Four Models of Redemptive Education and Technology

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This essay presents four models of how technology can be spiritualized rather than rejected: an *aesthetic* one based on the work of Dewey; a *revealing* one based on the work of Heidegger; a *divinizing* one based on the work of Buber; and a *spiritual* one derived from several sources. Further, it maintains that in each of the four models one can distinguish four stages of development, preparation, incubation, insight, and creation or verification. These four stages correspond to the traditional ones of purification, illumination, ecstasy, and praxis. Finally, it is claimed that the first stage, preparation, falls squarely within what schools can do to train their wards to deal with technology in a positive way.

No truly human life can be lived without some effort or preparation. The panoramas accessible from a high peak are not available without climbing the peak. Videos are no substitute. Nor is the exhilaration of winning a race possible without training. The self-control known to every athlete is needed equally in the search for meaning. Asceticism and purification are other names for the same thing in different contexts. Nor is this asceticism to be understood in purely negative terms, as renunciation. There is another, and perhaps more demanding, asceticism of *right use*. This ascetical approach, this essay contends, is absolutely necessary if any of the models are to be successful in redeeming technology from the crass use to which it is too often put. Moreover, it is incumbent upon institutions of formal education to help young people develop the skills that will enable them to lead lives that reach beyond the quotidian struggle for survival. Besides the knowledge and expertise needed to hold a job and build a career, schools must empower students to lead human lives; that is, lives that can soar above technology without despising it or being swallowed up by it.

Technology and the Aesthetic

Dewey's major work on art is titled, *Art as Experience*. Art, Dewey says, "denotes a process of…making."[1] It "includes all practice," for Dewey sees "no difference between the artist and the artisan."[2] On the other hand, experience is a term Dewey uses to signify the dynamic and organic interactions of nature. In a sense, experience *is* nature in process. From this point of view, experience is not primarily cognitive, since it is nature in action. However, our human consciousness, says Dewey, can convert "the relations of cause and effect that are found in nature into relations of means and consequences."[3] This quality of experience available only to humans Dewey calls *thinking*. Thinking is "the discernment of the relation between what we try to do and what happens in consequence."[4]

If thinking qualifies experience insofar as it is an intelligent *doing*, aesthetics qualifies experience insofar as art or *making* is involved. Basically, art is "action that deals with materials and energies outside the body, assembling, refining, combining, manipulating them until their new state yields a satisfaction not afforded by their crude condition."[5] In this way art connects to technology.

Just as thinking is not a different quantity in experience but merely a qualitative mode of experiencing, so aesthetics is a further qualitative refining of experience. The aesthetic is a feeling of wholeness, "of belonging to the larger, all-inclusive, whole which is the universe in which we live"; it is a feeling "of exquisite intelligibility and clarity,"[6] "the delight that attends vision and learning, an enhancement of the receptive appreciation and assimilation of objects irrespective of participation in the operations of production."[7] The aesthetic quality may also be predicated of objects.

The difference between the two dimensions, intelligence and aesthetic feeling, is primarily one of emphasis. It is not at all a matter of different objects, some intelligible and some aesthetic, but of the emphases placed in experiencing.

The aesthetic, however, is not an isolated feeling on its own account, for nothing is isolated in the organic whole of nature and experience. The aesthetic refers to vision and appreciation, and is the primary quality of the spectator's experience. It is an appropriative enjoyment on the part of the spectators as they undergo an experience.

It is possible, however, to react to the aesthetic in a more practical way. Such is the case when aesthetic perception and feeling are "utilized to bring into existence further analogous perceptions."[8] This is where art comes in. It is an activity that simultaneously experiences the harmonies and interrelationships of nature in stirring aesthetic moments, and "uses" them as instruments for the creation of new, deeper, and more stirring experiences. Art moves from aesthetic moment to aesthetic moment by means of its own creative activity.

Art does not deal with a separate reality. It is merely the intelligent and enjoyable enhancement of the harmonies of experience.

Defined this way, it is clear that art does not have to do solely with poems and statues, or paintings and symphonies. Whenever and wherever harmony and coincidence of opposites is experienced in aesthetic consummation, and the experience is instrumental in recreating such harmony so that a renewal of experience may recur, we have art. Nothing is excluded, nothing is discounted. Every element of experience is capable of being raised to the instrumentality of aestheticism by the operative power of art. The only limitations are the artist's intent and desire.

