

Common Knowledge of the Second Kind

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ABSTRACT. Although most of us “know” that human beings cannot and should not be replaced by computers, we have great difficulties saying why this is so. This paradox is largely the result of institutionalizing several fundamental misconceptions as to the nature of both trustworthy “objective” and “moral” knowledge. Unless we transcend this paradox, we run the increasing risks of becoming very good at counting without being able to say what is worth counting and why. The degree to which this is occurring is the degree to which the computer revolution is already over — and the degree to which we human beings have lost.

I think that Aristotle was profoundly right in holding that ethics is concerned with how to live and with human happiness, and also profoundly right in holding that this

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sort of *knowledge* (“practical knowledge”) is different from theoretical knowledge. A view of knowledge that acknowledges that the sphere of knowledge is wider than the sphere of “science” seems to me to be a cultural necessity if we are to arrive at a sane and human view of ourselves or of science. (Hilary Putnam, *Meaning and the Moral Sciences*, 1981)

Consider the major conclusions of a recent Touche Ross survey (1988) of key business leaders, deans of business schools, and members of Congress; of Tom Peters in *Thriving on Chaos: Handbook for a Management Revolution* (1987); and of Alasdair MacIntyre in *After Virtue: A Study in Moral Theory* (1981).

[R]espondents rank concentration on short-term earnings only slightly behind the decay in cultural and social institutions as the greatest threat to ethical behavior in American business . . . [O]ur writers and panelists reaffirm the value of such old-fashioned virtues as personal integrity and character (Touche Ross).

The uncertainty of the environment can be swiftly dealt with only if the firm can fall back upon the certainty of relationships among people and among groups — in other words, upon trust and integrity (Peters, p. 519).

And if the tradition of the virtues was able to survive the horrors of the last dark ages, we are not entirely without grounds for hope. This time however the barbarians are not waiting beyond the frontiers; they have already been governing us for quite some time. And it is our lack of consciousness of this that constitutes part of our predicament (MacIntyre, p. 263).

Our Paradox¹

While these studies underscore the significance of ethical issues in our era, their primary recommenda-

tions reveal a paradox. Although such virtues as honesty, caring, and integrity are “old-fashioned” in the sense that they have always been crucial, they are also old-fashioned in the sense that our modern understandings of *both* moral and so-called objective knowledge provide almost no basis for understanding why such virtues are crucial.

In modern moral philosophy and the business ethics literature, as well as in the sciences, this paradox is grounded in our modern and distorted understandings of such key concepts as “theory” and “practice,” “facts” and “values,” “objective” and “subjective,” and “absolute” and “relative.” As a direct result, a number of long-standing theoretical problems are fundamentally unsolvable. This is part of our modern predicament.

In our modern society of organizations, this paradox is grounded in the widespread institutionalization of our modern and distorted understandings of the nature of expertise — “a metaphysical belief in managerial expertise [that] has been institutionalized in our corporations” (MacIntyre). Put another way, “The ‘rational model’ . . . seeks detached, analytical justifications for all decisions. It is right enough to be dangerously wrong, and it has arguably led us astray” (Peters and Waterman, 1982, p. 29). As a direct result, a large number of institutionalized problems may be fundamentally unsolvable. This is also part of our modern predicament.

We are not going to solve such theoretical problems and reform their institutionalized counterparts if we don’t know what we are talking about. Until we understand the nature of our paradox, continuing to seek “solutions” is not only going to get us nowhere, but will continue to lead us dangerously astray.

Our conclusion

Our conclusion is that the *trustworthiness* of both our moral and objective knowledge must be grounded in those types of *involvements* with *one another* that are only *revealed* through a *history* of honesty, caring, and integrity. Thus, the reason such “old-fashioned” virtues as honesty, caring, and integrity are crucial is because they are our only guarantee that what we claim to know can be trusted.

This is a radical conclusion precisely because the

meanings of each of the above italicized terms — *trustworthiness, involvements, one another, revealed, history* — have been fundamentally distorted by our modern understanding of moral and factual knowledge. Therefore, the primary and “theoretical” purpose of this paper is to uncover the significance of these terms. The larger and “practical” problem is to recover the meanings of these terms in our day-to-day practices, our relationships with ourselves and with others, and with our shared traditions.

Without such understandings — theoretical-practical — we cannot hope to resolve our paradox. The alternative is that both our moral and objective knowledge — our knowledge of what is right, true, and just — will be increasingly selected on the criteria of rewards, punishments, and more subtle forms of coercion.

Our argument

The first section of our paper is written in the “old fashioned” form of a dialogue, for *how* we argue is as important as *what* we argue.² This is not only true of this paper but is true in general. First, our arguments — as with all arguments — presuppose a common understanding of key terms and concepts. Dialogue is the best way to (re)establish the meanings of those terms and concepts central to our conclusion.

Second, the medium of dialogue reflects our message. It is the quality of a society’s dialogue — more precisely, its *involvement* in dialogue *over time* — that determines whether both its moral and objective knowledge are to be trusted.

Part I of our Dialogue — “The Stranger” — states our modern paradox in terms of a familiar problem for which there are no ready answers. Part II — “Common Knowledge of the Second Kind” — provides answers. The conclusion to Parts I and II will be that trustworthy knowledge must be grounded in Common Knowledge of the Second Kind; knowledge that can only be known through involvement.

Part III — “On Trust” — develops a final and crucial distinction between “revealed” and “functional” motivations. The major conclusion will be that trustworthy Common Knowledge of the Second Kind, in turn, can only be sustained through “revealed” as opposed to “functional” motivations.

This final distinction reveals — in theory and in life — the true meaning of those old fashioned virtues.

The second and third sections of our paper are written in conventional style. Their primary purpose is to identify major obstacles to understanding the nature of our paradox. The second section — “False Ideals” — focuses on the “ideal of scientific detachment.” The third — “Revealed Knowledge” — focuses on the ultimate ground of trustworthy moral and objective knowledge.

Part I: The stranger

As a university professor, I’ve given some thought to how computers can increase the efficiency of teaching. Contrary to some, I don’t underestimate the abilities of computers. Computers have been programmed to play expert chess and can even beat their human programmers. Moreover, advanced generation computers learn from their mistakes, employ heuristic methods, and even program themselves. I find this most exciting.

However, a Stranger walked into my office the other day. Our discussion has greatly disturbed me, for I was unable to answer a question raised by the Stranger.

