometheus that, he claims, “expresses the essence of knowledge.” I cannot spare you the Greek as this is where the interesting point appears. The text reads “*techne d’ananges asthenestera makro.*” The translation follows: “But knowledge is far less powerful than necessity” (Heidegger, 1991:31).

Note that Heidegger translates “*techne*” as “knowledge” and thus apparently confounds the know-how of practical making with the *Wissenschaften* of university professors. And he insists! In the following paragraphs he rejects the notion that disinterested contemplation was a Greek ideal and writes instead that for the ancients

“theory” does not happen for its own sake; it happens only as a result of the passion to remain close to what is as such and to be beset by it. On the other hand, however, the Greeks struggled to understand and carry out this contemplative questioning as a—indeed as *the*—highest mode of man’s *energeia*, of man’s “being at work.” It was not their wish to bring practice into line with theory, but the other way around: to understand theory as the supreme realization of genuine practice (Heidegger, 1991:31-32).

This obscure formulation must have puzzled his audience. Only his own students would have understood what Heidegger meant by these references to *techne* and *energeia* and this unconventional explanation of Greek science as dependent on practice. In his contemporary lectures he explains that the metaphysical concept of *energeia* derives from labor aiming at an essential accomplishment in each thought and gesture. *Energeia* is originally actuality in the sense of the realizing of the work. The fullest actuality of man is the realization of his capacities, his “*dynamis*,” in “being at work” in the practice of a *techne*. It is out of this practice that the sciences emerged at the origins of Greek thought when technical engagement with beings evolved into wonder. Heidegger writes:

it is clear that this perceiving of beings in their unconcealedness is not a mere gaping, that wonder is carried out rather in a procedure against beings, but in such a way that these themselves precisely show themselves. For that is what *techne* means: to grasp beings as emerging out of themselves in the way they show themselves, in their outward look, *eidos*, idea, and, in accord with this, to care for beings themselves and to let them grow, i.e., to order oneself within beings as a whole through productions and institutions (Heidegger 1994b, 155).

In sum, Heidegger appears to be saying that scientific knowledge of the nature of things is not an ivory tower activity but grows out of practical craft knowledge. But knowing implies more than making. In knowing, the meaning of what is made becomes explicit as idea, essence, and is grasped in wonder. This respectful attitude lies at the foundation of the sciences and must be recaptured for the university to return to its rightful role in society.

How improbable the notion that such a project might interest the Nazis! It is not surprising that they dismissed Heidegger after only a few months. What is surprising of course is his reluctance to admit his own errors and to condemn Nazism after the War, but that is a subject

others have exhausted by now and I will not touch on it further. Let us return to Heidegger's vision. On this I have the following remarks.

The identification of *Wissenschaft*, knowledge and *techne* is familiar from pragmatism but Heidegger does not reduce truth to consequences. Knowledge is rooted in instrumental activity but not in that aspect of it that serves mastery of the environment. Technical power worries Heidegger more and more, but at least until the mid 1930s, the *form* of technical practice has a very broad significance for his philosophy. It is the fact that instrumental activity brings forth something prefigured in an image, an *eidos*, that interests him. He offers an account of Aristotle's metaphysics in terms of this interpretation, explaining the teleological conception of being as a generalization from craft practice. Everything thus has an essence that prefigures it and so can be known.

This helps to understand the priority of practice at this stage in Heidegger's work, but practice itself comes in several forms. The early Heidegger offered a confusing account of the relation of *phronesis* to *techne*, at one point even describing *phronesis* as a form of self-producing *poiêsis*. Even *physis* is described as *poietic* which suggests that nature is a practical activity of some sort. Since *techne* is also a form of *poiêsis*, all these distinctions are blurred. Interpretations of Heidegger that privilege his later work tend to privilege *phronesis* as well and to dismiss or condemn his early interest in *techne*.

But in the early writings, craft work was the model for the Greek understanding of nature and for Heidegger's own theory of everyday being-in-the-world. He did not hide the fact that the whole discussion of practical activity in Part I of *Being and Time* turns on the using of tools and the making of things. The distinction between readiness-to-hand and presence-at-hand is derived from this interpretation. Objects are integrated to a process of use in readiness-to-hand, guided by a prereflective understanding of their being. When they are brought into focus as present-at-hand, that implicit understanding is made explicit in knowledge.

Heidegger described the act of using phenomenologically not as the implementation of a pre-existing plan but as possessing "its own kind of sight." This sight, "Umsicht," identifies significances, meanings, not intellectually but in action. This places significance prior to its propositional articulation, a fundamental Heideggerian insight. Once again Heidegger appears to follow his own interpretation of the Greeks. Essences, as the guiding principles of *techne*, are founded in elemental practical coping with the world and appear in the first instance in the structuring of technical practice around right and wrong ways of transforming the formless into the formed. The logic of action is privation and fulfillment. Thus essences are not in the first instance in the mind as ideas, but in the hands as gestures.

