Reclaiming "Science as a Vocation": Learning as Self-Destruction; Teaching as Self-Restraint

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ABSTRACT Key Words: assessment, education, identity, Polanyi, Weber, vocation, whole person Working from an integration of Michael Polanyi's image of learning as self-destruction and Max Weber's analysis of the ethics of scholarship, the author explores the implications of Polanyi's argument concerning "the depth to which the . . . person is involved even in . . . an elementary heuristic effort" (367). In the process, the author raises questions about current expectations concerning faculty "performance" and current methods of assessing faculty success in the classroom.

This essay begins in three places: in two casual conversations with colleagues about teaching and in one section of *Personal Knowledge* in which Michael Polanyi meditates on "articulate systems as mental dwelling places" (202), a meditation launched from one of his characteristic triple distinctions: "Between the practice of hackneyed exercises on the one hand and the heuristic visions of the lonely discoverer on the other, lies the major domain of established mathematics on which the mathematician consciously dwells by losing himself in the contemplation of its greatness" (195).¹ I hope that the strands of argument thus diversely rising will converge.

1. O Brave New World

It begins first in a conversation I had last spring with Lee Yearley, then chair of the Department of Religious Studies at Stanford, in which he referred to teaching as a performance art.² That reminded me of an article I had recently read (whether in the *Chronicle*, *Academe*, the *New York Times*, or some other publication I cannot now say) about the changes in education that are being introduced by the growth of distance learning. Among the changes predicted was that actors will soon be used in video transmissions to deliver scripts written by academics working with scriptwriters—since the professors themselves generally seem, in the judgment of marketers and educational professionals concerned with audience response, to do a poor job of "delivering" their "material." This, it seems to me, would offer ample food for thought, did it not so remarkably stick in the craw.

I would not, of course, want to set myself against PBS or the BBC. We all learn in many ways, and one can learn quite a bit in a general way about the Civil War from watching an artfully done collage of photographs and music and genial well-crafted pre-written opinions by noted scholars shown in intimate close-ups in warm colors against the comfortable backgrounds of what at least appear to be their private studies. Just as one can learn quite a bit in a somewhat more specific way about the Civil War by reading a published narrative history of it. I think a significant (if not necessarily large) sector of the post-secondary public is, in fact, eager to know and will benefit immensely from undemanding, appealing, entertaining, multimedia "deliveries" of information about the world we inhabit and about our history.³ I am even so naive as to think that a significant sector of the public is actually starving for informed and helpful discussion of the

policy issues that confront us as a body politic, and I would be as delighted as I would be surprised to hear that fellow scholars are trying to field some equivalent of *The Civil War* that would deal with the regulation of the economy, with sustainable health-care commitments, with the population explosion, with the evolution of the family, with the plight of the developing world, and so on. If we have to have handsome celebrity "faces" reading off teleprompters in order to attract an audience to serious reflection on serious issues, more power to the highly paid "face."

This line of thought raises, however, a fairly serious question: If all education were construed on the model of entertainment and the people who were encouraged to take it up were those sufficiently beautiful and vivacious to succeed in performance art and if education were to be considered a competitor with other leisure activities with audience satisfaction becoming the measure of educational success and if, indeed, we increasingly undertook to replace the scholar who is perceived to be clumsy, dry, and tedious with the "face" who has no knowledge but only the skills (or perhaps only the celebrity) to excite and engage the audience, will we any longer have people who can write reliable scripts for the "face" to deliver? Information clearly is a commodity; knowledge, too, can be, and increasingly is, a commodity in the marketplace. I have actually come to hope that it will prove to be a profitable one, because I think it would be nice to have Madison Avenue crying up calculus and Latin with something like the financial resources and artistic imagination it expends creating consuming desire for particular beers and deodorants. Much would certainly be gained if we were able, through aggressive image management, to make having a high school diploma seem at least as attractive to adolescents—at least as central to their self-definition—as having a sportscar or a light truck.

While knowledge can be made a commodity, education cannot. It seems to me that every effort to turn education into a commodity reduces it to the sale of commodified knowledge, a procedure in which education, as I understand it, disappears altogether.⁵

2. To Possess by Dispossession

How is it, then, that I understand education? This question brings me to the paper's second point of beginning: *Personal Knowledge*, page 196. This is the passage:⁶

The task of inducing an intelligent contemplation of music and dramatic art aims likewise at enabling a person to surrender himself to works of art. This is neither to observe nor to handle them, but to live in them. Thus the satisfaction of gaining intellectual control over the external world is linked to a satisfaction of gaining control over ourselves.