Stranger: In my mind I have a disturbing image of a student in your future educational system. On one side is an elaborate “teaching” device with amazing video screens and educational aids connected to a highly advanced computer. On the other side is a sophisticated testing device that evaluates the student’s performance. The teaching device is hooked up to the testing device, creating a feedback loop. Thus, the teaching device can adjust its teaching approach and material in response to what the student has learned as evaluated by the testing device.

This teaching-testing system works as advertised. Student test scores increase rapidly, students enjoy the learning experience, and tremendous cost savings are realized.

Me: I have the picture. Our state legislature would love such a system and there would be plenty of experts and organizations to sell it to them! However, being a teacher, this makes me a little nervous.

S: I understand. You may eventually become obsolete. But I have a question. Why is that young person sitting

there between those devices? Why not replace the student with a learning machine?

Me: You mean automate the entire educational system? You can’t be serious!

S: Why not? Test scores would go up. Retention and accuracy would be greater. Costs would be reduced.

Me: But the student wouldn’t learn!

S: That is exactly my point.

Me: Are you seriously suggesting that our educational system would be essentially the same if students were replaced by this computerized system? After all, real living students can think! A machine can’t think, not really.

S: Oh? Let’s be clear what your modern computers really can do. Computers can remember facts and figures and recall them when asked. They can remember equations, theories, rules, principles, techniques, and methods. They can follow example problems, compose essays, figure out relationships, recite poetry, derive equations, prove theorems, and offer opinions. Aren’t these the very things students are asked to do? Aren’t students taught such things and tested on such things? Don’t the students now learn that this is what thinking is all about?

Me: Yes, in a general sense you are correct. But computers cannot do all those things very well.

S: I agree. We might have to wait a few years or even a decade or so until such teaching-learning-testing systems are sufficiently improved. But this is merely a matter of technological refinement. So, are you saying that it is simply a matter of time before the student could be replaced?

Me: No! I *know* that something essential would be lost if students were replaced by a computerized learning device.

S: Oh? I’m not convinced of this. In your world, the word “know” means exactly those kinds of things that a computer could do. Moreover, computers are much faster and much more accurate. So why not replace the student?

What *are* the essential contributions of the student? And what can a teacher do that a teaching-testing device cannot? More generally, what can the human “community” do that advanced generation computer systems could not do?

Me: I know that you won’t let me get away with trite statements like “people can think and computers cannot.” And saying that computers will free us up for more

“leisure time” — for entertainment by computer systems — isn’t very reassuring. Still, answering your question is really quite difficult.

S: Granted. So let’s try a thought experiment. Imagine that a teaching device has been programmed to teach something about trust, care, and appreciation. It would include a variety of statements such as “trust is such and such.” Moreover, it could provide examples and alternative explanations at the student’s request. And, of course, the computer could also correct the student on his or her answers concerning these topics.

Me: Better yet, the program could also provide rewards and affirmations for proper answers, statements of encouragement for students who had difficulty, and even reprimands for poor progress, tardiness, or laziness. It could also select the emotional tone in which the statements were given to the student by analyzing the student’s voice, body language, and physiological responses for signs of stress, fatigue, enthusiasm, confusion, and other relevant emotional states. Moreover, subliminal messages could even be added to motivate the student. And in addition to such “personalized” instruction, selective randomness could be included to provide variety and originality!

Of course, all this and more would be based upon the combined knowledge of the leading experts in cognitive science and motivational psychology.

S: Fine. Let’s assume we have such a teaching device and that the performance of students on tests goes up and educational costs go down. Now, suppose I gained access to the computer and changed an output statement to “Trust is a brand of mustard that comes in a bottle.”

Me: That’s absurd.

S: I know that and you know that, but what about the “teacher”? The computer would “teach” even if I changed an output statement to read “care is a sandwich made with swiss cheese, tomato, and rye bread” or “appreciation is a spray deodorant.” And it would continue if I switched the words “love” and “hate” in every output statement. The computer would continue to “teach”.

Me: I don’t think that I would call that teaching. In fact, the original programmer would not appreciate your trick.

S: There is a trick, but who is the trickster?

Me: You are! You changed the output statement; you changed the meaning of the whole statement.

S: But the computer didn’t seem to mind. It goes right on “teaching.” So who knows there is a trick? Who knows that the computer is outputting false and even meaningless information?

Me: Well, the student should know that your alterations are absurd.

S: Wait a minute. The student is the one being evaluated. You’re avoiding the question by switching the roles of teacher and student.

Me: Then the original programmer should know!

S: In other words, you’re saying that the student must assume that knowledgeable people have programmed the computer in the first place and that they are to be trusted. So, based on these assumptions, the student is justified in accepting the computer as a teacher.

Me: Yes. These would be appropriate grounds for trust.

S: Then why not replace the student? You still haven’t answered my original question.

Me: I don’t follow you.

S: If what we’re calling “the student” doesn’t offer anything essential to the trustworthiness of the output statements, then why shouldn’t he or she be replaced by a learning device that is far faster and more accurate?

More generally, what, precisely, is it that we human beings do that can’t be done more efficiently and effectively — sooner or later — by computers? With the possible exception of our “original programmers,” aren’t the rest of us replaceable?

Don’t you see the major paradox facing your world? While you “know” that human beings are essential, you cannot say why.

Part II: Common knowledge of the second kind

I know that what the Stranger proposes sounds crazy, but I hope you appreciate my uneasiness. For when I’ve tried to counter his proposal with my own students — most of whom are very bright and know a lot about computers — they shoot down my best reasons. If you think this is ridiculous, why don’t you try it with such students? I’ll bet they’ll shoot you down too.

As it turns out, the Stranger returned a couple of days later. I’ll reconstruct our dialogue as best I can.

Me: I’m still confused and a bit distressed about replacing students with computers. I’ll grant you that I don’t “trust” computers in the sense that they probably can’t know about things like care and trust. But in engineering and business, we use computers to teach scientific and

technical facts, concepts, models, and various problem solving techniques. So, can we focus on such *objective* knowledge?

S: Certainly. What if I told you that the earth is flat?

Me: That's absurd. I'd say you must be joking.

S: Have you ever checked it out?

Me: You mean have I checked out that the earth is round? Of course not.

S: Why not? Such facts aren't obvious to me. So, are you saying that you "know" that the earth is round because everybody says it's round?

Me: I obviously mean more than that. This is factual information.

S: So, are you saying that you "know" this is a fact because you were told that it is a "fact"?

Me: I see your point. But qualified people check these things out.