There is, however, a danger associated with *techne* that Heidegger emphasized increasingly as his work matured. *Techne* imposes limitation on the formlessness of the materials. But in this there is a risk of arbitrariness, of violently imposing a merely subjective order on things rather than disclosing them in their truth. One can understand this notion of arbitrariness in two different ways. First, the arbitrary may manifest itself as *hubris* or error, deviation from the pattern of the essence at which production should aim. Second, the arbitrary may manifest itself as culture as such, that is, as whatever is taken to be essential in a given time and place. Affirming arbitrariness in this second sense involves relativizing any and all culture. Heidegger's Greeks were aware only of the first form of arbitrariness. The later Heidegger argued that modernity is based on the second form of arbitrariness which now prevails as the technological revealing.

In the technological revealing, no essences are uncovered but only the role of things in a

subjectively conceived plan. The place of meaning is now taken by the plan and so reduced to human intentions. This too may be described as hubristic although as the technological system gathers momentum it humbles its human creators by incorporating them into its system. This critique of technology was not explicit in Heidegger's earlier writings, but he assumed its main point already.

Heidegger's "reform" of the university was intended to block both forms of arbitrariness by tying scholarship to the limits of a *techne*. At that time, Heidegger considered statesmen to belong to a superior order of producers. The *techne* in question could therefore only be the formation of the Nazi state. The university was to maintain its autonomy precisely through subordinating its understanding of the world to the intrinsic necessities and limits of the national restoration brought about by Hitler. In Heidegger's own mind, this was quite distinct from politicizing *Wissenschaft* by infusing it with political propaganda.

One sees his point. Propaganda is quite different from sincere and serious research proceeding in accordance with culturally general presuppositions to conclusions that are internally limited by belongingness to a time and place. To praise the very fact of such limitation is odd, but not absurd. Unfortunately for Heidegger, one cannot will oneself into conformity with a culture. Indeed, if will is involved, the project is not cultural but ideological. Culture is precisely not an object of will. That Heidegger failed to make the distinction is astonishing. It can only be understood as a consequence of his own inner confusion between personal political enthusiasm and the opening of a new era capable of resisting relativistic reduction. But that confusion was precisely the mark of successful Nazi ideology and it was widely shared. In the end Germans and Germany were not transformed by Hitler, but continued along the very path Heidegger condemned into ever more violent and arbitrary excesses.

Beyond Heidegger's contingent personal error, what are the strengths and weaknesses of this conception? Heidegger is most convincing in arguing that knowledge is ultimately rooted in *techne*, which itself is a process of enactment of meanings in everyday practice. This argument against the neutrality and autonomy of knowledge is echoed in contemporary epistemology and sociology. The original contribution is the suggestion that meanings are to be found not primarily in the mind as conceptual maps but in action as the guiding principles of right and wrong practical behavior.

As practical enactment, meaning has a "material" dimension that might be explored in a phenomenology of technical practice and technology. This has implications for the discursive turn in contemporary philosophy. So long as reality is understood as structured by or like a language, it is difficult to account for the passive aspect of knowing which is not fully explainable as a free wheeling process of encoding. The failure to take into account the resistance of the object and the facticity of the subject leads discourse theory to an implausible relativism. But if meanings are understood as enacted in a practice, they cannot be merely subjective but must entertain a relation to some sort of reality. Developing this approach would make sense of the moment of receptivity in such Heideggerian notions as disclosure. But Heidegger did not go forward along these lines. Instead, he remained at a level of abstraction at which his argument is threatened by self-referential contradiction.

Heidegger's theory of meaning presupposed modernity. He held that like all previous humans, we moderns live in a realm of meaning that is given to us through a tradition as access to a world. But what is given to us moderns is precisely the unmaking of all tradition and the consequent reduction of reality to raw materials. It is only because we are thus situated in a culture that understands all meanings as values reducible to the subject, that we can articulate a

general theory of the local origin of meaning. Thus our society is unique and paradoxical. It believes it has transcended the irrational submission to givenness when in fact it only submits to a new version of the given that is impoverished and dim. According to this new version, there is a world “in itself” that can be known in its truth scientifically, but that is grasped in one or another arbitrary way in a collective subjectivity, a culture. This assumption merely recapitulates a technological understanding of being as raw materials subject to a plan.

Claude Levi-Strauss remarked on the paradox that results from our assumption that our own culture supplies a unique cognitive standpoint for knowing all other cultures as such. So long as we remain in a naïve relation to knowledge, we can claim to be beyond the relative condition revealed by the science of culture in knowing culture. But such naïveté is not credible in a modern world in which knowledge is deeply implicated in the social process. Technology is the proof that knowledge is not trans-cultural since it shapes a specific culture of its own. This technoculture now spreads over the entire globe and is immediately recognized in its specificity wherever it intrudes. It seems that our culture too is culturally relative. Heidegger’s “question of being” responds to this insight and attempts to avoid the reflexive paradox that results.

