Heidegger and the Danger of Modern Technology

JOVITO V. CARIÑO*

Introduction

The modern age, to paraphrase Martin Heidegger, is the age of modern technology (he called it in fact, the atomic age[1]). It is the age of space exploration; of the search for traces of life in planet Mars; of Human Genome Project; of stem cell research, of trains surging in speed; of nanotechnology; of designer babies; of mobile phones which contain virtually anything that can be reduced to bytes and that means practically everything. Beneath the dazzle that accompanies the proliferation of these technological wonders, there lurks a certain kind of danger, a danger more potent, more menacing than the possibility of nuclear meltdown or an outbreak of a biochemical warfare. This danger is more than mere dangerous because as Heidegger himself says it is "danger as such."[2] As the danger like no other, its threat

* The author is Mentor at the College of Architecture, University of Santo Tomas.

[1] Heidegger, Martin. Lecture 4, § 55-57. *The Principle of Reason.* Reginald Lilly (Trans.) Bloomington: Indiana University Press, 1996, p. 29; hereafter, PR.

[2] Heidegger, Martin. "The Question Concerning Technology." *The Question Concerning Technology and Other Essays.* William Lovitt (Trans.) New York: Harper Colophon Books, 1977, p. 26; hereafter, TCT.

is more enduring. It continues to persist over and around us as long as the age of modern technology holds sway. In this paper, I will discuss what Heidegger has to say about that danger – what made it possible and what shall make possible our salvation from it. My discussion shall evolve around the question: *What is the danger of modern technology as interpreted by Martin Heidegger?* Heidegger's mind on this matter is amply sketched in a collection of essays called *The Question Concerning Technology and Other Essays* (1977) where we read how he pushed to the limit the question of technology as he dialogued with modern science and the ancient Greeks. A companion material is *The Principle of Reason* (1991) which contains the transcript of his lectures delivered in the Winter Semester of 1955-56 in University of Freiburg in Bresgau and its abbreviated form, an address entitled "The Principle of Reason" which was delivered at The Bremen Club and the University of Vienna on May 25, 1956 and October 24, 1956 respectively. In both the lecture series and the shorter address, Heidegger takes us through the labyrinthine paths of the history of Western philosophy via his hermeneutic of the principle of rationality formulated by Leibniz as *nihil est sine ratione*, "nothing is without reason." The Leibnizian formula, says Heidegger, signaled not only the end of the incubation period of the principle of reason (which lasted for 2,300 years); it also launched another episode of incubation with its canonization of the rule of reason posited by modernity as the persistent drive for the calculation of things.

Another excellent primary source is a slimmer volume but often touted as one of the most difficult among Heideggerian texts is *Discourse on Thinking*[3] (1966). In this deceivingly thin book, consisting of a memorial address in honor of the German composer, Conradin Kreutzer and a brief work called "Conversation On A Country Path About Thinking," Heidegger underscores the necessity and importance of returning to the path of thinking if we must live authentically as human beings beyond the danger posed by modern technology. As a secondary source, Ladelle McWhorter's essay, "Guilt as Management Technology: A Call To Heideggerian Reflection,"[4]

[3] Heidegger, Martin. *Discourse on Thinking* (A Translation of *Gelassenheit*). John M. Anderson and E.Hans Freund (Trans.) New York: Harper Torchbooks, 1966; hereafter, DT.

[4] McWhorter, Ladelle. "Guilt As Management Technology: A Call To Heideggerian Reflection" in *Heidegger and the Earth: Essays in Environmental Philosophy.* Ladelle McWhorter (Ed.) Missouri: The Thomas Jefferson University Press, 1992, pp. 1-10.

serves as an excellent guide towards a clearer understanding of the key elements of Heidegger's reflection on modern technology, particularly his impassioned call to thinking as a way to moderate humanity's incessant drive for power and control.