S: Oh? Have you checked out these people?

Me: Well, no. But so what?

S: Let's distinguish between two very different kinds of knowledge. First, there is the knowledge you've heard from others — in particular, what others have told you are "facts." Since you rarely experience most of these facts directly, they are only "obvious" to you mostly because you've heard others say them so often. Let's call this *Common Knowledge of the First Kind*.

Me: Are you suggesting that such knowledge is "common" because it is stated so often?

S: Yes; you accept it much like a habit. Moreover, when you try to explain a particular fact, you usually relate it to other facts that you have accepted as facts. This first kind of common knowledge refers to repeated statements. If you hear them enough, they're common knowledge. A computer can easily learn and teach such knowledge — facts as well as more complex concepts, models, rule-like statements, laws, procedures, and even values.

Me: Are you criticizing this kind of knowledge?

S: Quite the contrary! Common knowledge of the first kind is absolutely essential. It allows us to share what we know, check up on each other, and remember our successes and failures. Without such knowledge, our memory — whether in our heads, libraries, or computers — would be lost. History itself would become irrelevant. Without common knowledge of the first kind, we'd still be stuck in the Stone Ages.

Me: But you mentioned another kind of knowledge.

S: Yes. What we might call *Common Knowledge of the Second Kind* is a very different kind of knowledge, for the word "common" takes on a qualitatively different meaning. Rather than being common because it is frequently stated, it is common because it is something we are "involved within" or that we "share in practice." This second kind of knowledge is not factual, it is prefactual. It cannot be known through objective analysis or memorization. It is only known through participation, involvement.

Me: How about a concrete example?

S: Take water. You and I *know* what we mean by the word "water" only because we have both been involved in it. We've both felt it, splashed around in it, and drunk it. And that's why we are able to use the word "water" together in a meaningful way. Other words like push, pull, life, see, hear, and many others only gain their meanings from practices and involvements that we both participate in.

This is also the case for the hundreds of metaphors shot through our language — for example, his ego is very "fragile," business is a "game," he "shot down" my arguments, metaphors "illuminate" our understandings. Without common involvements in such things as "games" and "turning on the light," most of our metaphors would also be meaningless.

To put it another way, a dictionary is not enough to provide meaning because words by themselves are insufficient. An "alien" dictionary would be nonsense to you because you couldn't relate these words to common practices and involvements with the authors.

Me: I can see that such common knowledge based on involvements is necessary to get a language started; it's necessary in a primitive sort of way. But we are obviously able to speak about many, many things that we don't directly experience. And we are also able to speak about many things that are not even open to direct experience.

S: Of course, but you're aware that such knowledge comes from other human beings. So, unless you believe everything you're told, why should you accept what they say as facts?

Me: Well, I suppose I'd have to trust what they say.

S: So, you're saying that your acceptance of facts as "facts" — common knowledge of the first kind — depends on trust. But if those others who make factual claims don't care about what they know and say, then you could hardly call this "objective" knowledge.

So, how do you know that these people are trustworthy? Asking them if they "care" won't help, for if they don't really care about what they say to you, then you can't trust their answer.

Me: That's what experts are for! Experts are the ones who distinguish objective knowledge from mere opinion, half-baked theories, or even deceptions.

S: Do you believe everything experts tell you?

Me: Well, no. There are at least some experts who are little more than the spokespersons for those who seek to impose their own self-serving interests on others.

S: Indeed. So how do you distinguish such "experts" from experts worthy of your trust?

Me: I obviously have to rely on others to check up on such experts.

S: Yes, but how do you know if those others really care about what the experts say?

Me: I suppose that I must trust them to care about what the experts say. But what's your point?

S: Let me explain. For every expert, there must be at least a hundred "would be" experts that didn't make it. The same is true for every theory, law, value, or principle that an expert might profess. But if such expertise is to be worthy of our trust, it must be grounded in communities that care about what is said in the name of knowledge. These communities are composed of people who share a *common* commitment to listening, thinking, examining, and talking about what is said in the name of knowledge because they care.

Me: But the members of such communities, as you call them, often differ in their opinions. They are often involved in controversies.

S: Of course. If such communities truly care about their claims, then they will not cover up their disagreements and inconsistencies. Indeed, they will be drawn to them because they care about what they say. But such communities, whether they be scientific, religious, professional, educational, and the like, must participate within a history of care, for only then are their claims worthy of trust.

Me: A history of care?

S: Yes, this is essential. Knowledge isn't a static affair; it is dynamic; it evolves, devolves, or is even forgotten over time. What therefore matters is the nature of the process by which knowledge is selected over time.

Consider two very different processes by which experts — the objective knowledge they represent — are selected. In one, the members of a particular discipline or organization primarily care about material rewards and in getting promoted. In a second, the members primarily care about what is said in the name of knowledge.

Which process selects the more "objective" infor-

mation? Which process selects the more trustworthy experts?

Me: The second one, obviously.

S: But what is the source of this second process and what sustains it?

Me: Are you claiming it is common knowledge of the second kind?

S: Precisely. But let's be sure we understand what this entails. In order to know what "caring about" itself means, you have to be involved in caring about. That is the essential feature of common knowledge of the second kind.

You recall that the meanings of words like "water" and metaphors like "business is a game" depend on our common involvements in water and in games if they are to make any sense. Meanings depend on common knowledge of the second kind — shared involvements.

Similarly, those many facts that you cannot directly experience also depend on common knowledge of the second kind to be worthy of your trust. In this case, those members of a community who "check up on" the experts must care about what is said in the name of knowledge. But — and this is the crucial point — they cannot know what it means to "care about" unless they are involved in caring about.

Me: In other words, common knowledge of the second kind — knowledge of caring about, for example — can only be known through involvements in caring about.

S: Yes. This is the source of those processes that select knowledge worthy of our trust. But also realize that such involvements in caring about must be sustained over time; there must be a history of participation in caring about if the process of selecting trustworthy knowledge isn't to degenerate.

Me: I'm not sure I understand.

S: Don't you see? If members of a group, a discipline, a firm, or a university do not actively participate in caring about, then over time rewards, promotions, punishments, and the like all too easily become the criteria for selecting "objective" knowledge. As this occurs, people increasingly do not *know* the meaning of care because they no longer participate in caring practices and involvements.