The urge towards this dual satisfaction is persistent; yet it operates by phases of self-destruction. The construction of a framework which will handle experience on our behalf begins in the infant and culminates in the scientist. This endeavour must occasionally operate by demolishing a hitherto accepted structure, or parts of it, in order to establish an even more rigorous and comprehensive one in its place. Scientific discovery, which leads from one such framework to its successor, bursts the bounds of disciplined thought in an intense if transient moment of heuristic vision. And while it is thus breaking out, the mind is for the moment directly experiencing its content rather than controlling it by the use of any pre-established modes of interpretation: it is overwhelmed by its own passionate activity.

The distinction between observing/handling the objects of study and living in the objects of study is itself an interesting one to which I will return, but it is this notion of self-destruction on which I want to focus for the time being. Sense-makers all, we construct (often simply though receptive appropriation) "frameworks for handling experience." These frameworks of meaning are, in the deepest sense, our identity as particular selves in a particular known world. To a large extent this framework of interpretation grows by accretion: compatible bits are brought in from outside, furniture is stripped and refinished, some partitions are knocked down and others are added, the gable is extended, a foundation is added under the back porch and the porch turned into a sunroom. But occasionally the whole structure, or some significant wing of it, is just demolished "in order to establish an even more rigorous and comprehensive one in its place." And this is not the dismantling of some set of ideas; it is the dismantling of the self. Polanyi passes immediately on to the mature scientist at the pinnacle of her powers as she "breaks out" of the current consensus in a moment of "heuristic vision" that is the moment of discovery. In that example, the passage is wholly voluntary and therefore, in Polanyi's view at least, downright ecstatic, but suppose we apply this notion of phases of self-destruction to the mundane work of educating the young. Now there can be no doubt that much of what we do through reading assignments and classroom lectures and discussions amounts to nothing more than the enrichment of the student's existing interpretive frame.⁷ I think it must also be admitted that frameworks of interpretation can undergo fairly radical changes more slowly and incrementally than Polanyi's dramatic description suggests or allows. Yet what he has said here about phases of self-destruction provides a powerful image of what is required of us all in true learning: a willingness to let go of our very selves, a dedication and self-discipline so great as to subordinate considerations of security to the sometimes utterly disorienting rewards of inquiry.8

To the extent that learning requires (not constantly, but more often than we probably think) self-destruction, learning ought to be approached as a terrible thing. Obviously, I am not using "terrible" here in the sense of "bad, appalling," but rather in the sense of "severe, extreme" and, possibly, "fear-inspiring." The soporific, incremental routine of the daily educational regimen conceals this extremity, this fearfulness. But it is only to the extent that we can bring ourselves to be aware of this severity, this extremity, this fearfulness that we can begin to reflect in any sort of systematic and reliable way on the responsibilities of the teacher. Self-destruction is not inviting and it is not fun, and when it is imposed upon you in situations that you do not in the least control by people whom you don't really know, let alone trust, it can seem like a threat to your very being. The tearful demoralized student and the uncooperative resistant student too often know and express what the faculty have forgotten or refuse to know: we are not talking about enrichment here.

What, then, are the responsibilities of the teacher? Well, if I understand the passage in *Personal Knowledge* correctly, we have the responsibility of calling into question, of placing in jeopardy, the system of understanding that is the axis of the student's sense that she is in control of herself and her world. This deconstructive activity is not the point and focus of our work, but it is the necessary tool of our work. We are also, of course, to serve as masters to our student-apprentices, conveying to them the platform of a hard-won consensus within which they can take up the task on their own. But they are not blank slates; they have a platform of their own in place. To the extent that it is our role to "induce an intelligent contemplation" of articulate systems they do not yet apprehend, to the extent that it is our role to ensure for them in some future they do not yet know "the satisfaction of gaining intellectual control over the external world" *and* the "satisfaction of gaining control over [them]selves," it is also our role to undertake the destruction and replacement of their accepted structures of understanding.

