Reason's Personal and Public Roles in Meeting Snow's Challenge

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Abstract

This paper explores the challenge laid down in C.P. Snow's *The Two Cultures and A Second Look*. The work is not only or even primarily a discussion of intellectual culture wars. Rather it is concerned with ameliorating the human condition, and thus with an enterprise of ethics. This discussion seeks to draw out Snow's explicit ethical challenge of bettering the human lot through finding a form of intellectual culture that can take full advantage of the second scientific revolution and its attendant new industrial revolution. The paper argues, however, that the ameliorative challenge will not be met in yet another contending form of intellectual culture. After giving an account of how Snow understands intellectual culture, I argue that ethical ends will not be guaranteed by any such further fashion of reasoning.

Snow overlooked a crucial part of the workings of reason. This is a dimension of reason's culture that is found in the formation and maintenance of a coherent experiential base underlying articulate, evidence-providing forms of reasoning. This phenomenological understory of reasoning is arguably the basis of creative judgment bringing together a holistic sense of the inquirer's circumstances necessary to all inquiry. Further, the paper's explorations suggest why the integrative or reintegrative formation of this experiential basis will always involve an ethical dimension. That much granted, the paper then proceeds to identify conditions under which the ethical dimension of an inquirer's experience will suit it to join with the experiential base of other inquirers so as to lead to a common sense of what society might defensibly undertake to better the human lot. The vagaries of an ethical commons so constructed will not assure success, but do show a path along which society might strive. In conclusion, the character and point of this striving are related to the pursuit of wisdom and to the maintenance of intellectual and experiential pluralism. These pursuits, I suggest, are the real challenge Snow left.

Introduction

C.P. Snow left quite a challenge; one he was not at all sure could be met. The question is whether humans might individually reach a degree of integration such that they are able to participate meaningfully in both the culture of science and that of which modern literature is emblematic? Can inquirers take up, to some life changing degree, the findings of science and the modernist (or even postmodernist) leanings of recent and contemporary literature? Can they take up (and use) realist and empiricist inquiries into the physical existence of which humans are a part and in which they find their way forward in progress, whilst embracing literature that treats us with "…ahistoricity: [and offers up a] static view of the human condition (meaning by this mainly what [Snow has] called the social condition)"? (See Snow, 1964, p. 95.) But even more, the challenge is to put this integrated intellectual culture to work for the amelioration of the human condition. Assuming inquirers can sort out the defensible from the indefensible uses of science, can they move forward to employ it? In 1963 Snow did not believe humans were yet ready:

> Escaping the dangers of applied science is one thing. Doing the simple and manifest good which applied science has put in our power is another, more difficult, more demanding of human qualities, and in the long run far more enriching to us all. It will

> need energy, self-knowledge, and new skills. It will need new perceptions into both closed and open politics. (1964, p. 99)

Apparently, Snow thought education adequate to the task, but only for some.

> With good fortune, however, we can educate a large proportion of our better minds so that they are not ignorant of imaginative experience, both in the arts and in science, nor ignorant either of the endowments of applied science, of the remediable suffering of most of their fellow humans, and of the responsibilities which, once they are seen, cannot be denied. (1964, p. 100)

Thus, apparently, the project is one of directing or channeling human goodness. And Snow seems to have felt that perhaps there are enough with that endowment.

> If we are not members one of another, if we have no sympathy at this elemental level, then we have no human concern at all, and any pretense of a higher kind of sympathy is a mockery. Fortunately most of us are not so affectless as that. (1964, p. 85)

This is challenge, then: to inform, to shape the intellect of many so as to create a culture in which people are ready to use science for the good of all at least so far as to provide basic needs. In this work literature or more generally the arts and humanities, or simply sensibility, cannot be forgotten. They are present, will abide, and do inform the thought and feeling of many. But it seems that the cultures of science and that of technology are to be integrated or amalgamated with the social sciences, and the resulting third culture of progressive action is to be brought to an intellectual peace with the culture of sensibility; a peace deep enough that self-control and concern for others will take society forward into a better future.