How did he square this circle? The apparent contraction might be overcome in quasi-Hegelian terms, the “owl of Minerva” rising at the dusk of modernity. A “new beginning” would place Germany beyond the reach of the relativizing consciousness that enables Heidegger to think the limitation of modernity as a specific culture. But the self-referential paradox could only be avoided by returning to the realm of everyday practice to discover there the enactment of new meanings that cannot be treated as merely arbitrary, that appeal precisely to a modern ground while pointing beyond modernity.

What could the new sources of meaning be? Surely not the arrogant strutting of those “Aryan worthies” intoxicated by newspapers and beer whom Nietzsche had already denounced fifty years before! (Nietzsche, 1956, pp. 294-295). Here the limits of “performativity” stand out with startling clarity: it is not because one enacts the fantasy of the master race that one actually transcends the ordinary human condition. Heidegger’s essentially dogmatic claim that a new era had begun is untenable, easily refuted by the very modern thought he hoped to transcend. The breakdown of this whole construction leads the later Heidegger to a new position in his later work based on poetic thinking. But that new position cancels the original reformist intent of his early philosophy.

I want to turn now to a further consideration of that reformist intent and Marcuse’s relation to it. The reason I focus on Marcuse is not merely biographical, although I should disclose my own position as his former student. What concerns me is the prevalence of contemporary Heidegger scholarship that struggles heroically with the texts of the master in the interests of some sort of left wing politics.

For support commentators can point to some sensible and humane remarks Heidegger made in his later writings, and to his very radical critique of technology. Environmentalist, anarchist, and postmodern interpretations are offered on this basis. But the improbability of all these interpretations is clear from Heidegger’s last interview in which he dismissed democracy and praised the Nazi revolution which, he still claimed, confronted the real problems but in too limited a manner to solve them. If there is something of value in Heidegger for a left politics, as I believe there is, it can only be extracted by sacrificing fidelity to his doctrine. The way to get at this worthwhile dimension of Heidegger’s thought is critically, not just exegetically.

This is precisely what Marcuse did during his brief years as Heidegger’s assistant. To

some extent the influence of Heidegger continued in Marcuse's later thought as well. In what follows I will try to outline the transformation Heidegger's argument underwent in Marcuse's writings. This cannot be a straightforward procedure since Marcuse reacted so strongly against Heidegger that he substituted similar ideas from other sources for those of his teacher. Heidegger's influence survives as a kind of archeological stratum underneath the later influences, only occasionally emerging into view.

What was it in *Being and Time* that so excited Marcuse as to inspire him to return to the university as Heidegger's student? He later explained that it was the promise of a "concrete" philosophy (Olafson, 1988: 96). The concept of concreteness appears frequently in the history of existential philosophy as the marker of a difference. The concrete was precisely *not* abstract science and the neo-Kantian epistemology that purported to explain its success as the paradigm of knowledge. The rebellion against scientism took an original turn in the early 20th century. Instead of romantic protest in the name of life, existential ontologists developed an analytic of first person experience which they interpreted as the foundation of the abstractions in which science consists. For many philosophers, phenomenology was the essential methodological innovation that enabled the turn to a concrete ontology. It was this turn that attracted Marcuse.

What was unusual about Marcuse's situation was his strong political sympathies. He was a revolutionary socialist bereft of party and hope after the failure of the German revolution in 1919. He could not fall back on the reformist Social Democratic Party in good conscience since it had crushed the revolution.

There were many different diagnoses of the sickness of German socialism, but the one that appealed to Marcuse was laid out in an early Marxist text of Lukács, *History and Class Consciousness*. Lukács's brilliant essay on reification explained the capitalist origins of modern science, technology, and both liberal and social democratic ideology. This sounds like a familiar ideology critique, but in fact Lukács's method had more in common with the emerging phenomenological and existential trends of the time than with traditional Marxist theory of ideology.

Lukács did not claim that reified thought reflected the economy or economic interests, but rather that it articulated in a limited form the practices on which the economy is based. Lukács traced the dominant ideology back to the structure of action in a capitalist environment. This structure is determined by the form of cooperation in production under the domination of capital. The rule of "dead labor" over "living labor" is materialized in the enslavement of the worker to the machine. "Man...is a mechanical part incorporated into a mechanical system. He finds it already pre-existing and self-sufficient, it functions independently of him and he has to conform to its laws whether he likes it or not" (Lukács, 1971: 89). Lukács argued that mechanized labor becomes the archetype of capitalist practice in every domain. Under this dispensation, theory takes on specific characteristics that block concrete understanding of the social process.

Lukácsian reification involves an objectivistic understanding of the world as composed of law-governed things subject to theoretical representation and technical manipulation, precisely the scientific worldview against which Heidegger and Marcuse also protested in their early work. Heidegger's protest was directed at the university and its (to him) sterile and lifeless specializations, cut off from the dynamic forces in the society. Marcuse's protest was directed at corresponding tendencies in the socialist movement, which was also influenced by the dominant scientism of the time. There is a difference, of course. Heidegger's approach aimed at leading thought back behind representation as such to a prereflective ground, whereas Marcuse followed

Lukács in seeking out the tensions within the reality imperfectly represented in objectivistic forms.