The most dramatic example of learning as self-destruction in my own history occurred my sophomore year in college at the hands of an English professor whom I hated and feared more than I had ever hated and feared anyone on earth. Looking back, the course seems innocuous enough. We read the works of Franz Kafka, Alan Robbe-Grillet, Robert Musil, Honoré Balzac, Albert Camus, and Thomas Mann. Partly because of the content of the books, partly because of the way they were taught, it was a course that threatened the dearest values of a sheltered, piously Lutheran, lower middle-class girl from a Republican village in the Ohio heartland. And I reacted like a cornered rat. He had asked us to keep a journal in addition to writing some papers, and I had understood when I was keeping it that we had to do it but he wasn't going to read it, so I poured into that journal (when I wasn't obstinately refusing to write anything at all) all my resistance to the texts as well as my vicious and personal hatred of the professor whom I regarded as a thoroughly vicious and immoral man. Then, at the end, to my horror, he collected the journals and read them. The first final grade I got in the course was a C—also an experience of self-destruction since my "framework for handling experience" did not, at that time, include any way of accounting for a failure of that magnitude. Some months later, he saw me on campus and mentioned that he had thought further about my work and was going to put through a grade-change form raising the mark because, he said, "You are, if nothing else, honest."

It took me a long time to recover from the course—indeed, we might truly say I never recovered from it because I had to put together a new Diane Yeager in order to go on from it, and that was the work of years. When I graduated from college, I still thought he was the worst professor I had ever had (though I think I was already beginning to respect, in some unacknowledged corner of my mind, what he had accomplished with me); only after many years did he begin to appear in memory as one of my most influential teachers. Backyard bomb shelters notwithstanding, I had been raised in the nineteenth century, and none of my previous courses had compelled me to reconfigure any of my convictions nor had they sent the least tremor through the subsoil of my assumptions. This professor was an earthquake from the first day of class, but he was an earthquake that had already happened. It is not as if I could have refused the twentieth century.

Whether this transition could have happened in any other way is a question to which I will return in the next section. The point I want to make here is that reflecting on Polanyi's notion of learning as phased self-destruction has enabled me, for the first time, to make interpretive sense of this experience, to see it not in isolation but as part of a pattern, and to allow the experience its own integrity as a costly and individually unsupported rite of passage: intellectually, a person died there and knew she was dying and fought the way any creature fights death. Polanyi has also given me the language to see the experience not as pathological (that is, not as the accident of a fragile psyche too immature to cope with rough truth) and not as blameworthy (that is, not as a failure of intellectual discipline or curiosity) but as emblematic of the very nature of serious and sustained inquiry. This, in turn, has given me a new patience with my students, as well as a deepening respect for their bravery.

Still, one might worry about this notion of learning as self-destruction, which has as its corollary, after all, the notion of the teacher as destroyer. This is not how we typically think of ourselves, and the initial counter-response to this argument has been that it distorts the teacher's role, which is actually that of inviting the student out of a limited world into one that is richer, more comprehensive, more truthful, and, indeed, more beautiful. I do not dispute the truth of this positive and constructive portrait of our task; Polanyi himself, in the very passage in question, puts this progressive process of integration in terms of an "urge" toward "satisfaction" concerning both self and world. Destruction, as I said earlier, is *not* the objective. Yet Polanyi has, with the same uncompromising honesty and clarity of vision that caused him to dismiss regnant paradigms

of objectivity, insisted that we notice and not conceal (especially from ourselves) the fact that what seems from our point of view like an act of liberation is from the point of view of the other an often intolerable threat. All education is "education of the whole person" in the sense that the personality is an achievement of interpretive integration; any challenge to that achievement of integration is a challenge to the integrity and worth of the personality. Accordingly, far more is at stake in any act of authentic learning than the neutral processing of some new bit of information.

There is still a deeper worry here, though, and that is that this model of learning as self-destruction, if taken seriously, will become a license for bullies, that it will be gladly seized upon by those for whom the classroom is a seat for the exercise of power and whose experience of power is never so complete as when they are able to attack and deprive and demolish under the cover of instruction. This is a worry that Polanyi, understood in this way, could be invoked to legitimate the likes of Wackford Squeers! So deplorable a possible outcome makes us doubtful of the proposal itself: we wonder whether his couching his insight in the language of destruction might have been a slip, an exaggeration, a misleading and even unfortunate way of describing the welcome and benign process of metamorphosis.

I think we should resist the temptation to slip out through this handy exit. Rather than denying the analysis, let us ask instead how we can conduct ourselves responsibly in an occupation which, when it is taken seriously, has such potential to destroy, which must, if it is not to be disengaged and superficial, trivial and self-indulgent, induce and perhaps even require the collapse of meaning and the loss of valuational assurances. In this matter Polanyi gives us some help, but I think that he does not give us as much help as we need. This is partly because his model of learning is so completely defined by the personal, supportive, and sustained master/apprentice relationship, a relationship that almost none of us enjoy at any level below that of doctoral programs.⁹

3. Imperative Impartiality

It is at this point that I would like to reclaim elements of the argument Max Weber made in "Science as a Vocation." Specifically, I want to reclaim Weber's normative demand for impartiality in the classroom and Weber's portrait of scholarship as a vocation.¹⁰