This is important, because to help children learn how to see technology aesthetically, one does not have to be a teacher of art, nor must the task of conjuring aesthetic feelings be restricted to the times during the school day when teacher and students are in "art classes." The aesthetic may be built from the raw materials of any ordinary experience. Through teaching, Dewey says, "a body of matters and meanings, not in themselves esthetic, *become* esthetic as they enter into an ordered rhythmic movement toward consummation."[9]

It needs to be made clear that this aestheticism must be cultivated, and that it is not necessarily associated with artistic talent. Anyone can be trained to experience the aesthetic in the presence of technology. Nor is this aesthetic feeling to be attached only to finished products. On the contrary, it is a refashioning that is interactive

through and through, and that therefore requires the constant interplay between ideal and experience.

Finally, it should be noted that aesthetic enjoyment is not purely a matter of feeling in disregard of intellectual understanding. The intelligent quality of experience is not relinquished in the aesthetic process: It is a factor that contributes not insignificantly to the overall experience of harmony and wholeness that is aesthetic. This aesthetic model is one of the most readily available to teachers in the classroom eager to prepare their students to find beauty in technology.

TECHNOLOGY AS REVEALING

Heidegger bases his understanding of technology on the meaning *téchnê* had among the Greeks. As he writes, technology "derives historically and essentially from *téchnê* as a mode of *alêtheúein*, a mode, that is, of rendering beings manifest."[10] The main point here is that *téchnê*, even as manufacture, is fundamentally an activity of revealing what has been envisaged.[11]

The implications of the preceding for educational theory and practice should not require much elaboration. Basically, we do not need freedom from technology, but liberation from the constraint to see technology in exclusively industrial, instrumental, nonaesthetic, and nonphilosophical ways.

To achieve this goal we must, first, free teaching from an exclusive identification with technique. Whoever wants to know what teaching is must look neither at the theories and definitions nor at the methods, but at the actual teaching of teachers. Teaching is té*chnê*; neither mere theoretical knowledge nor mere "practical" knowledge (the knowledge of lesson plans, of teaching methods, of skills, of classroom management).

As *téchnê*, teaching involves knowledge *beyond* the given; that is, it involves knowing the possibilities of a situation, the growing potential of a child, the manner in which the potentiality may be actualized, and the ways in which its *lógos* may be revealed. Teaching is a mode of knowing that apprehends specific possibilities within its reality and helps Reality actualize them.

Teaching is making the way open for the Being of beings to unconceal itself as truth — which, after all, is what teaching is all about. When authentic, teaching is a mode of being through which unconcealedness — that is, truth — takes place.

From the point of view of learning, teaching is letting learn. To be a teacher, then, is not merely to learn to know when and where and how unconcealment is to take place, to learn to listen to the call of Being, to learn to answer, correspond, and converse; to be a teacher means above all to learn to let others learn.

All authentic teaching is the letting happen of the advent of truth (as unconcealedness) as the truth of what is. When this letting be happens in teaching, teaching becomes the site wherein Being unconceals itself. Then not only is teaching grounded in Being, but the unconcealment of Being, the truth of Being, is established by teaching.[12]

Furthermore, it is important that we create conditions for children to begin to discover Being in their world. If the person is an entity to which both spiritual *and*

physical predicates are attributed, then our schooling must emphasize both and not relegate the physical to the realm of the extracurricular as peripheral to the education of spirit.

The equation of person with spirit and of technology with mechanics must be challenged by a new understanding that sees persons as concrete agents and technology as the human way of unwrapping nature and the world. One of the main lessons must be to let the young learn to glimpse the translucence of the eternal splendor of the One in the many materials we use for our technology.

DIVINIZING TECHNOLOGY

But can we encounter the immaterial in the midst of matter? Can we find meaning in metal? And can there be a real relationship, involving real reciprocity, between speaking humans and wordless technology? This is not a problem merely of the opaqueness of things: Each one of us also is encased in an armor that prevents our being addressed, and whose insulating effect we do not even notice, since it is so much a part of our daily living and has been so for a long time.[13]

Then there is the problem of alienation. The technological world is real, and its reality demands a quest for objectivity. But this objectivity itself renders it opaque to our eyes and impervious to our promptings. The natural world comes from the hand of God and the world of technology from our human hands, but in so far as both are real they present essentially the same problem.