This approach led Lukács to a reconceptualization of society as a process of human relations rather than a collection of things and thing-like institutions. Reification distorts and obscures this process character of social reality in both theory and practice. The difference between these two standpoints is nicely illustrated by Bruno Latour's marvelous notion of the Janus face of science: science in the making and science made (Latour, 1987: 4). These two "faces," the glance into the future and the backward glance toward the past, correspond to an understanding of the social world as a process in which human action plays a role and the reified society that results from that process, standing before the spectator as a fixed and finished objectivity.

For Lukács, of course, these standpoints were not merely epistemological but social ontological; they articulated different ways of being and doing. The view of society as a process opens it up to decisive interventions by actors capable of transforming its direction of development. As Lukács writes, "When the concrete here and now dissolves into a process it is no longer a continuous, intangible moment, immediacy slipping away; it is the focus of the deepest and most widely ramified mediation, the focus of decision and the birth of the new" (Lukács, 1971: 203-204). The view of society as already made leads to technical interventions limited by the apparent "laws" of the "things" in which society consists. Such technical interventions reproduce the society even as they modify its superficial characteristics.

Lukács argued that the proletariat experiences an unavoidable conflict between the reified forms of the society and the human content of their lives. For example, a change in the rate of wages has a formal economic meaning for the capitalist but determines the workers' daily existence. The experienced tension between form and content discloses the activity of the human base of the society which actually produces the capitalist system and grounds both Marxist method and revolutionary class struggle. Those actively involved in making the social world, i.e. the proletariat, are thus compelled by their class situation to adopt the standpoint of society in the making and so can initiate transforming practice.

Whether by coincidence or through some sort of unavowed influence, Heidegger's analysis of inauthenticity and authenticity in *Being and Time* bears a remarkable similarity to certain aspects of this temporalizing critique of objectivism. Inauthenticity is rooted in a particular understanding of time, in which the present moment appears as a disappearing passage between a fixed and finished past and an equally immutable future. The present is inhabited by a world of present-at-hand things that confront the subject and deny its self-questioning and self-making power. Authenticity, on the contrary, is the ability to grasp the situation in the moment resolutely and to give it meaning in the life of the actor. As Heidegger puts it, such resoluteness is not arbitrary but is rather "precisely the disclosive projection and determination of what is factually possible at the time (Heidegger, 1962: 345). This requires an appreciation of the fluid character of the world, its contingency on the interpretive activity of Dasein.

Reading Heidegger, Marcuse discovered a path to an existential formulation of the Lukácsian argument that could be directed against the social democrats' passive conformity to economic law. This formulation could then be turned to account in addressing the problem of revolutionary consciousness for which the social democrats had neither solution nor, any longer, even concern. This problem had inspired Lukács to develop a theory of class consciousness which continued to influence Marcuse as he assimilated Heidegger's thought critically.

Marcuse joined a conception of individual revolutionary decision with Marxist social

theory. That link had never before been explored seriously in the Marxist tradition although it was constantly presupposed. The usual interest-based explanations could hardly account for the passion for a new life expressed in revolutionary situations. In contemporary terms, we would say that traditional Marxism lacked a concept of revolutionary proletarian identity. This is precisely what Marcuse set out to explain with a social version of the Heideggerian concept of authenticity. Once the decisive action of the authentic individual is treated in class terms as a collective enterprise, it provides an original account of the revolution as a transforming practice capable of dereifying society and remaking it anew.

Walter Benjamin aimed at a similar goal through an appropriation of religious notions rather than philosophical ones, but the result was a comparable recovery of the moral intensity of the revolutionary mission in contrast with the rationalistic scientism of the prevailing social democratic ideology.

The early emphasis on the existential crisis of the individual continued throughout Marcuse's career although in his later work the references to both Heidegger and the proletariat were dropped. The important new element in Marcuse's thought that can be traced to other aspects of Heidegger's influence is the critique of technology, especially in Marcuse's 1964 book *One-Dimensional Man*. With rare exceptions, the extent and nature of this influence has been consistently underestimated or misunderstood by both Marcuse's admirers and critics.

The common element in Heidegger's and Marcuse's critiques of technology is the eclipse of the normative dimension of *techne* in modern technology. In his course on Aristotle's *Metaphysics* of 1931, Heidegger explained *techne* as the knowledge associated with production. This is not merely a knowledge of means but more fundamentally of the rightful outcome of productive activity. That outcome, the *ergon* or finished work, is present in the means and directs them toward the realization of an *eidos* or essence. The essence, as *peras* and *telos*, limit and goal, is immanent in the practice of making which responds to the specific privation the materials suffer in their formless condition at the outset of the work. *Techne* is thus not value neutral knowledge like modern technology but transcends the opposition of ought and is. This contrast returned after the war in Heidegger's "Question Concerning Technology." Greek *techne* brings forth pre-existing essences and allows them to manifest themselves in the world whereas modern technology imposes plans on a reality reduced to bare raw materials.