My discussion shall proceed by mainly looking at Heidegger's reading of the term *technology* as well as his distinction between "technology" and "modern technology." This is followed by a discussion that will show how Heidegger situates the link between the dominance of human subjectivity and the phenomenon of modern technology within the context of the history of Western thought. On the third part, I shall zero in on how the danger of modern technology described by Heidegger as the "danger as such" manifests itself through Enframing. By way of conclusion, I will sketch Heidegger's prescription to return to "thinking" as the way towards "releasement" and humanity's eventual liberation from the danger posed by modern technology.

Heidegger and the Essence of Technology

The thoughts of Heidegger on technology may be summed in three important statements: 1) technology is not equivalent with the essence of technology; 2) that technology is a mode of revealing; 3) that technology is distinct from modern technology. In this part of my paper, I shall discuss how Heidegger articulates these three important assertions.

Just as a tree, says Heidegger, is not equivalent with the essence of a tree, technology is not equivalent with the essence of technology. This statement of Heidegger is tied up with the other assertion of Heidegger, that the essence of technology is not technological.[5] Both these notions about technology are closely related to the prevailing understanding of the meaning of technology, the so-called instrumental and anthropological definitions of technology. Under the instrumental definition, technology is deemed as means to an end. Under the anthropological definition, technology is considered a human activity. The two, says Heidegger, belong together and it is their confluence that gives rise to the view that

[5] TCT, p. 4.

technology is a contrivance or *instrumentum*. Despite the popularity of this view, Heidegger maintains that the concept of technology as mere means continues to be wanting because the whole notion of means and ends remains problematic. Both means and ends belong to the discourse of causality which for Heidegger deserves rethinking. He proposes a new way of understanding causality, not in the order of cause and effect but in terms of end as a cause. Heidegger says: "Whatever has an effect as its consequence is called a cause. The end in keeping with which the kind of means to be used is determined is also considered a cause."[6] Heidegger thinks that the notion of the four causes which Western philosophy inherited from Aristotle is no longer sufficient to explain the nature of technology since it only reinforces the predominant view of technology as mere means. Heidegger had to go back to the early Greeks in order to determine how else we may understand causality without falling into the same conclusion which reduces technology to means. Heidegger points out that what we call cause and what Romans consider as *causa* is called *aition* by the Greeks and for them *aition* has nothing to do with producing but with that to which something else is indebted.[7] To illustrate his point, Heidegger gave us as an example the chalice used in a religious ceremony. As *aition*, "the four causes are the ways, all belonging at once to each other, of being responsible for something else."[8] The silver as well as the aspect of being a chalice are responsible for the chalice itself which means that the chalice is indebted both to silver and the *eidos* of being a chalice. However, both the the silver and the aspect of chalice are indebted to the telos or "that which gives bound, that which gives shape" to something. All three in the end are gathered together by the silversmith who, together with the other ways, are responsible for bringing forth the chalice into presence. Heidegger explains:

> "The four ways of being responsible bring something into appearance. They let it come forth into presencing. They set it free to that place and so start on its way, namely, into complete arrival. The principal characteristic of being responsible is this starting something on its way into arrival. It is in the

[6] TCT, p. 6.
[7] Ibid., p.7.
[8] Ibid., p.7.

> sense of such a starting something on its way into arrival that being responsible is an occasioning or an inducing to go forward."[9]

This occasioning or occasion that sends something into presencing is what Heidegger describes as *aitia*.[10] As the occasion that sends something into arrival, *aitia*, shares affinity with *poiesis* as Plato himself remarked in *Symposium*: "Every occasion for whatever passes over and goes forward into presencing from that which is not presencing is *poiesis*, is bringing-forth."[11]

Such bringing forth happens, according to Heidegger, when something concealed is released into unconcealment. The coming of what is unconcealed takes place within the realm of revealing or what the Greeks call *aletheia*. Heidegger says technology is not just an assembly of means. It is in fact a mode of revealing because technology is a manner of bringing-forth. Technology, recalls Heidegger, originates from the word *techne* which to the Greek mind belongs to bringing-forth. The making of a house or the crafting of an art work is a bringing-forth. It is a revealing. Such revealing gathers all the aspects and materials in advance, all the modes of occasioning, in order for that which cannot bring itself forth is brought into presence. Hence, declares Heidegger, "what is decisive in techne does not lie at all in making and manipulating nor in the using of means but rather in the aforementioned revealing. It is as revealing and not as manufacturing, that techne, is a bringing forth."[12]