Moreover, says Buber, the objectivity of the world is not static: it grows as it is transmitted from generation to generation in schools and universities as "the objective knowledge of the world," as we are taught to approach the world — indeed, everything — with a so-called scientific, objective mind. It grows, too, as the compulsion to use, and even abuse the world increases with every age. Such pressures create a split between us as subjects and things as objects, a split that grounds the rise and development of what Buber calls the It-world.

Today many become reconciled to the It-world as a world to be bought and used, and nothing more. Many who seek to safeguard the human spirit contend that the only way out is the rejection of technology as unredeemable. However, the major premise of this essay is that there is no solution in rejection. But if not through renunciation, then how can the plight of the person seeking meaning in this technological world be righted? In several early essays, Buber argues that spirit is wholly present everywhere, even in technology. On a gloomy morning, walking on the highway, Buber sees a piece of mica lying on the ground, lifts it up, and looks at it for a long time; and the day is no longer gloomy, so much light is caught in the stone.[14]

One must not, however, wait passively for such ecstasy to occur. God is forever active in the world creating meaning and purpose. Our task is to discover such meaning and purpose and, through our action, to return the world to God. However, the action called forth must not interfere with the purposes God has for everything and for every occurrence. Truly creative action has the appearance of rest; in fact, it looks very much like non-action, but we know it is action because it accomplishes

what it sets out to do, to re-create God's meaning, not ours, in the world.

However, these various ways of reconciling the spiritual quest with its endemic earthliness and worldliness did not appear ultimately satisfactory to Buber because he felt they were exclusionary in some unacceptable ways. It is only in encounter, he concluded, that such a feat is possible, and he expressed this insight in 1923 with the publication of *I and Thou*.

We humans always speak *to* the world (other humans as well as technology and things) or *about* the world. We speak *about* the world, when it is distant from us (or we feel distant from it), and we use almost always, grammatically, the third person: he, she, it. In fact, the third person is used only when there is distance, be it in space, in time, or in emotion. More fundamentally, the third person is used when we feel existentially distant from the world. We speak *about* the world, says Buber, when we want to deal with it as a separate, independent, objective, knowable, experientiable, usable reality. Speaking *about* the world connotes an attitude we have toward it and a mode of relating to it as distant and separate. Speaking *about* the world is still a way of relating to the world, but a way of relating that emphasizes distance. Distance *is* a relation: One is always distant *from* something, but it is a relation in which separateness is emphasized. This mode of relating to the world Buber calls the *I-It*.

However, one can also speak *to* the world. In such instances, grammatically, one always uses the second person: thou, you. Speaking *to* the world implies that the world is present; one does not utter *you* in an emptiness or at a great distance. Saying "you" *to* the world means that one considers it present and that one opens up to it the richness of one's being. Speaking *to* the world is also a relation, but one that implies nearness: one is always near *to* something. Here the emphasis is on towardness. This mode of relating to the world Buber calls *I-Thou*.

There is no human being not related to an other. The question concerns how the *I* is spoken. Buber is clear on this: "There is no I as such but only the I of the basic word I-Thou and the I of the basic word I-It."[15]

The I of I-It grows with the passage of the years. It is the I that experiences, that objectifies, that uses the world of technology. It is the I, alienated and forlorn, of which we spoke above. It is the I that establishes the It-world. The It-world is necessary, but it is only "half" of reality. "In all seriousness of truth, listen," says Buber: "without It a human being cannot live. But whoever lives only with that is not human."[16]

The I of I-Thou, on the other hand, is the I of encounter and reciprocity. It is the I that is spoken with one's whole being. It is the I that is uttered when one enters into a relationship purely for its own sake. There is no ulterior purpose here, no cause, no means-to-an-end, no object. There is only an I open to another in immediacy and in reciprocity, in the present.

The I of I-Thou is all towardness. There is no self-reference here (it is never an I *of* Peter, *of* John, and so forth). It is an I that pours itself out totally into the context of the present encounter. It exists as I only because it is not You, but that is enough. Thus it never loses itself, and therefore pantheism (or at least some version of it) is

excluded. But it exists as I only in so far as the relation of encounter exists in the present and is lived purely for its own sake.

But saying the I of I-Thou and opening oneself to the mystery of otherness is no guarantee that encounter will take place. Encounter necessarily involves reciprocity. It necessitates that another I address one with the same openness. That is why encounter, in Buber's sense, does not take place automatically when one approaches others, persons, technology, or the world, with openness and wonder. Encounter is born from reciprocal I's uttered in radical freedom. Nothing can oblige the participants. Encounter must arise in a context of total and mutual generosity. As Buber puts it, "encounter is a form of grace for which one must always be prepared but on which one can never count."[17] Encounter is a gift. For it is always a miracle that at one special time, in the same place, two I's should address each other with the freedom and fullness required.