Me: This sounds like a vicious circle. If we are no longer involved in it, common knowledge of the second kind is lost. When this happens, not only are experts selected on other criteria such as expectations of rewards and punishments, but the very process of selection itself destroys the meaning of caring-about. So, trustworthy common knowledge of the first kind — facts, theories,

principles, and the like — must be selected by a process where people sustain a history of involvements in caring about.

S: That is correct. Caring about requires a history of caring about, otherwise the process of selecting knowledge itself selects out caring-about.

Me: Let's see if I have this straight. If we learn merely by accepting what the experts say, if we merely get the facts with no appreciation for the care of facts, then "truth" becomes merely what the authority figures, the experts, say it is. In effect, we accept their facts because of repetition, rewards, and intimidation. We accept their facts, not out of care and trust, but rather as a means of getting by, passing tests, getting the degree, getting the job, obtaining the income, receiving the promotion, and gaining our retirement.

S: And by accepting such a life, we do not live out a caring history!

Me: And without such caring histories, the basis for what you call "trust" is lost?

S: Yes. Experts then become "selected" through the dominant sources of power. Knowledge becomes indistinguishable from propaganda, for it gains its authority through repetition, manipulation, and power, and it serves to propagate the system threats and rewards that produced it.

Me: But if people participate in a history of caring practices, then common knowledge of the first kind is worthy of our trust. And this becomes knowledge that is repeated over and over.

S: Yes, but there is a danger in such repetition. We may become so efficient at repetition, so wrapped up in the facts, that we lose touch with the real basis for our confidence, trust, and respect which is grounded in care. That is why caring practices and involvements must be continually reaffirmed. Otherwise, we become so proficient at repetition that caring-about becomes increasingly irrelevant. Getting the "facts" becomes an end in itself. When this happens, we fail to sustain the very kind of history that calls for the respect of knowledge. Then the computer becomes the model, the ideal.

Me: Let me see if I can now answer your original question about replacing students with computers. If teaching comes to mean "presenting the facts and making sure the students get the facts," then the computer becomes the ideal teacher. And if learning comes to mean "getting the facts," then the computer also becomes the ideal student.

S: You're beginning to understand my concern, for this

problem extends beyond our "original programmers," even beyond our so-called experts. In a fundamental sense, we human beings, are *ourselves* the original programmers — individually, in groups, and in cultures.

Me: We are?

S: Yes! But this is not fully understood for, with rare exceptions, the experts act as though they are the "original programmers"; that the respect given to them is based upon the facts and abilities they themselves possess. But it is not! Such respect is only justified by the history of care by communities that has brought forth the experts and the knowledge that they express.

Me: So, an educational system that claims to be more than propaganda must draw upon and sustain a history of caring-about?

S: Precisely. Otherwise, a shift from a "carbon-based" educational system to a "silicon-based" system is indeed the "reasonable" thing to do.

In a trustworthy educational system, each student brings his or her own caring history into the classroom. This is the prefactual common knowledge of the second kind upon which understanding is based. The authentic teacher then helps students form a connection between this prefactual common knowledge and the factual knowledge that the experts state. The teacher, in short, is the caretaker of knowledge.

More important, the meaning of care itself is learned in this process.

Me: How does this occur?

S: Teachers and students participate in a process within which they care about what they say and accept. Because they are involved in caring-about, they are called to seek out — to "select" — knowledge that is worthy of trust and respect. By questioning, by thinking, they extend the care given to them as children.

Indeed, such teaching and learning should be exciting, there should be enthusiasm because people are discovering things that they really care about — namely, trust, honesty, integrity, caring-about.

Me: But I'm afraid that too often this does not occur.

S: Indeed. When the presentation and acceptance of facts and techniques become ends in themselves, then caring-about becomes irrelevant or even detrimental. As a result, common knowledge of the second kind is not nurtured. "Education" then becomes a way of manipulating minds rather than nurturing trust and caring for the good and the true.

Me: Let me try to answer your original question once again. As my world increasingly puts its "trust" in

common knowledge of the first kind, it fails to both *understand* and *act upon* a history of caring-about. As a result, you might say that the computer revolution is already over. And we human beings have lost.

S: I agree. So what is your only hope?

Me: Are you referring to the real “original programmers” — those thousands of people who really do care-about?

S: Yes, but they are also your world’s unsung heroes.

Part III: On trust

Common knowledge of the second kind known through involvement actually seems to be a matter of common sense. As a teacher I know — I ought to know — that my students learn far more when they are “involved” in what they are learning.

The Stranger returned one more time.

S: We’ve discussed why common knowledge of the first kind must be grounded in common knowledge of the second kind to be worthy of our trust. But you realize that what you “know” about common knowledge of the second kind, in turn, also depends in part on a history of selection. Those practices and involvements that you share with others have also been passed on to you from past generations.

Me: You mean such things as customs and traditions?

S: These and much more. What your world terms “culture” is an essential and very large stock of knowledge. It includes such things as stereotypes, heroes, myths, ceremonies and rituals.

Me: I don’t know much about “culture” but I understand your point. You’re saying that trustworthy common knowledge of the second kind, in turn, must also be grounded in histories of involvements.

S: Yes and no. Common knowledge of the second kind can only be known through involvements, but such involvements may or may not evoke legitimate trust.

Me: Legitimate trust? What other kind of trust is there? I don’t understand.

S: The point I’m getting at — and it is a crucial one — is that involvements are not sufficient to evoke legitimate trust. Human beings get involved in lots of things. Some are pretty bad. Think, for example, of traditions of racism, of malignant stereotypes passed on from one generation to the next.

Me: Yes, but people know these are wrong.

S: Oh? Let me rephrase my point in terms your world is fond of using. How do you know if one person’s “values” are better than another’s? How do you know if one culture’s “values” are better than another’s?

Me: I’m not sure you can know such things. Aren’t value judgments, in the last analysis, relative?

S: Are you claiming that your values, my values, and Charlie Manson’s values are equally worthy of trust?

Me: Of course not!

S: I agree. But how can you *know* this? I’m not sure you can have it both ways — values are ultimately relative yet some values are not worthy of our trust. So let’s try to establish what we mean by *trust*.

Does trust mean agreement?

Me: Well, no. Certainly not! I often disagree with those I trust. And at times I find myself agreeing with those I don’t trust.

S: Does trust mean turning over responsibility to someone else?

Me: I don’t think so. This sounds like paternalism.

S: Indeed. So, does trust itself involve some kind of moral commitment?

Me: I think so. The betrayal of trust certainly strikes me as very wrong.