Weber's conviction that scholars who stand up as teachers have a moral responsibility to teach as if they had no convictions of their own flies in the face of a great weight of contemporary arguments to the contrary. "Politics," Weber says, "is out of place in the classroom" (145). Neither the students nor the docents should introduce it, not even in those courses in which politics is the subject of study. It is tempting, when we read these words, to think that Weber is just naive about the value-laden character of all facts and all speaking, but to dismiss his argument on such grounds is simply silly. Weber was one of the first to compel us to see the degree to which all of our judgments are made within some set of commitments that both define and reflect our "world" of meaning and value. Nor can he legitimately be accused of being inconsistent: as though he pointed to the inescapable matrix of commitment in some texts and denied it in others. It is the very inescapability of bias that, in his view, requires the individual who teaches to struggle to neutralize bias in (and only in) that distinctive performative act that is teaching. When we speak out of our interests and values with the intent to convert others to our views or to influence the pattern of their action, we use our words as swords, weapons, and "it would be an outrage . . . to use words in this fashion in a lecture or in the lecture-room" (145).

The words of the teacher should be, instead, "plowshares to loosen the soil of contemplative thought" (145). But this is not all; "the true teacher will beware of imposing from the platform any political position upon the student, whether it is expressed or suggested" (146). Why "abstain" from this, particularly since many "highly esteemed colleagues are of the opinion that it is not possible to carry through this self-restraint" (146)? Because it is an abuse of power.

To the prophet and the demagogue, it is said: "Go your ways out into the streets and speak openly to the world," that is, speak where criticism is possible. In the lecture-room we stand opposite our audience, and it has to remain silent. I deem it irresponsible to exploit the circumstance that for the sake of their career the students have to attend a teacher's course while there is nobody present to oppose him with criticism. The task of the teacher is to serve the students with his knowledge and scientific experience and not to imprint upon them his personal political views. It is certainly possible that the individual teacher will not entirely succeed in eliminating his personal sympathies. He is then exposed to the sharpest criticism in the forum of his own conscience. And this deficiency does not prove anything; other errors are also possible, for instance, erroneous statements of fact, and yet they prove nothing against the duty of searching for the truth. I also reject this in the very interest of science. I am ready to prove from the works of our historians that whenever the man of science introduces his personal value judgment, a full understanding of the facts *ceases* [146].

Now, to be sure, our students are more prone to talk back than Weber's were, and there is more give and take in most of our classrooms, but the fundamental structure is unchanged. Our students have to satisfy us, and they know that. Moreover, they are in no sense our equals; there are students who may ask questions and raise objections in my classroom, but "there is nobody present to oppose [me] with criticism" because there is nobody present who is remotely my equal in either expertise or experience (keep in mind that all my classes are undergraduate classes, mostly lower-level undergraduate classes).

Understanding learning as phased self-destruction only serves to emphasize the extraordinary importance of its complementary coordinate: teaching as self-restraint. It would be positively immoral, in my judgment, for us to be hacking away at our students' conceptual frameworks—carrying as they do political and social views gained from formation and experiences in family, church, previous schooling, passive image access like television, and active independent projects of reading and reflection—with the explicit purpose of thrusting upon them our own somehow privileged political and social commitments.

The ultimate paradox of learning as self-destruction is that although "breaking out" always requires an external impetus, it ought, nevertheless, always to be voluntary. With this in mind, let us return to my autobiographical example, for it seems to me that the *trauma* of the experience was directly proportional to its involuntariness. It is plain to me that that particular professor lacked self-restraint. He was a European intellectual hired in to be a "star" in the English Department of a fourth-rate state school in an economically and culturally impoverished region of a country that he considered to be an intellectual wasteland. He did not try to conceal his contempt for the school, the town, or the intellectual level of the student body. He was an atheist, a critic of sexual conventions, and an unmasker of moral platitudes; he used nihilism as a sword against hypocrisy. He despised bourgeois values. He made it clear that intellectual excellence was a function of these views and that right-thinking students would adopt them. That, I think, is what gave the experience its peculiar character of violence and made the subsequent necessary "[re]construction of a framework for handling

experience" so slow, so disorganized, and so difficult. I did not have a whole lot left when that course ended (because he *was* so very effective, and because, even in my passionate resistance, I could see that he was right about so much), but whatever there was that was left was damned if it was going to become like him!