Further, encounter is not a matter of feelings but of fact. The feelings that often accompany the meeting of a friend, participation in a religious celebration, the thrill of a motorcycle ride, or the contemplation of a sunset or luscious landscape have nothing, really, to do with encounter. "Feelings merely accompany the fact of the relationship which after all is established not in the soul but between an I and a You."[18]

Encounter, then, is a rare occurrence. Encounter is inexpressible. For even though each being opens itself to the other fully, the meeting takes place for its own sake, not for the sake of knowing, of experiment, or of investigation. Encounter is genuine only when the mystery remains mysterious and the sacred is never rendered profane nor the sublime trite and ridiculous. This is especially so of encounter with the divine Thou. The only thing that can tangibly come out of such an encounter is a living that bears witness to it.

Encounter can take place among humans and with God, for in all such instances an I speaks to an I. But how can encounter take place between a living person and a senseless machine? How can technology reciprocate the Thou uttered by a genuine I? It cannot, says Buber, to the full extent that humans can. Yet inanimate technology, the same as plant and rock that exist below the threshold of self-consciousness, reciprocate to us in encounter the most elemental reality of being, what being is most basically. Our Thou grants inanimate technology the opportunity to manifest to us the wonderful and mysterious riches of being actual, of being "there."

This actuality is, quintessentially, the reality of the divine. "Through every single You the basic word addresses the eternal You," says Buber.[19] Whenever we address with our whole devoted being the Thou vibrating in the dynamo, pulsating in the throat of the toad, flickering in the leaves of the cypress, or scintillating upon the waves of the sea, we address the ultimately Real and the ultimately Present: we address God. For God is always there, as He has promised. His Thou to us never ceases, even if we are not always there to respond, distracted by the whir of the machine.

<div align="center">Technology and the Spirit</div>

What does it mean to see technology (or anything, for that matter) as spiritual? What does it mean to be spiritual or to live spiritually? Spirituality connotes, first of all, a quality of lived experience. This quality involves some sense of self-transcendence, not necessarily toward a god or higher power, but certainly beyond the narrow, selfish confines of ego; and it is rooted in the knowledge that human nature involves a radical non-coincidence with itself that is the ground of hope, humility, and growth, but also of moral evil. To be human is to be *capax infiniti*, but also *capax infinitum reiciendi*.[20] Further, spirituality entails the pursuit of the highest values commensurate with one's particular calling, personality, culture, and religious orientation, and it is equally discernible in the failures to fulfill them.

More specifically, spirituality defines the quality of a life of spirit. Spirit itself consists in the radical openness or self-transcendence characteristic of human nature. It is the basic possibility of a true human existence in time. It is opposed to *thing*, the Sartrean in-itself, and to all facticity; in Derrida's words, "it is what in no way allows itself to be thingified."[21]

Moreover, spirit is what ultimately makes us undefinable because the *terminus ad quem*, the parameter toward which there is an openness, cannot be determined definitively. It is like a horizon blurred in the pale blue haze of distance, or like the immensity of sky atop a tornado's funnel. We are undefinable due to the elusiveness of that toward which we are an openness and in relation to which we would, perhaps, define ourselves. For this very reason, spirit is what allows us to ask questions of ourselves, because, unlike things, we are not "finished" or "complete."

Finally, at its best, spirituality describes the ecstasy of spirit, spirit's passing beyond itself in the free actualization of all human potentialities. In this sense it is germane to vocation, understood as the call to tap the most fundamental aptitudes we possess while in pursuit of our destinies.

If humans are *one* being anchored to two poles, an immanent one and a transcendent and undefinable one; and if spirit is, precisely, this openness to the beyond, then living spiritually requires that we "so transform our ordinary daily life that every action is an opportunity for inner work. Our very efforts toward worldly efficiency may, under these conditions, become the means of inner practice (*exercitium*)."[22] To achieve this, the *what* of what we do need not be altered; it is the *how* that needs transforming in ways we can begin to learn in school.