S: I agree. So what if we say that trust is that kind of confidence to be open to others which you learn through revealed motivations?

Me: Did you say “revealed”?

S: Yes. Is something wrong?

Me: Well, yes there is. In my world revelation does not have much credibility. It brings to mind images of voices from Heaven.

S: In this image of yours, what do such voices say?

Me: They make pronouncements, give instructions, sayings, or other statements that are intended to define what is right and wrong.

S: You don’t place much trust in such “revelations”?

Me: No, I don’t. The opportunities for manipulation and self-deception are too great. I just don’t trust such claims.

S: I agree!

Me: I don’t understand. I thought you were making a claim for revelation?

S: I am. But do you see the trap you've fallen back into? You have described "revelation" in terms of common knowledge of the first kind — as rule-like statements, statements of values or facts that must be repeated and committed to memory. So, let's try to understand what revelation means in the context of common knowledge of the second kind.

Suppose someone claims to be honest, but only because "honesty pays." How would you respond if such a person said to you, "Trust me"?

Me: No way! How could I know I wasn't being manipulated?

S: Indeed, how could you know? Suppose someone "cares about" you only because you provide him with some sort of payoff. How would you respond if such a person said to you, "Trust me"?

Me: The same as before. Those who trust such people are too often deceived.

S: I agree. It appears that knowing a person's motivation is crucial to whether he or she is worthy of our trust. So let's make a fundamental distinction between "functional" and "revealed" motivations. Functional motivation means doing something because of expected rewards or punishments. By contrast, revealed motivation is, in a sense, its own reward. For example, trust arises from honesty that is motivated by the goodness or rightness of honest acts themselves.

Me: Are you saying that functional motivations are wrong?

S: They may or may not be wrong. They are wrong — there is a fundamental deception going on — any time such words as honesty, care, and trust are employed in the service of functional motivations. But the more important point is that something more than functional motivation is necessary if trust itself is not to become meaningless.

Me: But who is to say that my revealed motivations are any better than another's? Aren't we back to the problem of relative values?

S: Quite the contrary! I am claiming that it is only through revealed motivations that we can "know" what is good and right! You're still trapped in your world's distorted understanding of "values".

Me: How so?

S: Don't you see? What you call "values" are meaningless unless you are involved with them. Values only gain *meaning* in the context of involvements. Values out-of-context are of no value, they have no meaning. It is the contexts of involvements that are of value!

Me: But couldn't you say the same for such moral principles as the Golden Rule?

S: Yes. Such principles don't mean anything unless they are embedded in concrete relationships. Their meaning can only be revealed through involvements. And the same is true of "facts."

Me: Facts? I'm not sure I understand.

S: Facts depend upon involvements at two levels. First, basic words such as "push," "pull," and "water" have common meaning only because of shared involvements in pushing, pulling, and splashing. Without a context of involvements, factual statements using such words would have no meaning.

Second, factual statements arise from theories, models, and paradigms which we come to trust. But the meaning of trust itself must be revealed through a history of involvements.

Me: So then you're saying that the meaning of a basic word such as "water" and a moral motivation such as trust are both "revealed" through particular kinds of involvements?

S: Yes. And the lesson is that if trust is to have moral meaning, this meaning must be revealed through involvements based on something more than functional motivations.

That is the reason why such virtues as honesty, caring, and integrity are crucial. Not only do they sustain contexts of trust, but they themselves are, so to speak, their own rewards. And this is precisely the characteristic of revealed motivations.

Me: Are you saying that "values" that rest on functional motivations are wrong?

S: I am saying something more is needed. Functional motivations can never be enough. Without trust grounded in revealed motivations, all other claims from *any* discipline — whether scientific, ethical, engineering, or religious — lose the special moral claim of trust. Do you see why? Without revealed motivations, the very meaning of trust itself is lost. It becomes, instead, a functional concept. When this happens, we misplace our trust in both experts and in traditions. Then both scientific and moral expertise as well as their supporting traditions can only sustain themselves through functional motivations — the power of threat and reward. To the extent that your world — any society — increasingly speaks and acts in the contexts of functional motivations, your world increasingly undermines the contexts, hence the very *meaning*, of trust. In such a state of affairs, what you term "mere opinion" or "ethical relativism" is indeed all you have left.

Me: But I'm still not sure what you mean by revealed motivations.

S: Do you agree that we can only learn the meaning of care, honesty, and trust when they are revealed through our involvements?

Me: Yes, it is what you term the "context" of involvements that gives meaning to such words.

S: But don't you see that the acts of learning such meanings and the revelations of motivations are the same? To know the meaning of care, honesty, and trust is to be motivated to be caring, honest, and trustworthy. Learning and revelation are one and the same. Meaning and motivation are inseparable.

Me: So, a person who isn't motivated to care doesn't know what care really is?

S: Yes! If people are only involved in relationships to gain payoffs, then they are involved to "get something else." It follows that they do indeed get something other than the meaning of care, honesty, and trust. Because they don't seek the meanings, it should be no surprise that they don't find them. Meaning, revelation, and the context of involvement are inseparable.

Me: But doesn't all this lead to a neglect and possibly even a rejection of rational inquiry?

S: Definitely not! Care, honesty, and trust motivate one to be deeply concerned over shallowness, misperceptions, and deceptions, particularly self-serving deceptions. One is called to rational inquiry because one cares about what is spoken, and one therefore seeks to be honest and worthy of trust.

In short, the motivation for rational inquiry is crucial. Motivations determine the questions asked and the inquiries pursued. Over time, motivations held in common influence the theories, models, principles, laws, and values that become established as Common Knowledge of the First Kind. Therefore, the crucial question is: What motivations are needed to justify trust?

Me: You're claiming that revealed motivations are essential; functional motivations are in themselves insufficient?

S: Yes. As an example, science that is pursued as a "calling" is quite different from science that is only pursued for functional motivations such as obtaining research grants, gaining acclaim, securing promotion, and becoming a member of "the rich and famous." The methods may look the same, but over time, the latter becomes a mere instrument of power and the proclamation, "Trust us," is answered with cynicism and even despair. Motivations, not methods, make this crucial difference.

Me: I am afraid that such cynicism and despair do indeed pervade my world.

S: Yes, I've seen this, but do not think that such cynicism and despair are problems, for if *they* are defined as problems, then functional motivations will lead to "solutions" such as the use of drugs. Such cynicism and despair are honest responses to the loss of trust. They are symptoms of a more fundamental problem.