Although it is our responsibility as educators to be catalysts of self-destruction, we must strive, to whatever extent it is possible, to leave it to the student to carry out the deed. We ought not to take unfair advantage of the vulnerability of the student, whose world has been thrown into disarray, to form the precipitating self in our own image. That is why teaching requires restraint. That is why the classroom should not be politicized. That is why the possibilities should be laid out but not advocated.

This suggestion that the teacher refrain from undertaking to convert her students to her own views is not, it seems to me, in compatible with Polanyi's insistence on the situatedness of all our knowing and doing. Polanyi certainly does hold that no one can ever speak or know from nowhere, and he is quite explicit in saying "all truth is but the external pole of belief" (286). His reference point for these sorts of comments, however, is always a transpersonal articulate system or framework or edifice of meaning and knowledge built up over generations—a system that has not only its own internal valid structure but also its own internal history of conflict, supersession, anomalies, and imagined futures. There can be no proper learning without authority because each generation must convey to its successor the comparatively stable but still fluid consensus without which nothing can be thought at all in the domain in question. So, while we cannot escape our convictions and our social location in our teaching (or anywhere else), when we teach with universal intent, we teach as dispassionately and as fully as possible the complexity of structures and tensions arrayed in the full framework of the articulate system that we sustain by our teaching. The only truly inescapable convictions which must be passionately professed (or more properly, *shown*) rather than dispassionately examined are the convictions that are constitutive of the system or community into which we seek to introduce our students.

This is why it is important to recover and preserve an understanding of scholarship as a vocation. It is certainly part of our responsibility as teachers to have a clear position that we can state, if asked, on the issues that we profess to be important, and it is likewise our responsibility to know the full range of plausible alternatives and to have clear reasons for rejecting those that we reject. However, having and advocating a position is not having a vocation, not, at least, in the older deeper sense. To have a vocation is to be prepared to subordinate one's own personal beliefs and will and interests to the requirements of professional relationships that are unique in involving complex dimensions of power and trust. We neither forget nor deny our particularity, but we place all the passions of our particularity at the service of something that, in turn, places them in question. For the attorney, it is the principle that there is always truth on all sides and that no one can ever do anything so bad that it will destroy their right to a fair defense. For the physician, it is the placement of the well-being of the patient above her own. For the minister, it is self-dedication to a transcendent ultimacy that relativizes our temporal absolutes. For the politician it is, according to Weber, that "firm taming of the soul" (115) that involves two things: (1) a sense of proportion or "a habituation to detachment" (116) that prevents the politician's necessary pursuit of power from being fouled by "selfintoxication" at the same time that it prepares him not to "crumble when the world from his point of view is too stupid or too base for what he wants to offer" (128) and (2) responsibility toward the future, by which Weber means subordinating one's own desire to act blamelessly in the present to one's vision of how one's actions will play out in consequences for others and for the community as a whole over the coming years. For the "scientist," again according to Weber, it is the discipline to place one's knowledge and one's method at the service of students who do not share one's commitments as well as those who do. The politicization of the classroom, then, is undesirable not simply because it represents an abuse of power but also because it is a betrayal of vocation—and ultimately, in Weber's view, a falsification of the truth of things. No teacher ever knows the final truth of things. Bedrock commitments are not susceptible to proof. Weber puts it this way:

...so long as life remains immanent and is interpreted in its own terms, it knows only of an unceasing struggle of these gods with one another. Or speaking directly, the ultimately possible attitudes toward life are irreconcilable, and hence their struggle can never be brought to a final conclusion. Thus it is necessary to make a decisive choice [152].

All human beings make these choices—explicitly, inadvertently, or by default. We cannot do it for our students and should not try.

Thus, if we are competent in our pursuit (which must be presupposed here) we can force the individual, or at least we can help him, to give himself an *account of the ultimate meaning of his own conduct*. This appears to me as not so trifling a thing to do, even for one's own personal life. . . . a teacher who succeeds in this . . . stands in the service of "moral" forces; he fulfils the duty of bringing about self-clarification and a sense of responsibility. And I believe he will be the more able to do this, the more conscientiously he avoids the desire personally to impose upon or suggest to his audience his own stand [152].

This, then, is what I mean by teaching as self-restraint.