Today public cynicism would dismiss such a project as mere sentimentalism. But for its time, a challenge such as Snow's was not surprising. When he gave his Rede lecture (1959) the world, perhaps more clearly than now, appeared divided in dangerous and difficult ways. The threat was personal and palpable, made clearly visible by deadly and widely available nuclear technology. Other thinkers recently had expressed hopes similar to those of Snow. For example, not too many years earlier the Nobel laureate Bergson called for human amelioration in *Creative Evolution* and in *The Two Sources of Morality and Religion*. (See Bergson, 2005 and 1935.) At the time of Snow's lecture, Lord Russell's social program, one with aspirations not greatly different from those of Snow, was articulated with attention to strategies of realization. (See,

Russell, 1954.) The recent past played out on the killing fields of Europe and Pacific islands made Snow's audience receptive. The present world politics motivated attention to his words. And the audience's interest in the institutional framework offering hope, namely education, made a natural opening for Snow's worries and suggestions.

What are we to say now of Snow's challenge? With Snow, I wonder whether anything like what he called for is possible, and if so, then how should we try to prepare the ground for it? Putting aside present day cynicism, I will assume that indeed there is a responsibility for those able to act in ways calculated to ameliorate the human condition. Within this space, then, I want to make several points. These will suggest both how Snow's challenge is really other than and more difficult than he thought.

"That is what a culture means."

First we should note that Snow's challenge is a cultural one. Indeed, the concept pivotal to the problem as he cast it is that of what I will call reason's culture. Of course, Snow did not speak so generically of *reason's culture*. Nevertheless he was clearly alert both to the commonalities to be found between science and the traditional culture, as he called it. And a reliance on reason is one such shared trait. Further, Snow was hypersensitive to the differences between the generic features of reason differentiating science and technology from each other and from the culture of sensibility. Also, Snow was ready to imagine the emergence of a third culture(s) of reasoned action within the general frame of reason. The third culture seems to involve what would be understood as the empirically based and quantitatively driven social sciences. (See pp. 69-72 of Snow, 1964.) Researchers in the fields of social history, sociology, psychology and economics, to mention some of those that Snow did, supposedly have the potential of being conversant with both science and sensibility, but in terms amenable to argument and evidence. Thus Snow seemed to recognize some broader framework of reason embracing science, technology and sensibility, and he seemed to hope that the realization of a third culture both could mitigate if not end the science and sensibility culture wars, even as it addresses the social problems attached to these conflicts.

However, while Snow did presuppose a broad *culture of reason*, he located the source of the culture wars in the differences of more particular modes of inquiry within that broad frame. Science and technology were not on speaking terms with sensibility because they had differing field related rules of reason making their cultures only species of the generic culture of reason.

Putting science and technology at odds with sensibility in this way had two consequences: first, it led him to put his faith for a better future of humankind in what is really just another dimension of his problem, third cultures tied to the social sciences; and second, he thereby turned away from what offers understanding and real remediation of the problems he challenged people to address—it takes them away from making adjustments to the way they personally approach and experience the social world and thus away from the human concern needed for the amelioration of the human condition. Thus to see where Snow went astray from understanding adequate to the challenge he left, three dimensions of human inquiry are important: 1) the general culture of reason; 2) the reasoned cultures of particular fields of inquiry within this general culture; and, 3) the personal experiential or phenomenological basis of inquiry in any such field. Let me explain.