The real problems in your world stem from the nearly exclusive intellectual emphasis on Common Knowledge of the First Kind and from its institutionalized counterpart — the nearly exclusive emphasis on functional motivations. At both the intellectual and institutional levels, there must be far greater respect for acts of care, honesty, and trust. And this respect must be acted upon, not in the name of functional motivation, but in the name of care, honesty, and trust themselves.

Me: And if acting on such respect increasingly becomes the exception?

S: Then your world increasingly *knows* no other basis for judging what is right, true, and good, except through the exercise of power.

False ideals

In the exact sciences, *the false ideal of scientific detachment* is perhaps harmless, for it is in fact disregarded there by scientists. But we shall see that it exercises a destructive influence in biology, psychology and sociology, and falsifies our whole outlook far beyond the domain of science . . . We need an alternative ideal which gives attention to the *personal involvement* of the knower in all acts of understanding (Michael Polanyi, *Personal Knowledge*; emphasis added).

The "false ideal of scientific detachment" undermines the bases for comprehending the nature of the kind of knowledge that Polanyi terms "personal knowledge" or what others have called "practical knowledge" (Aristotle), "the certainty of relationships" (Peters), and "the tradition of the virtues" (MacIntyre). We have described this kind of knowledge as *Common Knowledge of the Second Kind* and have pointed out that such knowledge itself must be grounded in motivations *revealed by actual involvements* if our moral and objective knowledge themselves are to be trustworthy.

The following obstacles to understanding the nature of Common Knowledge of the Second Kind

illustrate the pervasiveness of the false *ideal of detachment*. As a direct result, our dominant understandings of both moral and objective knowledge provide almost no basis for understanding the crucial significance of such “old-fashioned” virtues as honesty, caring, and integrity. The major danger is that we are increasingly driven *by default* toward functional justifications for all decisions, for the institutionalization of this false ideal in our society erodes precisely that type of knowledge in which trustworthy moral and objective knowledge must be grounded.

Therefore, it is of supreme practical importance to uncover major obstacles to understanding the significance of Common Knowledge of the Second Kind. And it is equally crucial to recover the *reality* of Common Knowledge of the Second Kind grounded in Revealed Motivations. This is so not only in view of our society’s and world’s increasing complexities, interdependencies, and rapid pace of change, but is especially so in view of the accelerating developments of powerful new technologies.³

The detached observer

In our modern era, the very concept of “involvement” has come to mean “subjective,” “relative,” “emotional,” or a matter of “the passions.” By contrast, the ideal of the detached observer has long been assumed as essential to guard us from the very real dangers of prejudice, deception, narrow self-interest, and the lust for power.

While it is true that functional motivations can undermine trust and while it is therefore quite reasonable to guard against their influence, a crucial mistake is made when all human involvements are presumed to be functionally motivated. Detachment then becomes the “ideal” perspective for all knowledge.

The pervasiveness of this false ideal is evidenced by the fact that our students cannot say why they should not be replaced by computers, that we find ourselves living in a world overloaded with information that few trust, and that the “bottom line” for evaluating individual and corporate behavior, as well as technological success, is almost exclusively judged in terms of satisfying functional motivations. The irony is that those who are the most functionally

motivated use the language of detachment to disguise their real motivations.⁴

Thus, rather than mitigating the distorting influences of functional motivations, the impossible ideal of detachment has exacerbated such influences. The following variants of this false ideal illustrate the degree to which it has impoverished our understanding of what it means to be morally responsible human beings.

Detached ethics

Our major ethical theories themselves — utilitarian, contractarian, and deontological — essentially *detach* human intentions and actions from their social contexts. Specifically, all rest on the unsupported premise that the most “fundamental level of the human situation is an individualistic one . . . that the realm of ethics at bottom is a realm of nonsocially organized individuals.” Thus, our dominant interpretations of moral knowledge trivialize, if not simply ignore, that “aspect of the human situation that is most central for ethics” (Pincoffs, 1986, pp. 8–9).⁵

As a direct result of detaching human beings from their social contexts, such “old-fashioned” virtues as caring, honesty, and integrity are assumed to derive from more fundamental moral principles. What is ignored is that moral principles are abstractions from those social contexts in which moral principles must be concretely embedded if they are to *mean* anything.⁶

Thus, the true significance of such virtues is that they sustain precisely those kinds of social contexts — i.e., involvements with one another — which give concrete meaning to such crucial moral principles as the Golden Rule. Such principles cannot be *known* in terms of Common Knowledge of the First Kind. They can be known only through involvements which are generated and sustained by revealed motivations.

Detached values

Our modern understanding of “values” also rests on indefensible assumptions. Values are also abstractions, for they make no sense, they can have no

meaning, when they are detached from contexts of involvements. In short, values out-of-context are of no value. It is the contexts that are of value. In particular, such contexts are dynamic and are best understood as “stories.”⁷ It is precisely our involvements in stories — at the individual, corporate, and societal level — that are essential to *know* meaning. To abstract — to detach — values from context erroneously implies that we can know values only in terms of Common Knowledge of the First Kind.

What is therefore critical is the quality of those contexts themselves. We cannot know such facts as “the earth is round” without a history of involvements in caring-about, and we cannot know such values as caring-about without a history of involvements within which such values are revealed.

Detached theory

The long-standing controversies over the “hard” sciences versus the “yet-to-be-hard” social sciences versus the “soft” humanities remain mired in similar misconceptions. What is crucial and common to all these areas of knowledge is the fact that we human beings are self-interpreting creatures. Like it or not, we are necessarily and inescapably *involved within* the ways in which we interpret our world — be this in physics, political science, or literature. This “phenomenon” has profound implications.⁸

One major implication is that there can be no such thing as “value-free” science. This is because any model, theory, or even paradigm rests on a pretheoretical sense of what is problematic. In particular, embedded in every interpretation are necessary judgments as to which variables are “variables” and what facts are “facts.” Thus, implicit and explicit judgments of what is of value are inescapably presupposed by every interpretation.

The second major implication results from the fact that theories/interpretations themselves are causal factors. The ways that we interpret our own selves, one another, and our larger world necessarily have practical consequences.⁹

Thus, to detach theory from the practical world in which we live and to further detach it from the causal roles theories themselves play in our lives, is to ignore the crucial implications of the fact that we are involved within our theories.¹⁰ The practical

consequence is to further reduce our common knowledge of what it means to be a morally responsible person by trivializing the fundamental role that revealed motivations play in the processes of selecting trustworthy interpretations.