It seems likely that Marcuse's understanding of technology was shaped by these concepts and in fact there are several positive references to this aspect of Heidegger's thought in Marcuse's later work. There is, however, a subtle difference in emphasis. Under the influence of Hegel, Marcuse explained the concept of essence in terms of the role of potentiality or "real possibility." Essences are the highest realization of what appears imperfectly in the world. Thus essences are in some sense ideals, but not for that matter merely subjective. Essences are objects of striving of the things themselves, in modern terms, of human beings and societies in the course of history. In this reinterpretation of Greek ontology, the concept of truth applies not just to propositions but to things, which can be more or less true to their essential nature.

Marcuse followed Heidegger in arguing that meanings are neither things nor thoughts but a third ontological order. But unlike Heidegger, he understood this order as *dynamis*, force or tendency in the things themselves. Marcuse argued that the Greeks misread such tendencies in terms of the culturally relative assumptions of their time. We cannot return to such a naïve relation to culture. The modern discovery of the constructive power of the subject stands in the way. This constructive power is now exercised not only in the spiritual domain of culture but materially, through technology, which transforms the environment according to human plans and

purposes. Modern society dismisses the essences of antiquity as obstacles to the free exercise of human powers. Technical means are normatively neutralized and stripped of any relation to an objective truth of the object they create. The norms under which technology now stands are not intrinsic to its operations as cultural imperatives once were, but extrinsic demands of the powerful and, ultimately, of capital as a dynamic force.

This formulation recapitulates the basic point of Heidegger's critique of technology, i.e. the radical deworlding accomplished by modernity which shows up in the reification of society to which the individuals are called to submit. The new conformism consists not in obedience to a leader or to customs but more fundamentally in submission to the "facts of life" interpreted as the one and only possible organization of a modern society. In so adapting the individuals fall into the objectivistic worship of the given which authentic decision must resist.

Marcuse developed this argument as a historical account of the destiny of reason. This account was shared by other members of the Frankfurt School although only Marcuse proposed a positive alternative within its framework. In the Frankfurt School context, the Heideggerian *techne* now appears as a version of what Horkheimer called "objective reason," a reason that incorporates humane goals within its intrinsic structure. The origin of reason in the practical necessities of life is clear in this original objective form. Marcuse could thus argue that reason from the very beginning was rooted in a value judgment, a preference for life over death (Marcuse, 1964: 220). The emergence of modern scientific-technical rationality, Horkheimer's "subjective reason," appears as a reduction of the earlier form of rationality. When goals are removed from the structure of rationality, only means are left: reason becomes instrumental.

This transformation of reason is reflected in the methodology of the sciences and eventually of all the academic disciplines. Reality is analyzed exclusively under those empirical aspects that expose it to calculation and control. The teleological concept of essence is expelled from science; nature is revealed as an object of technology and along with it human beings too are incorporated into a smoothly functioning social machine. This is the basis of the academic world Heidegger hoped to reform with his new beginning. Marcuse rather looked forward to a return of the objective dimension of rationality in a future socialist society.

But where Heidegger withdrew from history after his disappointment with Hitler, Marcuse persisted in attempting to rethink the socialist alternative in philosophical terms. To the theme of authenticity as resistance to objectivism he now added a theory of technological transformation as the material base of socialism. Humane goals must once again be intrinsic to reason, if not in the form of ancient essences in some new form appropriate to the modern age. These goals cannot be merely subjective but must be disclosed to the subject in the sense that they must have a validating ground of some sort that a reason shaped by modernity can recognize and accept. We appear to have returned to Heidegger's problematic of 1933 in search of a better solution than a Führer. Did Marcuse find that better solution?

His most explicit attempt to do so was presented in the last chapters of *One-Dimensional Man*. There Marcuse outlined the preconditions of a modern objective reason. He argued that subjective reason only appears value neutral when artificially separated from its social context. In that larger social context the value neutral means its supplies are bound up with the practice and the goals of the dominant social subject. Marcuse writes that "it is precisely its neutral character which relates objectivity to a specific historical Subject (Marcuse, 1964: 156).

Value neutrality really means the overthrow of all restraints on power: no essences any longer stand in the way, dictating right and wrong courses of action. Thus, "Theoretical reason, remaining pure and neutral, entered into the service of practical reason. The merger proved

beneficial to both. Today, domination perpetuates and extends itself not only through technology but *as* technology, and the latter provides the great legitimation of the expanding political power, which absorbs all sphere of culture” (Marcuse, 1964: 158). This said, Marcuse did not suggest that we abandon modern science. The cognitive achievement made possible by the destruction of the old objective reason is undeniable but so is the danger of spiritual and material extermination represented by modern technology unrestrained by any limits.

If subjective reason is not really neutral, neither are rational goals merely subjective. It is possible to restore the unity of ends and means in a modern context. This would be the equivalent of the creation of a modern form of *techne* and in fact Marcuse argued that the link between art and craft in antiquity can be restored in a new form. A technology can be devised that pursues idealizing strategies similar to those of art. Misery, injustice, suffering and disorder shall not just be stripped out of the artistic image of the beautiful, but removed practically from existence by appropriate technological solutions to human problems.