4. The Contemplation of Its Greatness

Does it make any sense for us to continue, eighty years later, to speak of "science" (teaching) as a vocation? In our institutions we are made to feel more and more like employees of corporations selling knowledge as a commodity to buyers who (Heaven help us!) will "vote with their feet." In the discussion of our "performance" in the classroom, we are made to feel more and more as if the criteria of success are the criteria applied to actors and "faces," meticulous introverts and ponderous thinkers being hardly welcome. I believe there is a vocation for teaching, and I don't believe that it has much to do with performance art. I am not sure that the vocation for teaching is going to survive into the twenty-first century any more than the vocation of healing will. Instead, we will have knowledge delivery and health-care delivery by licensed practitioners, and I will not insist that the polity will be the worse for it—we might well end up with, on average, a more knowledgeable public and a healthier populace. However, the value of vocations cannot, I think, be measured in terms of statistical outcomes; indeed, to put them in the same sentence is to commit a category mistake.

Let us come back to that other relevant line in the passage from "Dwelling In and Breaking Out" in *Personal Knowledge*: "This is neither to observe nor to handle them, but to live in them." In our schools, from kindergarten through graduate seminars, we are introducing the rising generation to the "valid articulate framework[s]" that are the infrastructure of the distinctively human world and the platform of human thinking and identity. The wherewithal of any articulate framework can be, and, indeed, must be, "used in a routine manner" (195). It can be "observed" and "handled." There may be a sense of power in that; it may be entertaining for a time; and it may make the user a good and useful worker or citizen. But as Polanyi underlines,

there is little joy in that—and even less meaning. It is a different thing, he suggests, to "live in" the articulate framework; when one truly lives in the articulate system, even the routine tasks are transformed. "A true understanding of science and mathematics includes the capacity for a contemplative experience of them, and the teaching of these sciences must aim at imparting this capacity to the pupil" (195-96); such teaching "aims" at "enabling a person to surrender himself" to the framework of interpretation. The language Polanyi uses in this section goes all squishy and mystical (which is the reason that this is the first time I, not being disposed in the least to the mystical, have ever tried really hard to understand what is going on here), but I wonder whether his point doesn't rely less on religious visions, contemplation, and ecstasy than on a more simply moral apprehension: There are, on the one hand, constricted, self-serving, use-governed ways of doing things; there are, on the other hand, ways of doing things that are oriented always toward the other and the whole. Short-term success cannot redeem the former from the meaninglessness that always attends unintegrated fragments; neither tedium nor failure can defeat the experience of worth that attends the latter.

This brings me to the paper's third point of departure: a conversation, now a year or so past, with one of my Georgetown colleagues for whom I have the greatest respect and against whom I harbor considerable envy which is directed not least at her extraordinary rapport with students. She had been drafted to teach a course required of many of our theology majors, a course that had been notably undersubscribed and that other faculty had had difficulty teaching. It became evident that she was actually enjoying the early weeks of the class, and I expressed surprise. Her response, touched with irony, was: "It's all about you!' I tell them. All you have to do is find ways to let them see that 'It's all about you!'" I suddenly understood, in the time it took her to say those words, what I had not understood in ten years of reading (mostly but not exclusively) unfriendly teaching evaluations and struggling to decide whether I was as bad as some of my students said. My message has been, through all these years of teaching, relentlessly and unambiguously, "This is *not* about you." "I

It's not, of course, about me either. It involves a kind of ascetic transparency that allows us to see what transcends us (locally or largely) as truly other than ourselves. It is a discipline, ultimately, of selfforgetfulness, as Polanyi intimates when he writes (further along in "Dwelling In and Breaking Out"), "And as we lose ourselves in contemplation, we take on an impersonal life in the objects of our contemplation" (197). Science (teaching) as a vocation, then, seems to me to be the effort to impart to the student that capacity for seeing, for being in some deep sense devoted to, the articulate system as a whole. This is, in most cases, an invitation to self-destruction of two sorts: the dismantling of previously constructed, less adequate systems of interpretation and a subordination of one's own projects and needs and, indeed, interests to an impersonal system which, if properly indwelt, becomes a source of meaning and a liberation of self. It is this quality of living authentically in a way of organizing the world that cannot be commodified and cannot be conveyed, nor even simulated, by any hired "face." And though one finds it, to be sure, in some wonderfully charismatic and lively scholars, it is sometimes most pronounced in boring, dry, tedious teachers for whom what others would regard as boring, dry, tedious work is honest love's selfless labor, suffused for them with an intellectual passion that almost no beginning students (including me, back in the mists of prehistory), and perhaps few advanced ones (including me, when I laid waste most of my opportunities at Duke), can gladly honor, or even fairly understand.

Endnotes

¹ All quotations from the work of Polanyi are taken from: Michael Polanyi, *Personal Knowledge* (New York: Harper and Row, Harper Torchbooks, 1964).