Heidegger attempted to trace the essential domain of technology and located it in the realm of revealing in order to show how it is totally opposed to the concept of modern technology. He admits that indeed modern technology is also a mode of revealing,[13] but unlike technology in the more primordial sense of bringing-forth, of *poiesis*, modern technology is a revealing in the form of challenging.[14] As a challenging revealing, modern

[9] Ibid., p.9.
[10] Ibid. p. 10.
[11] Ibid., as quoted by Heidegger.
[12] Ibid. p. 13.
[13] Ibid., p.14.
[14] Ibid.

technology also has the character of setting upon, of ordering, of treating nature as standing-reserve. The challenging revealing as a setting upon happens when for example the energy concealed in nature is brought forth and then transformed and then stored for distribution. That challenging which comes in the form of extracting, storing and distributing is a mode of ordering. Nature is ordered to stand by to answer for man's energy needs. According to Heidegger, anything that stands for further ordering may be considered a standing reserve. Nature in that sense is seen as standing-reserve, a kind of storage which exists solely to supply the resources, particularly, energy, required by humanity. It is as if, to quote Heidegger, nature itself stands as a huge "gasoline station"[15].

One cannot help but think of the current global addiction to petroleum. The earth is drilled on shore and off shore for its oil deposits which is then stored and distributed in order to meet the energy requirements of households and industries worldwide. It is this challenging revealing of modern technology that is usually credited for the worsening climate problem and yet modern man remains unperturbed despite the tell tale signs that the environment is dying.

This is contrasted by a technology in the mode of the bringing-forth, of *poiesis* like the windmill cited by Heidegger or the rice terraces of the Igorots at Batad. The creators of the two examples also employed technology. Instead of challenging nature, they succeeded in working with nature and in the process, bring forth into presencing that which is concealed before without ordering it, without setting it upon. The windmill is able to bring-forth energy not by unlocking but by leaving itself to the forces of the wind. By working with the contours of the mountains and tapping the natural supply of water for irrigation, the ancient engineers of the rice terraces were able to create not only a technological masterpiece but also a natural wonder.

Heidegger however pointed out that while man is ordered or challenged to do the ordering revealing, modern technology as a phenomenon is no mere handiwork of man. [16] He explains that man's penchant to order

[15] DT, p. 50.
[16] Ibid., p. 19.

and challenge nature as a standing reserve is set upon by a setting upon "to reveal the real, in the mode of ordering, as standing reserve."[17] This setting upon which sets upon man towards ordering revealing is called by Heidegger as Gestell or Enframing. Gestell, he says, is the essence of modern technology.[18] In the second part of my paper, I shall turn to Heidegger's discussion of the unconcealment of Gestell in the context of the history of Western thought.

Enframing And The History of Western Thought

As a philosopher devoted to the pursuit of rigor of thinking, Heidegger interprets technology, not in the sense of the technological, but as a phenomenon that commands genuine thought. Rather than merely looking at technology as a result of the evolution of human ingenuity (Aldous Huxley)[19] or the product of the confluence between material progress and capitalist economy (Herbert Marcuse),[20] he takes the question concerning technology further back, to the realm which Heidegger described in German as Geschick[21] or destining. The whole history of Western philosophy is Geschick of which the phenomenon of modern technology is only a mode of revealing.[22] For Heidegger, the rise of modern technology is an inevitable moment in such destining. Seen in this context, neither human creativity nor the increase in the spread of global capital plays a determining role in the dominance of modern technology.[23] As a moment in the destining that destines the history of Western thought, the birth of modern technology is signaled by the predominance of human subjectivity,[24] that is, in the transformation of *ratio*, from being a mere account,[25] into a compulsion for calculation or relentless drive for perfection. In the words of Heidegger:

> Modern technology pushes toward the greatest possible perfection. Perfection is based on the

[17] Ibid. p. 20
[18] Ibid.
[19] Huxley, Aldous. *Brave New World.* London: Vintage, 2004.
[20] Marcuse, Herbert. *One Dimensional Man.* London: Sphere Books Ltd., 1968.
[21] Heidegger, TCT, "The Question Concerning Technology", p. 24.
[22] Ibid., p. 14.
[23] Ibid., p. 19.
[24] Ibid., "The Age of the World Picture", pp. 143-153.
[25] Heidegger. Address, "The Principle of Reason", § 193-195, PR, p. 119.

> thoroughgoing calculability of objects. The calculability of objects presupposes the unqualified validity of the *principium rationis*. It is in this way that the authority characteristic of the principle of reason determines the essence of the modern, technological age.[26]

Human subjectivity as mere calculation of objects first displays itself in the appearance of modern physics as a modern science. "Modern science's way of representing," according to Heidegger, "pursues and entraps nature as a calculable coherence of objects."[27] The description "modern," Heidegger further added, points not so much to the sciences' application of experiments on nature but to modern sciences penchant to set up nature that it may be calculated in advance. It is in this sense that modern physics is the herald of Enframing,[28] and as the essence of modern technology, enframing "starts man upon the way of that revealing through which the real everywhere, more or less distinctly, becomes standing reserve."[29] Enframing is a mode of revealing that challenges forth and orders. As a mode of revealing, enframing also belongs to destining, to Geschick. Man also belongs to destining because he is the one who listens and hears but once he opens himself to the essence of modern technology, he can be swayed to the pursuit only of what is revealed in the sense of ordering and challenging forth. In such an event, the other possibility of belonging to what is unconcealed is also blocked. Even this, says Heidegger, is part of the destining of man and part of the destining of all coming to presence. Following the Greeks, Heidegger maintains that: "That which is earlier with regard to the arising that holds sway become manifest to us men only later."[30] In another essay, Heidegger describes that which manifests itself only later as the "inaccessible and not to be gotten around."[31] That is how what is concealed reveals itself to us – as a concealment that unconceals itself in revealing and a revealing which remains concealed in unconcealment. The two elements, concealing and revealing, always go hand in hand. Modern

[26] Ibid., p. 21
[27] TCT, "The Question Concerning Technology", Ibid. p. 21.
[28] Ibid. p. 22.
[29] Ibid. p. 24.
[30] Ibid. p. 22.
[31] TCT, "Science and Reflection", p. 179.

man though, through the enchanting effect of modern technology, has been fixated merely with what is revealed. It is this penchant for what is revealed that deceives man to believe that he can grasp everything or to use Mcwhorter's expression, manage everything.[32] When we delude ourselves this way, we forget not only ourselves but the passing of unconcealment itself.[33] Such forgetting is an element of what Heidegger points out as "danger". What is such danger? I shall explore Heidegger's answer to this question in the third part of this paper.

The Danger of Modern Technology

In the destining that destines both man and Enframing, two possibilities come to fore: first, the possibility of man pursuing nothing but what is revealed in ordering and challenging forth; and second, the possibility of the blocking of man from being admitted to what is unconcealed and apparently, given the contemporary man's obsession to rule and control the "mega-energies" of nature. It seems that the former possibility is the one holding sway. Since nature is seen as a storehouse of resources, man's relation with it is reduced in terms of management. Earth's resources are a plenty hence the necessity of management as a strategy for domination and control, but the more he tries to manage everything, the more man distances himself from what is essential. What makes the situation doubly unfortunate is that this fact is hidden from man himself, that is, the fact of his belonging to what is concealed. McWhorter writes:

> The danger of a managerial approach to the world lies not, then , in what it knows – not in its penetration into the secrets of galactic emergence or nuclear fission – but in what it forgets, what it itself conceals. It forgets that any other truths are possible, and it forgets that the belonging together of revealing with concealing is forever beyond the power of human management. We can never have, or know, it all; we can never manage everything.[34]

[32] Mcwhorter, p. 5.
[33] TCT, "The Question Concerning Technology," p. 27
[34] McWhorter, p. 6.