Obscure as this abstract formulation appears, it corresponds fairly closely with the way we usually think about certain technical professions such as medicine. Marcuse appears to call for a professionalization in this sense of the whole technological realm. This has implications for technological design since each technical discipline would, like medicine, have an overarching mission. Designs would embody the values implied in that mission and not be subject to the mere will to power of government and business. This, I believe, is how we can understand his demand that values “operate in the project and in the construction of the machinery, and not only in its utilization” (Marcuse, 1964: 232).

But is Marcuse out of the woods with these proposals? Not quite. The attempt to reintroduce a notion of privation to which a rational *techne* would respond with appropriate remedies implies an ontology Marcuse did not develop. Scientific naturalism is not suited for this purpose, nor is it plausible to return to Aristotle. The alternative at which Marcuse hinted was a phenomenology of aesthetic experience in a very broad sense. But although there are indications in his work of how he might have developed such an alternative, he did not in fact pursue this line very far. He was not, like the early Heidegger, deluded by the mere force of enthusiasm into ignoring the real content of the movement he believed would open up a new dispensation. But he did not work out an aesthetic of its experience in sufficient depth and detail to successfully challenge the pessimism of Adorno or the later Heidegger.

Instead, Marcuse turned to a rather formalistic argument that relied on the existential validity of the undeveloped ontology for at least some marginal groups. The basis of the new revolutionary consciousness, he believed, was an immanent critique of the society, contrasting its ideals and its achievements. As Marcuse point out, this contrast that grows ever more scandalous as the rising productivity of technology removes the material alibis for poverty, discrimination and war.

This argument then grounded the new *techne* in a rational judgment able to supply the criteria of a “transcendent project,” a progressive development beyond the existing society. The criteria include technical feasibility at the given level of knowledge and technology, and moral desirability in terms of the preservation and enhancement of human freedom and happiness. Furthermore, the transcendent project’s rationality must be demonstrated through its ability to understand the existing society, in other words, to provide a social analysis and critique (Marcuse, 1964: 220).

Looking back now from the perspective of the new century, Marcuse’s general position

remains convincing primarily in this last respect. As social analysis and critique *One-Dimensional Man* is unsurpassed despite a generation of efforts to elaborate philosophies of “difference” on the basis of French theory and Adorno. The retreat from the concrete represented by these latter sources is distressingly reminiscent of the false promise of Heidegger’s work.

What has proven fatal to Marcuse’s reputation is his hopeful argument for radical social and technical transformation. Yet this aspect of his work is relevant in a new period of crisis and protest largely focused around technical issues such as environmental pollution, energy politics, and the globalization of industrialization and disease. In this conclusion, therefore, I will consider some starting points for improving the general line of argument Marcuse developed under the apparently contradictory influences of Heidegger, Marxism and the New Left.

The politics of both early Heidegger and late Marcuse suffer from a weak connection to their ontology of technical practice. They argued that the understanding of beings in general, what we would normally call “culture,” is rooted in the form of the instrumental relation to reality. That form evolves historically and in its latest incarnation takes on a particularly destructive aspect. Because both thinkers faced a world in which no alternative appeared at the technical level proper, they sought sources of resistance in other domains such as Nazi politics or New Left protest. But this is a departure from the ontological role of technical practice which they did not adequately explain or justify. If we can find a closer connection between politics and technology, a more convincing alternative may appear.

Heidegger seems to have believed that Nazism was the new *techne* rather than just another technology of political power, but this was a grave error of judgment as he realized later. He then retreated to the hope in a “free relation to technology” that would leave actual technology untouched and merely change the prevailing attitude toward the world.

Marcuse, as we have seen, argued for transforming technology itself. He did not share Heidegger’s implicit belief that the relationship to technology could become independent of its design. The movement would have to overcome not just the economic and political order but the underlying technology of destruction, indifferent to nature, human life and the development of human capacities. But, although he was influenced by labor process theory and early environmentalism, Marcuse could only hint at how this would come about or what the new technology might be like.

We are in a better position to address this problem than were these earlier thinkers. In Heidegger’s and Marcuse’s day, it was widely assumed that technical issues were not normatively significant and should be resolved by experts rather than publicly discussed. Their radical response to this technocratic view was a global critique of technology as such. Both sides in this argument have lost plausibility as a vital politics of technology has emerged around environmental and medical issues, while the rise of the Internet has changed attitudes and opened new avenues for agency in the technical sphere.

In the course of public debate over a wide variety of technical issues, a great deal of knowledge about problems and alternatives has been disseminated. Concepts like global warming which were once the affair of specialists are now familiar and their moral implications much discussed. I have argued that the case is comparable to the changes in the attitude toward the economy in the early 20th century as the market became more and more an object of political manipulation and therefore also of public discussion (Feenberg, 1999: viii). The public sphere is now opening up to technology to an unprecedented extent as it opened then to the economy.