² I should hasten to add that Lee was not saying that teaching necessarily is or should be a performance art. His formulation was: "If teaching is a performance art, as increasing numbers of people consider it to be, . . ."

³ I therefore read with great interest and considerable sympathy Simon Schama's article "So, You Care about History? Get out of the Classroom and onto TV" in the "Think Tank" column in the October 10, 1998, *New York Times*. Schama, who is a humanities professor at Columbia and has been named Scholar of the Year by the New York Council for the Humanities, has been, for the past two years, writing and directing a sixteenpart series on British history for the BBC. In the article (which consists of excerpts from his address "Visualizing History," prepared for the Council for the Humanities), he argues that it is a grave mistake for scholars to "flinch" from journalism and popularization, that "we need to go beyond the book—to the humming bazaar of contemporary culture; to the modern museum; to the rapidly accumulating infinite world of the cyberarchive, of interactive electronic history; to the movies; to the imminent world of digital television; and we need to do so not holding our noses or looking down them, but steadily right into the lens of the camera." Schama does not want more historians to serve as consultants and "low-rent fact checkers"; he wants more historians to become "full partners or producers in these enterprises."

⁴ "They gave me the list. I asked the questions. The producers took the tape and I was gone. I was the face." You may remember these words of Peter Arnett last summer after CNN was obliged to retract the explosive, and apparently wrong, exposé of Operation Tailwind, in which CNN reporters alleged that United States Special Forces had used chemical weapons (nerve gas) against United States defectors in Laos (I have quoted Arnett's words as recorded in "Career of a CNN Star Hangs in the Balance over a Repudiated Report," *New York Times*, July 8, 1998). Writing for the *Washington Post*, Howard Kurtz told the story this way:

The familiar face that viewers saw describing CNN's nerve gas story belonged to Peter Arnett, the Pulitzer Prize-winning correspondent who has reported in war zones from Vietnam to Iraq.

But Arnett did not interview most of the sources for the broadcast or write the words that would stir a nationwide controversy. As is common on many network magazine shows, he was the front man for conclusions compiled by unseen minions.

"He almost wasn't involved in the reporting and the research," said a CNN executive who asked not to be named. "It was mainly a case of him being flown in to read a script. He basically did what he was told to do" ["Behind-the-Scenes Faces Shaped CNN's Reporting," *Washington Post*, July 3, 1998].

⁵ Commodification is not the only force transforming the educational enterprise. The multiplying needs of an essentially bureaucratic society for the certification of office holders should also be noted. The October 13, 1998, *Washington Post* carried a front page story on Intelligent Essay Assessor, a software program (now publicly available) that grades students' essays. While the developers insist that their "goal is not to replace teachers" but to "have students do more writing" and to help students improve their writing, they have formed a company "through which they hope to market their product to both institutions and individual teachers"; moreover, when questioned about the cost of the software, one of them responded, "it's less than going through the essays by hand." The story reports that Phylis Floyd at Michigan State plans to use the software "for training teaching assistants how to grade" and Florida State University plans, pending its own testing of the software, to use it "to score the 200 finals in one of its introductory courses" in library science. The article further

reports that the Education Testing Service is developing its own (allegedly more sophisticated) software for use evaluating the business school entrance exam, the Graduate Record Exam, and eventually, the Scholastic Assessment Test. (Linda Perlstein, "Software's Essay Test: Should It Be Grading?" *Washington Post*, October 13, 1998, A1, A8.) On the one hand and from the point of view of the staggering requirements associated with repeatedly assessing the performance of millions of children and young adults, the logic of all this is unassailable. On the other hand, what, precisely, is going on when we build into our education process the repeated activity of composing written arguments whose only fate is never to be considered by any human being? What shall we make of a speech act directed solely to a machine?