Man's belonging to what is concealed although oftentimes forgotten by man himself is within the destining of man, the same destining which introduces itself to man as danger. It is danger or as Heidegger calls it, "danger as such"[35] because once the destining of revealing holds sway, man can turn away from what is unconcealed by reducing it to what is calculable and can be represented. Heidegger calls this representation of the unconcealed "correct determinations."[36]

Further, Heidegger holds that God himself is not free from this representational thinking. He is invariably called the cause or *causa efficiens* or whatever is convenient for those who think they exalt God by domesticating him in their own categories. As pointed out by Heidegger, the determinations may be correct but in the midst of these correct formulations, the danger can likewise persist, that "in the midst of all that is correct the true will withdraw."[37]

However, this is not yet the ultimate danger for Heidegger. Man encounters the ultimate danger when the destining holds sway in the manner of Enframing.[38] Heidegger calls it the ultimate danger because in its holding sway, Enframing does not only reduce objects as standing-reserve, as the orderer of the standing-reserve, man himself is reduced to the status of standing-reserve. This leads to what Heidegger characterizes as "the ultimate delusion" which man experiences when he "stands so decisively in attendance on the challenging-forth of Enframing that he does not apprehend Enframing as a claim, that he fails to see himself as the one spoken to and hence, also fails in every way to hear in what respect he ek-sists, from out of his essence, in the realm of an exhortation or address, and thus can never encounter himself."[39]

Aldous Huxley also cites similar illustrations in his novel *Brave New World* which was first published in 1932. Together with George Orwell's *1984* (1949), both novels are widely regarded as a pioneering work of literature which depicts 20th century dystopia or anti-utopia. The two novels

[35] TCT, Ibid., p.26
[36] Ibid.
[37] Ibid.
[38] Ibid.
[39] Ibid., p. 27.

project a future ruled by technology but forecast its catastrophic effect on humanity.

Huxley's *Brave New World* paints a future at the height of a biotechnological evolution. In such a world, babies are not procreated but manufactured or better yet, manipulated, *in vitro* and every human longing, either for sex or Shakespeare, is cured by a pill. In one reading, one may have a sense that the novel is celebrating a future when technology is supreme. A closer look however would reveal that the novel is actually a lamentation of the ironic outcome when technology becomes the rule of the day. For Huxley, as it is with Heidegger, modern technology brings about danger when instead of bringing him closer to what is essential to human experience, it alienates him, it robs him of what is truly his own. Towards the end of the novel, Huxley rendered this conversation between the Savage and the Controller about being human through the magic of technology and being human in a more authentic way.

> "'Violent Passion Surrogate. Regularly once a month. We flood the whole system with andrenin. It's the complete physiological equivalent of fear and rage. All the tonic effects of murdering Desdemona and being murdered by Othello, without any of the inconveniences.'
>
> 'But I like the inconveniences.'
>
> 'We don't,' said the Controller. 'We prefer to do things comfortably.'
>
> 'But I don't want comfort. I want God, I want poetry, I want real danger, I want freedom, I want goodness, I want sin.'
>
> 'In fact,' said Mustapha Mond, 'you're claiming the right to be unhappy.'
>
> 'All right then,' said the Savage defiantly, 'I'm claiming the right to be unhappy.'