1) Generally speaking, the culture of reason is the shared *modus operandi* of all reasoned inquiry in which, for example, the powers of imaginative attention to self, others, world, the future, or the past, all are constrained by norms and practices of observation and interpretation, history or tradition, aspiration and feeling, and in which thought is conducted in cogent forms of coherent integration, deduction, induction and abduction. This culture is to be contrasted with that of the culture of unreason or of caprice, prejudice and the aggressive assertion of power or cunning in the pursuit of momentary interest. *The culture of reason is a general framework of normatively constrained thought and feeling within which individuals approach commonly understood problems from shared epistemic perspectives, through attendant sensitivities, expressing in doing so shared forms of self-control in thought and feeling exercised in accord with mutually recognized standards of respect and order.* It is the commonly shared constraints of logic and deference that allow people to meet, communicate and otherwise interact in real mutual respect. Were there to be no culture of reason humans could not come together in conversation, dialogue, dialectic, shared reflection, deliberation, planning, assessing, revising, or any others of the myriad forms of engagement involving feeling and thought at work as they interpret, come to understand and invest with significance the circumstances in which they find themselves.

2) Still, in the Rede lecture, Snow did not examine the workings and limitations of this larger shared culture. He was interested only in some congregations of particular and differing forms that reason's culture takes in various fields of inquiry. Snow paid heed only to what I

would call the public face of the culture of reason which is its instantiation in one or another form such as microbiology or existential psychotherapy, each replete with its own norms of inference, categories, paradigms of proper observation and interpretation, and its own preferred forms of analyzing and addressing particular problems of inquiry within its orbit. He was interested in particular manifestations of the culture of reason known publicly through professional or popularizing literature by the forms of their outward life in justificatory or argumentative exchanges between practitioners. Snow pointed to species of these varying forms or styles practiced within the larger culture of reason rather than to the common under-structure shared across these fields. It was the differences in reasoning evident in science and technology on the one hand and sensibility on the other that occasioned culture wars that prevented people from using the second scientific revolution to fully and effectively address human problems.

3) But caution is needed here. There is more to the generic and particular forms of reason's culture than meets the public eye, more than their different paradigms of inquiry and modes of justifying their claims. There is also something beyond the work in molecular biology as it is publicly known and practiced through its logic, or work in existential psychotherapy as understood by observing this or that therapist plying her conceptual trade. The practice of these various forms of disciplined attention is not made of just so many constraints upon inference, though that is part of what forms and distinguishes them. As well, there is an understory of personal understanding, a general grasp of one's circumstances, expressed in a kind of silent, indeed pre-conscious, life-narrative that the inquirer plays out, modifies, and replays continuously and which gives a sense of both location in the work of the field in question and of the significance of that location with respect to the worker's own personal engagement in the life of the field. This narrative is a sensuous experiential journal, log and progress report, a kind of black box trip-recorder of the inquirer's encounters with her or his circumstances. This narrative individuates inquirers then, even as it embeds them in the world and thus anchors or makes their own the views they articulate.

Watson and Crick knew not only the logic of what their problem was—identifying the biochemical structure of DNA and substantiating their model with physical evidence. Thus they knew the need for crystallography to confirm their sense of the double helix structure of DNA. They also knew the forms of X-Ray confirmation they must seek, and where to obtain these shadowy images. As it turned out they needed the help of competitors, Maurice Wilkins and

Rosalind Franklin, individuals who by this work for Watson and Crick would come to have some claim to having discovered that molecular structure. Thus they knew, so to speak, where they were in the orbit of the relevant fields of inquiry. And they knew the need to confirm the physical plausibility of the direction of their insight. But this knowledge was charged with feelings, value assessments, and investments surrounding the pursuit of their overall goal, the need to depend upon competitors in the same problem area, a desire to scoop Linus Pauling their highest status competitor, and so on. Thus they knew both the location and significance of their place in the field with respect to their research. They had a sense of where they were, where they were going and what to attend to given the status of their research as it grew close to completion. This intuitive, experiential sense of their professional locale and its significance was an expression in part of their beliefs, attitudes, values, background knowledge—personal and not, and their imagined vision of what future actions and outcomes flowed naturally from that present situation. It comprised the personal phenomenological base of their research work even as the patterns of their evidence collecting and reasoning from this evidence comprised the public basis and face of their research. Their field dependent sets of inferential constraints and the phenomenological base of their presence in the situation just before Pauling was to publish his (flawed) DNA structure paper were the particular and personal instantiation of professional culture for Watson and Crick in their circumstances. They were united in their scientific culture with other scientists like Pauling and Franklin, even as they were separated in their particular experiences as well as the personal valuations and intentions these delivered to their attention in the situation. (See Watson, 2001.) As Snow said speaking more generally of the rich and the poor among scientists:

> In their working, and in much of their emotional life, their attitudes are closer to other scientists than to non-scientists who in religion or politics or class have the same labels as themselves. If I were to risk a piece of shorthand, I should say that naturally they had the future in their bones.
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> …Without thinking about it, they respond alike. That is what a culture

means. (Snow, 1964, p. 10)

Thus roughly speaking, there are two dimensions to the epistemic whole that is inquiry. We can see the process of inquiry, generally, as a progression of activity through these two: the phenomenological base is perturbed; the holistic grasp of the sense of things the inquirer had is

broken, it is disintegrated—an anomaly has been noted, an action interrupted, a prediction failed; the agent of inquiry seeks reintegration and aims for an adaptive grasp or sense of things. The adaptation might lead to an adjustment of the person's life narrative to reintegrate the inquirer's sense of the circumstances. Later this reintegrated view of things might form the experiential basis of the articulation of a new belief, intended action, or value commitment, or it might lead to a reaffirmation of former ones. Or it might not: if someone bumps another in the subway apologies might be exchanged without thinking and life goes on—unless later the absence of one's wallet is noticed. Regardless, all the work of reintegration of one's sense of things might be done prior to articulation, indeed prior to deliberate reflection at all. Such reintegration is fully pre-conscious. Thus, as the story goes, Watson and Crick were put on the right path by seeing that Pauling had made an error in working out his model of DNA. This, and the viewing of their competitor's (Rosalind Franklin's) X-Ray crystallography images led Watson to where he could sort through possible models of the DNA molecule until he discovered that the double helix had to be the right form.. This sorting and building of a physical model was a crucial part of what enabled the articulation and defense of the account that Watson and Crick brought to the public in the journal *Nature*. But the moments of discovery, from the first hints in seeing Pauling's mistake, through to the viewing of Franklin's images and then the re-integrative grasp of the situation in working the physical models, comprised the other crucial part. It was *both* the dynamic of the pre-conscious reintegration of their sense of the molecular structure of DNA *and* that of Watson's subsequent building of the physical model and the pair's articles presenting the fully articulate claims and justifications for their view that constituted Watson and Crick's successful inquiry into the structure of DNA. And as is made clear in this case, there is not a simple progression from reintegration through articulation to public support of fully articulated claims or plans of action. (See Watson, 2001.)

Real inquiry moves in a halting fashion through much iteration of reintegration, articulation and assertion supported with evidence. The various movements of reintegration and warranting reasoning are typically linked in a variety of cognitive feedback loops, which strengthen or weaken the connections that are forming. The whole process is the work of reason's culture in inquiry generally and can be found at play in Watson's memoir. (See, 2001.) It is evident in the progression of the debate between Einstein and the quantum theorists over entanglement. (See Aczel, 2001.) And it is clear, for example, in Stephen Toulmin's account of

the slow progress of *Human Understanding* as it evolves through scientific responses to experienced anomalies. (See Toulmin, 1972.) In fact this dual dynamic story of inquiry is generalizable from science to sensibility and to creative thought at large. (See passim, Csikszentmihalyi, 1996; Bohm, 1996; Maturana and Varela, 1998; Hurd, 2005; Willard, 1983; and Gallese and Lakoff, 2005 to mention only some of the relevant literature.)

The Emphasis on the Public: Authentic Inquiry in a Post-Industrial World

The face of inquiry that the public sees in all of this is the published written or spoken representation of the researchers' sense of what he or she did and what the inquiry finds. It is this alone that the texts and other accounts of inquiry can convey. Indeed, since reintegration rests in singular instances of inquiry, only the logical or formal dimension of inquiry would be general enough to offer up as an account of inquiry. However, the public character of the space of interpersonal understanding necessarily cuts others off from the experiential sense of discovery of the world in the inquirer's life narrative. Others are prevented from sharing the inquirers' doubts and exhilarations, the felt quality of the mutual opening of the world and the mind of the inquirer.