Detached method

The (social) sciences have long assumed that we human beings can (and ought to) discover law-like generalizations that hold for all times and places. In order to discover such “absolute” knowledge, we human beings must guard against generalizations that are “relative” to a particular time. Therefore, we must develop appropriate methods for discovering such timeless knowledge.

Major versions of the ideal of “detached method” include Logical Positivism, Behaviorism, and Empiricism. Variants of this ideal remain shot through the (social) sciences.¹¹ Thus, to argue that involvement over time, let alone involvement grounded in revealed motivations, are crucial “methods” for generating trustworthy knowledge borders on heresy. But those wed, fed, and bred on the dominant methodological orthodoxy cannot comprehend what the heretics are saying. This is because their understanding of “method” itself is framed in terms of Common Knowledge of the First Kind.¹²

The institutionalized counterpart of “detached method” has been variously termed “Bureaucratic Individualism” (MacIntyre), “The Tyranny of Expertise” (Hayek), “La Technique” (Ellul), and “the Rule of Nobody” or “Bureau-cracy” (Arendt). By contrast, we have argued that expertise “must be once again viewed as that form of knowledge which deals with what is general and integrative to men, a *life of common involvements*” (Wolin, 1960, p. 434; emphasis added).¹³

Relative detachment

While the ideals of the “detached” observer, “detached” theories, and “detached” method have been decisively challenged by recent philosophers and philosophers of science, this can all too easily leave us with Relativism. E.g., such and such an “interpretation” and “method” worked back then, but not

now; times have changed hence our theories and methods must change. Current variants of Relativism include so-called “contingency ethics” and the thriving areas of “deconstructionism” and “hermeneutics.”¹⁴

For some, this is presumably a good thing, for it not only “frees” (detaches) us from the Dominating Interpretations of a particular era but from the Dominating Methodologies of a particular era. In what we are to put our trust is less clear, for the major danger is that we are essentially left with no basis for judging if our “up-to-date” theories and methodologies are worthy of our trust or merely reflect current manipulations of power.

The term for such a state of affairs is Ethical Relativism. Ethical Relativism is a disaster of the first order for it essentially means that there is no basis *upon which to judge* what is right, good, and just — save power. However, Ethical Relativism is not the logical outcome of seeking ultimate moral principles, it is the logical outcome of a culture where Common Knowledge of the Second Kind grounded in revealed motivations is largely absent.

Revealed knowledge

And what is good, Phaedrus,
And what is not good —
Need we ask anyone to tell us these things?

(Plato)

Ethical Relativism is a paradox. On the one hand, it entails might-makes-right. On the other hand, this is unacceptable to us human beings.

This paradox cannot be resolved in terms of Common Knowledge of the First Kind — through asserting rule-like statements, moral principles, basic rights, or merely rearranging words and concepts. Such common tactics are grandly beside the point when such statements, principles, and words are losing their meanings.

We have argued that in order to transcend this paradox we must both understand and actively sustain that Common Knowledge of the Second Kind which is grounded in *Revealed Motivations*. This kind of knowledge is an essential form of involvement. As such, it *calls us* to be morally responsible persons in ways that cannot be reduced to functional

motivations.¹⁵ Such knowledge has three striking features.

First, there is an historical, universal, and “existential” consensus that there is such knowledge and that such knowledge is fundamental and fundamentally crucial to human beings. “Most of our fellow human beings throughout history and around the world have found, and have reported [this knowledge] to be more precious, more rewarding, more *real*, than anything else that they have encountered on earth” (Smith, 1988, p. 11; original emphasis). The evidence of this truth and the very many forms it takes have been extensively documented, for example, by Mircea Eliade (1954) and Joseph Campbell (1959–68).

Second, Revealed Knowledge cannot be expressed in terms of Common Knowledge of the First Kind. Again, there is an almost universal consensus — implicit or explicit — that such knowledge can only be *revealed* to us, in two senses. It cannot be expressed in precise words or definitions; rather, it can only be expressed elliptically through symbols, parables, and myths. And it cannot be “grasped” through objective analysis or subjective introspection. Rather, it is only revealed through “opening” oneself to such knowledge. It is therefore experienced as a “calling,” as something that “pulls” one.¹⁶

Third, there is a similar consensus as to the nature of the primary obstacle to opening ourselves to such knowledge. Revealed Knowledge necessarily eludes us when we try to “grasp” it in the sense of using it to serve functional ends. As a case in point, “Reason, rather than being recognized as above us, as something that is our duty and our privilege to serve, individually and corporately, is seen as something that serves us: an instrument to be used . . . Thus modern culture, in the phrase of Jacques Ellul, has become the striving by ever more ‘rational’ means after ever more irrational ends” (Smith, 1988, p. 12).¹⁷

In our modern culture, we are very close to losing the *meanings* of those crucial terms that connote Revealed Knowledge and that symbolize its fundamental significance — namely, such terms as sacred, mystery, the divine, truth, beauty, history, revelation, reason, value, transcendence, and trust, honesty, and care. In effect, we are literally constructing for ourselves social realities where that which is “more precious, more rewarding, and more *real*” is becom-

ing less precious, less rewarding, and, above all, less real.

By failing to transcend our paradox, we are therefore increasingly caught up in a vicious circle: functional motivations increasingly become self-justifying by eroding precisely that kind of knowledge that can only be revealed to us through common involvements over time in those “old-fashioned virtues” of caring, honesty and integrity. The necessary consequence is that both our moral and objective knowledge are increasingly not to be trusted.

Epilogue

Many of the managers and engineers . . . were more open to issues of the heart than we had expected. They reacted as though waking up, at least for a while, to truths already half-known, and many of them asked, “What can we do about it?” (Maccoby, 1976, p. 224)

In Hermann Hesse’s masterpiece, *Narcissus and Goldmund* — a literary argument which evokes what we *know* — Narcissus symbolizes Common Knowledge of the First Kind. His true friend Goldmund, for such he must be, symbolizes Common Knowledge of the Second Kind.

We cite the conclusion . . .

Deeply shaken, Narcissus listened to his words. He had to bend close to his friend’s lips to be able to understand what they were saying. Some words he heard only indistinctly; others he heard clearly, but their meaning escaped him.

And now the sick man opened his eyes again and looked for a long while into his friend’s face. He said farewell with his eyes. And with a sudden movement, as though he were trying to shake his head, he whispered: “But how will you die when your time comes, Narcissus, since you have no mother? Without a mother, one cannot love. Without a mother, one cannot die.”