This new situation has consequences at the two levels of Marcuse’s theory, the level of critical public awareness and the level of alternative technological design. On the one hand,

doubts about the justice and sustainability of global industrial society have spread from small groups on the margins to the mass of the population, albeit in less intense versions shaped as much by journalistic clichés as by inner concern. On the other hand, social research on technology reflects the new contentiousness of the issues by emphasizing social influences on technological designs. The two levels of the theory thus begin to converge in a new conception of technological rationality.

There have been many attempts to articulate this new conception. I will briefly sketch the main points of my own theory of democratic rationalization and Ulrich Beck's similar theory of reflexive modernization (Beck, 1992). Both Beck and myself have proposed that we are entering a new phase of technological development in which the externalities associated with the prevailing technologies are so extensive as to threaten the survival of the system. This has begun to force redesign of many technologies and changes in the disciplines and training underlying the technical professions. Beck explains the transition from a capitalism based on distinct spheres with little interaction, to one in which interaction between spheres becomes the norm. Multiple approaches and cross disciplinary conceptions increasingly penetrate the design process in response. He develops the social consequences of the resultant changes while I have focused primarily on the technological dimension of the new phase. In this phase what I call "concrete technologies" emerge, designed to accommodate a much wider range of social influences and contextual factors.

In *Critical Theory of Technology* I adapted Gilbert Simondon's concept of technological concretization to argue for the feasibility of this new direction of development (Feenberg, 1991: 191ff). We often hear that costly trade-offs are necessary to adapt technology to constraints such as environmental regulation. This view ignores the nature of the innovation process. It presupposes that adaptation requires the multiplication of structures, each serving a specific goal, so that the addition of new goals such as environmental protection complicates design and diminishes efficiency. Under this assumption, adding reflexivity to modernization would be no advance, but a formula for general impoverishment. Simondon's concept of concretization describes a different pattern of progress in which multiple functions come to be served by single structures through innovative solutions to technical problems. This is a far more realistic image of technical progress than the trade-off model.

Simondon's examples are politically neutral innovations such as the air-cooled engine, which combines cooling with containment through the design of the engine case, two functions in one structure. But it is not difficult to modify his approach to take into account what we have learned from social studies of technology about the social forces behind technical functions. As actors pull design in different directions, attempting to impose their own functional requirements on devices, the winning design strategies are often those that combine multiple functions in simple and elegant structures capable of serving them all. For example, Pinch and Bijker show how the inflatable tire enabled an inherently more stable but slower bicycle design to overcome its disadvantage in bicycle racing while retaining the stability that made it attractive for transportation (Pinch and Bijker, 1989: 44-46). Two different social groups, young men interested in speed and ordinary riders engaged in everyday usages, were reconciled in this innovation.

The concretization of technology today begins to harmonize it with natural constraints and basic human needs, both medical and psychological. The ruthless exploitation of nature and human beings gradually gives way in the wealthy countries at least to public demands for change even as a traditional model of industrialization is exported to the developing world. The

contradictory world system that results contains much injustice but at least a promise of better things in the proliferation of more concrete technical designs which could be adopted rapidly on a global scale with sufficient aid and support. The failure to deal with global warming is already coming back to haunt those who should have known better. Perhaps this impending catastrophe will be a spur to more generous and thoughtful development strategies in the future. In any case, this is what we can hope for as both developed and developing countries realize their common dilemma.

It is discouraging to note that such reflections are often criticized as “optimistic.” Fundamental historical transformations are not subject to calculations of probability. Dogmatic pessimism is as thoughtless as its contrary, uncritical optimism. Neither attitude is helpful in understanding of the contradictory process of technological change we are witnessing. For that, analytic tools rather than attitudes are required. What the analysis shows is a convergence of increasing public demands for better technology and a new conception of technology as social and responsive to a wide range of constraints. Although by no means powerful enough to prevail at this time, these trends cannot be ignored, nor can we be sure of their consequences for capitalism and the socialist alternative.

What are the implications of the new situation described above for the starting point of this paper, the relation between meaning and technical practice? A connection can be made through the notion of limits that is central to *techné*. Recall that essences are by nature limitations on the formless materials from which the produced thing is made. As Heidegger writes, “The end which finishes, however, is in its essence, boundary, *peras*. To produce something is in itself to forge something into its boundaries....Every work is in its essence ‘exclusive’ (a fact for which we barbarians for a long time now lack the facility) (Heidegger, 1995: 118).

For the Greeks, what is excluded is the erroneous move that deviates from the essential *eidos* of the produced thing. But exclusion in this Greek sense is not just negative; it is the other side of the positive act of production. For us moderns, who have lost essential discrimination of this sort, another kind of exclusion is nevertheless possible. This new “*peras*” must make sense in modern scientific terms but cannot be derived from science alone. We hear about such limits now constantly in popular discourse which emphasizes the importance of respect for the natural balance and human capacities. These are norms that should determine technological design.

The pertinence of these concepts is contested on naturalistic grounds. Nature and human beings are elaborate “machines” and there are no normative gears and wheels, no basis therefore for preferring one mode of operation to another. Human health remains the last line of resistance for those who would derive some sort of rational restraints on technology within a purely naturalistic framework. But health is relevant only to the broadest outlines of the general redesign of an advanced technological society. It is true that it addresses the problem of natural balance insofar as the human body is a part of nature. But the limits it places on technology, while literally vital, are too specialized and negative to respond to the full scope of the problems.