> 'Not to mention the right to grow old and ugly and impotent; the right to have syphilis and cancer; the right to have too little to eat; the right to be lousy; the right to live in constant apprehension of what may happen tomorrow; the right to catch typhoid; the right to be tortured by unspeakable pains of every kind.'"[40]

The preceding is but a depiction of what is at stake when human existence is ruled by technology. Here, Heidegger wants to point out that the modern technology is not itself the danger. The danger, he says, is the essence of modern technology, that is, Enframing, the destining of revealing. It is Enframing that blocks all other modes of revealing and conceals even revealing itself.[41] He explains his point in this manner:

> The threat to man does not come in the first instance from the potentially lethal machines and apparatus of technology. The actual threat has already affected man in his essence. The rule of Enframing threatens man with the possibility that it could be denied to him to enter into a more original revealing and hence to experience the call of a more primal truth.[42]

How can man find a way of out this danger? Where would his liberation come from? Heidegger answers the questions by turning to a verse from a poem of Holderlin: *But where danger is, grows the saving power also.* The essence of modern technology is what endangers man and at the same time, the domicile of saving power. How this becomes possible for Heidegger, will be the subject of the concluding part of this paper.

Conclusion

The benefits of modern technology can never be overstated and Heidegger himself is not discounting them. The surest way to miss the point of Heidegger is to consider him as anti-technology. Heidegger does

[40] Huxley, Aldous. *Brave New World.* London: Vintage, 2004, pp. 211-212.
[41] TCT, Ibid., p. 27.
[42] Ibid., p. 28.

not oppose technology and certainly he does not propose that we slip back to the primitive ways of the Neanderthal age. He himself stated that technology is not the danger and that there is no demonry in technology.[43] As a thinker, Heidegger's main concern is to bring to fore, or better yet, to challenge, to subject to question modern man's seeming forgetfulness in the face of the "danger" posed by modern technology. For as long as man withholds his attention from what Heidegger describes as the "inconspicuous state of affairs;"[44] for as long as we consider technology as something neutral, then the essence of technology and its danger shall remain unknown to us.

From where then can man secure his liberation from danger? To respond to this question, Heidegger turns to a verse from Holderlin: *But where danger is, grows the saving power also.* How then can such saving power originate from danger itself?

Heidegger tells us that the destining of Enframing, the revealing in the mode of ordering and challenging forth which is the essence of modern technology, passes "from out of a granting and as such a granting."[45] Enframing as a revealing belongs to a granting. Just as such a granting sends one way or another to revealing, the same granting also gives man a share in revealing which the happening of revealing itself needs. The saving power therefore lies in such a granting. Heidegger explains:

> "The granting that sends in one way or another into revealing is a such the saving power. For the saving power lets man see and enter into the highest dignity of his essence. The dignity lies in keeping watch over the unconcealment – and with it – from the first – the concealment – of all coming to presence on this earth."[46]

It is the granting that locates both the danger and the saving power in Enframing. Enframing passes in the same granting that sends man as the one spoken to by the coming to presence of truth in the play of revealing

[43] Ibid.
[44] TCT, "Science and Reflection", p. 179.
[45] TCT, "The Question Concerning Technology", p. 32.
[46] Ibid.

and concealing. To experience real salvation from danger however, it is not enough that man simply looks into the interplay of revealing and concealing of truth. What he is summoned to do, says Heidegger, is to nurture hope in the growth of saving power by constantly holding in his sight the extreme danger. Heidegger calls this the "releasement towards things"[47] and "openness to the mystery,"[48] explains these phrases in these manner:

> "Releasement towards things and openness to the mystery belong together. They grant us the possibility of dwelling in the world in a totally different way. They promise us a new ground and foundation upon which we can stand and endure in the world of technology without being imperiled by it."[49]

Heidegger is emphatic in saying that human activity alone can never banish such danger. What is more effective than human action is the discovery of a new possibility of dwelling engendered by "persistent, courageous thinking."[50] We need to go back to the life of thinking. We need to recover "the piety of thought."[51] We need to retrace our steps to "noblemindedness"[52] that will allow us to *think* and more than that, to *thank* for being granted to come to presence and move into the nearness,[53] amidst the danger of the revealing ordering of technology, of the unconcealing concealment of truth. ❑

[47] Heidegger, DT., p. 54.
[48] Ibid., p. 55.
[49] Ibid.
[50] Ibid., p. 56.
[51] TCT, "The Question Concerning Technology", p. 33.
[52] DT, p. 85.
[53] Ibid., p. 89.