What he murmured after that could not be understood. Those last two days Narcissus sat by his bed day and night, watching his life ebb away. Goldmund’s last words burned like fire in his heart.

We do not need “ethical experts” to *tell us* these things. We must be the real experts. *Knowing* that

this is so is the central moral problem of our modern era.

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Notes

¹ “Our paradox” — as it will be developed below — is the most virulent kind: Ethical Relativism. Our basic argument is that this disastrous state of affairs results from the increasing institutionalization of an “instrumental” rationality in our modern culture. Or, to use Aristotle’s key distinctions, it results as *techne* (technical know-how) increasingly dominates *phronesis* (ethical know-how, wisdom, practical knowledge).

To borrow a phrase from Joseph Weizenbaum’s *Computer Power and Human Reason: From Judgment to Calculation* (1976), “We can count, but we are rapidly forgetting how to say what is worth counting and why.” Thus, in a world where “calculation” dominates judgment, our paradox is that while we “know” that human beings are essential, we cannot say why.

² Major portions of the following dialogue come from an unpublished manuscript by David Bella, “On the Obsolescence of Students, Teachers, and Other Human Beings,” *Oregon State University Honors Program* (March 1985).

³ See King (1989) for the strategic significance of trust given “complex, tightly coupled” systems and “emergent” technologies.

⁴ See MacIntyre (1981): “For it follows from my whole argument that the realm of managerial expertise is one in which what purport to be objectively-grounded claims function in fact as expressions of arbitrary, but disguised, will and preference” (p. 107). Also, see Mitchell and Scott (1987) for an empirical and theoretical critique of Managerialism’s claim to special “expertise.”

⁵ May (1987) offers a similar critique in the context of the moral responsibility of groups in general and corporations in particular.

⁶ See MacIntyre (1981) for an extended and crucial argument that “every moral philosophy has some particular sociology as its counterpart” (p. 225).

⁷ In MacIntyre's words: "A central thesis then begins to emerge: man is in his actions and practices, as well as in his fictions, essentially a story-telling animal . . . Hence there is no way to give us an understanding of any society, including our own, except through [its] stock of stories . . ."

The reason that stories or the narrative mode of understanding are so crucial is that when we participate in them, we "know" where we are, where we are headed, and how to get from here to there. It is difficult to imagine contexts that are of greater value than these.

⁸ This "phenomenon" is the core insight upon which Phenomenology criticizes "Objectivist" and "Naturalist" ways of interpreting our human realities. For an extensive elaboration and critique, see Bernstein (1976), "Part II: The Phenomenological Alternative."

⁹ See Daniel Goleman's *Vital Lies, Simple Truths* for one of the most readable introductions to these issues. His quote from R. D. Laing is one way of summing up the issue: "The range of what we think and do is limited by what we fail to notice. And because we fail to notice that we fail to notice there is little we can do to change until we notice how failing to notice shapes our thoughts and deeds."

¹⁰ See Bernstein (1976) pp. 167–169, "The Theorist as Disinterested Observer: A Critique." Geertz (1973) identifies the larger problem: we have no "empirical science of symbolic behavior" or "sociology of meaning," despite the fact that human beings operate primarily in worlds of symbolic intentions and behaviors.

As a direct result, the crucial issue of meaning-involvements within our theories themselves has either been largely ignored (mainstream social science) or attributed to functionalist motivations (Freudian and Marxist interpretations). In either case, "detached theory" is assumed to be the ideal.

¹¹ These are properly termed "isms," for they rest on key assumptions posing as axiomatic truths. McCloskey (1983) offers one of the better critiques of Methodological Orthodoxy in economics in particular and in (social) science in general. See Bernstein (1976, 1983) for one of the best analyses.

¹² Kuhn's (1962) acclaimed analysis of the phenomenon of Scientific Orthodoxy was itself viewed as heresy by many when first published. See Brenner et al. (1978) and Mulkay (1979) for the growing recognition of the significance of the *social contexts* of method and the *social contexts* of scientific theories, respectively. With respect to specific professions, see Kuttner (1985) on the Orthodoxy in economics and Bella (1987) in engineering.

¹³ Wolin's distinction between political "science" and political "know-how" parallels Tom Peters' distinction between detached, ivory-tower "management" and hands-on, management-by-wandering-around "leadership." Wolin's (1972) further argument that political know-how cannot be reduced to a set of rule-like statements is a position shared by a number of critiques. In "artificial intelligence" circles,

this type of knowledge is at the crux of the so-called Common Sense problem. It is also essentially similar to what Michael Polanyi terms "tacit knowledge." We term it Common Knowledge of the Second Kind.

¹⁴ Crudely put, both deconstructionism and hermeneutics pursue with a vengeance the fact that all our knowledge is necessarily interpretive — e.g., models, theories, paradigms; metaphors, parables, ideologies. Among the best critiques of the limitations of "hermeneutics" itself are Bernstein (1976; 1983), Dreyfus (1980; 1983), and Wartenberg (1984).

¹⁵ In his classic work, Martin Buber (1920) defines two types of involvements. "I–It" corresponds to functional involvements and "I–Thou" corresponds to involvements through which revealed motivations arise.

¹⁶ As a notable case in point, Plato insisted that such knowledge could not be put in words and instead chose parables to express "conceptions which for him are plainly the most certain and most momentous" (Lovejoy). And he insisted that if one were not already open to such knowledge, then there was no way one could apprehend it.

A number of very recent, acclaimed works concern this very phenomenon — for example, "The Parable of the Sadhu," *Harvard Business Review* (September/October, 1983), Pirsig's *Zen and the Art of Motorcycle Maintenance*, Carse's *Finite and Infinite Games*, Castaneda's *The Power of Silence*, and Viktor Frankl's *Man's Search for Meaning*. See Campbell (1988) for an explicit, highly readable, and trustworthy treatment of Revealed Knowledge.

¹⁷ As an example, Bella et al. (1988a) argue that major technological controversies such as nuclear waste disposal stem from a breakdown of trust and are therefore not likely to be resolved through the mere collection of more facts. Rather, *the lack of trust itself* must be addressed and this requires *altering the social contexts* through which "facts" arise (Bella et al., 1988b).

These are not esoteric concerns. In this particular case, they involve the transformation of our world with consequences that could last for at least hundreds of years. See King's (1989) section on "Normal Accidents" for other examples with the potential for disastrous consequences in the very near term.

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