Philosophers have addressed the concept of limits in a very different way in terms of notions of right and distributive justice. These notions do not directly contradict naturalism and so are presumably compatible with a scientifically informed view of reality. This approach is useful in the juridical context in which many technical issues are decided in the United States. It is especially helpful in the defense of human capacities hindered by technical designs. The famous example of sidewalk ramps adapting the urban environment to wheelchairs is a case in point. A selection among alternative designs, all equally technically feasible, was made in terms

of a revised conception of the rights of the disabled.

Persuasive as is this example, the idea of human capacities, like that of natural balance, is contested on naturalistic grounds. After all, it is said, human capacities include propensities to violence one would rather suppress than unfold. And this approach breaks down or at least drifts off into metaphorical territory when attempts are made to apply it to the broader context of a reform of modern technology. To complain about global warming because it violates the rights of inhabitants of low lying islands seems somehow beside the point. Worse yet, the notion that trees or rivers might have rights violated by lumber companies or polluting industries strikes most people as an implausible defense of a laudable goal.

Let us return then to the normative concepts of natural balance and human capacities from a different standpoint. These concepts have emerged in popular discourse and consciousness as the markers of what Marcuse called a “new sensibility.” The failure of political philosophy and recent critical theory to articulate and ground them is a problem deserving of serious consideration. What does it mean that philosophy cannot seem to operate at the level of the actual debates of our time, but increasingly speaks from postmodern or meta-theoretical positions which cannot engage with the substance of the political heritage of the New Left and the new social movements that succeeded it? What appears naïve in Marcuse may actually be a relation to history that recent political thought has lost.

Marcuse attempted to restore the normative concepts through a phenomenological approach to the human experience of nature and society. As in Husserl’s and Heidegger’s theories of the *Lebenswelt*, the lived world, so in Marcuse’s concept of nature value and fact are not separate but fused in immediate experience. Our original encounter with nature, both external nature and human nature, is not objectivistic. In everyday practice we always work with “materials” that possess meaning and seek form. Marcuse calls this the “existential” truth of nature, writing, “The emancipation of man involves the recognition of such truth in things, in nature” (Marcuse, 1972: 69). Elsewhere he carries this phenomenological argument unhesitatingly to its startling conclusion, affirming that there are “forces in nature that have been distorted and suppressed—forces which could support and enhance the liberation of man” (Marcuse, 1969a: 66). A reformed technology would discover and build on such forces.

It would be easy to dismiss these speculations as naïve attempts at re-enchantment of what science has thoroughly disenchanting. But phenomenology is not naively metaphysical. Data of prereflective first person experience everyone can verify for themselves support Marcuse rather than naturalism. We cannot look at a strip mall without making an implicit judgment, nor hear Mozart in the same frame of mind with which we listen to traffic on the freeway. To complain that the telos of nature as we experience is unscientific and therefore unreal is a bit like claiming that art is merely smears of chemicals that reflect different wave lengths of light. The difficulty of reaching agreement about the preservation of nature is no argument for paving it over, any more than differences of opinion about art nullify the idea of aesthetic judgment. The dismissal of the experiential realm as “merely subjective” is ethnocentric as the discussion of Heidegger in the first part of this paper attempted to show.

What is more, the concepts of natural balance and human capacities are useful in evaluating technical decisions. Global warming violates the natural balance in the sense that it provokes vast and unpredictable changes in the planetary environment, terrifying catastrophes beyond our ability to comprehend and control. Surely we ought not to do this sort of thing. This simple concept expresses the limit of prudence at the very least, respect for nature at best. It is eminently *reasonable*. Similarly, technological designs should enhance and unfold human

capacities rather than suppressing them. It is possible on this basis to formulate a critique of deskilled labor. Human dignity is at stake in the design of work. The notion of human capacities is a persuasive source of reasons for action.

These applications of the concepts of natural balance and human capacities have an intuitive appeal. The appeal lies in both our growing sense of the dangerous connections, both explicit and hidden, between the reified institutions bequeathed us by several centuries of capitalist progress, and in our inescapable conviction that we are confronted with choices in the re-making of the technical world. Even if they have no scientific status, these concepts do not contradict the cognitive advances of modern science but on the contrary require scientific knowledge to evaluate conflicting claims. As normative foundations of technical disciplines, they return us to a notion of value laden technology, similar to ancient *techne*. They posit essential meanings in modern terms, in relation to human action and the technical framework of life. They unite the existential and the rational-critical levels of Marcuse's argument in a reformed technological rationality.

With this I will conclude. I hope I have opened at least a small window on a way out of the problem that confronted Heidegger and Marcuse. They strove to address the crisis of industrial society in terms of new concepts of being, meaning, and technology. I must leave the task of further developing the argument I have derived from their reflections on these concepts to another occasion.

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