Two points may be helpful in this regard. First, technology, like the rest of the physical world, is not something we *have* or possess, but something we *are*. We manufacture, have and use things because this is the mode of being of beings who live physically in a physical world. As Gelven put it,

> the simple verb "to have" exposes a dimension of the way we think about ourselves: that our own reality extends beyond our corporeality and lays a real claim to the use and right to certain things. We are, in other words, users and havers: in such ways do we understand our own existence.[23]

Secondly, this mode of being is established through repetition. Repetition, as the practice of beings who have bodies, enables us to relate to a world of bodies. This

is what we do when we strum a guitar, switch on a computer, or handle a ball: We are establishing connections in the only way we can. Moreover, repetition and routine eventually free us for our meaning-making activities in the same way as repetitive practice in a sport enables us to play the game with style.

Through practice and exercise we build for ourselves the form of our existence in the world, both natural and technological, and, at the same time, the form in which the transcendent reaches into the immanence of the world. As the tornado's funnel is the shape of the mysterious force that touches and destroys, so our bodies are the form of the transcendent at work in the world.

To live this is to live spiritually; and while it may not be possible to maintain this awareness every waking minute, we must become ready to welcome it. "The first and most vital practice in everyday life is to learn effectively to value those moments in which we are touched by something hitherto undreamt of."[24] This something is undreamt of because the possibilities we are an openness to are unfathomable in their totality, though they can burst upon us at any time if we are ready.

CONCLUSION

Some people object. They claim that there is something morally reprehensible in finding aesthetic or spiritual satisfaction in works or products built on the blood and suffering of thousands of human beings sacrificed on the altars of technology. To them, there is something wrong in visiting the pyramids or the Great Wall of China, and in riding on automobiles.

I believe there is something to be said for this view and that, consequently, there is undeniable moral value in boycotts of grapes and of goods fabricated by people working under subhuman conditions. On the other hand, these are *human* productions, things in the world, revelations of Being. This is their factual nature regardless of the conditions attending their production.

This essay is not meant to condone but to transcend. The faults of production must be dealt with politically and socially, but nothing should prevent our overcoming their alienating threat to us while we fight the political battles.

This answer is not proffered lightly. It must be pointed out that the adverse socioeconomic conditions of production we deplore are, at least partly, caused by uninspired views of technology which sanction its misuse. If the very technology that enslaves was seen as another instance of the presence of God among us, perhaps its use would become more humanitarian. It might even help "to restore within us the divine likeness."[25] To train us to see technology this way is the task of our institutions of formal education.

1. John Dewey, *Art as Experience* (New York: Capricorn Books, 1958), 47.

2. John Dewey, "Experience, Nature, and Art" in *John Dewey on Education*, ed. Reginald D. Archambault (New York: The Modern Library, 1964), 158-59.

3. Dewey, *Art as Experience*, 25.

4. John Dewey, *Democracy and Education* (New York: Macmillan, 1964), 144-45.

5. John Dewey, *Experience and Nature* (New York: Dover, 1958), 356.

6. Dewey, *Art as Experience*, 195.

7. Dewey, *Experience and Nature*, 356.

8. Dewey, "Experience," 162 and Dewey, *Art*, 46.

9. Dewey, *Art*, 326.

10. Martin Heidegger, "Letter on Humanism," in *Basic Writings* (New York: Harper and Row, 1977), 220.

11. Martin Heidegger, "The Question Concerning Technology," in *Basic Writings*, 295.

12. Donald Vandenberg, *Being and Education* (Englewood Cliffs, N.J.: Prentice-Hall, 1971), 76.

13. Martin Buber, *Between Man and Man* (New York: Macmillan, 1967), 10.

14. Martin Buber, *Daniel* (New York: Holt, Rinehart and Winston, 1964), 140.

15. Martin Buber, *I and Thou*, trans. Walter Kaufmann (New York: Scribner's, 1970), 54.

16. Buber, *I and Thou*, 85.

17. Ibid., 178.

18. Ibid., 129.

19. Ibid., 123.

20. Paul Ricoeur, *Fallible Man* (Chicago: Regnery, 1967), 6.

21. Jacques Derrida, *Of Spirit* (Chicago: The University of Chicago Press, 1989), 16.

22. Karlfried, Graf von Dürkheim, *Daily Life as Spiritual Exercise* (New York: Harper and Row, 1972), 8.

23. Michael Gelven, *Winter, Friendship, and Guilt* (New York: Harper Torchbooks, 1972), 134.

24. Karlfried, *Daily Life*, 24.

25. Hugh of St. Victor, quoted in David F. Noble, *The Religion of Technology* (New York: Knopf, 1997), 20.