- ⁶ I should admit straight off that it comes from that controversial and, in some ways, disconcerting consideration of "Dwelling In and Breaking Out" that forms the last section of "Intellectual Passions."
- ⁷ "Enrichment" is a word that is increasingly prevalent in language about education. I doubt that this is simple linguistic trendiness; I think marketers and administrators and teachers like "enrichment" because "enrichment" is safe. Who could be against enrichment? Who could argue or find fault? The whole point of enrichment is that it leaves everything the same but more of it. Enrichment can't possibly be anything but appealing and enjoyable. What a selling point for a culture soaked in comfort!
- ⁸ I want to underline here, because this is perhaps not a conviction widely shared, that (along with Emil Brunner and the Niebuhr brothers) I believe that the desire to be secure is one of the very deepest desires of the finite heart. I am therefore saying something very serious when I say that authentic inquiry requires the subordination of this desire.
- ⁹ If we are thinking about "Polanyian teaching," about trying to implement his insights about learning in our ordinary classrooms, I think we do need to pay attention to potential problems to which he does not give much attention. This inattention is not solely the result of his familiarity with the more individualized apprentice model of the lab sciences; it also reflects the degree to which his interest is focused on people of extraordinary ability. In his treatment of discovery as problem solving, for example, we find a report on the fate of less adept problem solvers that is notable for its pathos. It occurs in the subsection "Learning" in chapter 12, "Knowing Life." Having outlined the four possible "outcomes" of attempts at learning, he passes on to "the emotional upheaval which accompanies the mental reorganization necessary for crossing the logical gap that separates a problem from its solution" (367), and this leads him to a consideration of "the tension of this choosing power" (that is, between "the force of personal judgment" that is at stake and the paucity of clues on which this judgment must be exercised) and "the limits within which this tension is bearable." That the tension can, in fact, be unbearable has been demonstrated in experimental studies. These have been studies of animals, of course—because it would violate ethical protocols to do experiments of this sort on persons (the reader may, indeed, conclude that it should be considered unethical to do this sort of experiment on animals as well). In order to find the point at which the tension becomes unbearable, one has to go past it, and when one goes past it, the creature suffers a mental breakdown. One passes this point by gradually making the problems too difficult for the creature to solve. This produces a crisis of self-confidence that altogether disorganizes the personality of the animal and leaves it neurotic, if not altogether dysfunctional. This is an extremely sobering section for the teacher, for it draws attention to the hazards inherent in a process whereby the responsible act of setting problems adequate to move our best students to the threshold of discovery may produce an acknowledged or unacknowledged crisis for less capable students. Polanyi gives us no help dealing with the

implications of such experiments for our understanding of education. Rather, as he moves on to the section on "Human Knowledge," he takes from these experiments only their disclosure of the tremendous level of "personal" engagement in the learning endeavor—its remoteness from the sort of model of detached, mechanical, logical progression that is so frequently assumed to be a reliable representation about how learning occurs. His subsequent discussion of the self-modifying effects of discovery in humans is a discussion of success. The models given are superior thinkers. The exchange of problems is among equals. Nowhere in the discussion of self-set standards do we find an acknowledgment of what the animal experiments make so clear: it is the tragedy of sentience that these self-set standards can exceed the capacity of the organism to fulfill them—with disastrous results for the personality of the agent. So here again, though Polanyi penetrates to the psychological truth of the pain of education—its threat to the learner's sense of worth and meaning—he seems to simply note it and move on to the ranks of the elite who dispatch the threat by sheer achievement.

¹⁰ "Science as a Vocation" is the companion to "Politics as a Vocation"; both were given as lectures in 1918 and published in 1919 (dates my colleagues are quick to point out whenever I undertake to appeal to Weber to justify myself). The essays divide between them the domains of education and active public involvement. Weber, viewing himself and has audience as scientists, used the term "science" where I believe we are justified in using the broader term "scholarship." Quotations are from the essays as translated and reprinted in: H. H. Gerth and C. Wright Mills, eds., *From Max Weber: Essays in Sociology* (New York: Oxford University Press, 1946).

¹¹ Since I am telling this anecdote in this particular context and since you do not know my colleague, I want to emphasize that she was in no way advocating an appeal to self-serving interests—hence the irony in her tone. It is, however, her consistent practice to look for the point at which the authors are thinking about issues or problems or questions that the students recognize as familiar and important, so that the texts can be read as texts directed in some significant way to the students and their lives. Framed this way, it is easy to see that her classroom approach and mine are not incompatible, although her comment crystallized for me how we must appear to our students. Indeed, I could undoubtedly succeed much better at "bringing about self-clarification and a sense of responsibility" if I could ever get the hang of doing what she does so naturally.

WWW Polanyi Resources

The Polanyi Society has a World Wide Web site at http://www.mwsc.edu/~polanyi/. In addition to information about Polanyi Society membership and meetings, the site contains the following: (1) the history of Polanyi Society publications, including a listing of issues by date and volume with a table of contents for recent issues of *Tradition and Discovery*; (2) a comprehensive listing of *Tradition and Discovery* authors, reviews and reviewers; (3) information on locating early publications; (4) information on *Appraisal* and *Polanyiana*, two sister journals with special interest in Polanyi's thought; (5) the "Guide to the Papers of Michael Polanyi" which provides an orientation to archival material housed in the Department of Special Collections of the University of Chicago Library; (6) photographs of Michael Polanyi.