Analysts compound this lack of experience of the inquirer's moments of discovery. Since inquiry must be reflected upon after the fact of discovery in reintegration, the operations most often noted are the rationalizations of claims about what has been discovered or confirmed or not disconfirmed. These operations are described in terms of the research's most general, most fully articulated and most public aspects such as the background of previously articulated, defended and accepted knowledge claims, the theory of the field, and its research paradigm as well as the logic of the defenses of the inquirer's claims. Usually for the general public, these are only sketched in popular articles or textbooks. But even when published for professionals in more complete form, what is never explored and reported is the most personal aspect of the development and work—that found in the dynamics of the remaking of the personal phenomenological base. Yet this base and its reintegration really are the creative backbone of the thought process that is the inquiry.

It is within the sphere of this pre-conscious work that the researcher can rehearse and review in imagination possibilities for understanding and managing the problems of the research program. (See especially Hurd, 2005 and Bohm, 1996 on creativity.) This work of imagination combines with prior commitments the inquirer has made to constraints on granting plausibility to

a claim. And, all of this works with the inquirer's striving for the reestablishment of a coherent take on her or his circumstances and their significance. A creative judgment emerges against this background settling the disturbance to one's sense of things, registering the inquirer's reintegration of an experiential base and offering anchorage for articulated claims about the world. In this process, the important works of integration and reintegration of beliefs, assessments and value investments make whole the preconscious basis of the research and its fit with other aspects of the researcher's life.[1]

Analysts of inquiry tend to leave unattended or even unrecognized this work of integration and reintegration transpiring in the dark preconscious, not as though it is hard to discern—which it is, but as though it never was—as though inquiry in science and sensibility are forms of behavior conducted fully and merely as the articulate, inferentially justificatory work reported in professional journals. Analysts like Snow, continue to give away the personal pre-conscious, reintegrative grasp of a world lying at the base of discovery. Yet this base is what embeds the inquirer in the world studied and makes the inquiry one *of* a world of which the inquirer is a part. Missing this, analysts turn attention to the generation of an abstraction from the world; one articulated as a logically supported representation of a world from which inquirers are viewed as apart. Inquirers trade their place in the world, realized through inquiry, for a place outside or beside the world given in theory. The real becomes the true rather than what the truth is of. Reality becomes text, rather than that of which the text speaks. (For one discussion of this see Abram, 1996.)

Now, of course the work of integration is never done. It is never completed. It always bleeds over from one inquiry to several others. It is the work of creating a web of intellectually leading tendencies, attitudes and emotions—a culture which, as Snow said, allows inquirers to respond in patterned ways, "without thinking about it," that is without conscious deliberation or reflection. The work of reintegration in inquiry is the source, realization, and expression of the culture of science or sensibility in practice. Thus, regardless of its amoeboid progression, this

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[1] Of course the researcher in science might seek to segregate her or his work for example from political and religious values and beliefs. He might affirm something like what Galileo told the Church he accepted: his scientific work provided astronomy while the work of the Roman Catholic Church provided theology and training in how to live—and never the twain need conflict. (See, Galileo, Letter to Grand Duchess Christina; in Galileo, 1957.) It is a cliché that science does not make weaponry or war, politicians do. This is the same attitude. Further, literature or the culture of sensibility is no exception in this regard. Some scholars of the sensibilities will profess a separation of their work from their life in the voting booth or in their family. But often their students, or family, like Galileo's Church, demur.

work of creative reintegration makes possible a basis of experience which the inquirer's reflective attention highlights and articulates into hypotheses, into a particular research design, into the justification of the claims of inquiry, in short, into the public work of inquiry.

Serious, that is, *authentic* inquiry could neither proceed nor be vouched for, without *taking up* and rehearsing as real, at least for the nonce, some of the possibilities being considered in treating a given problem. Thus inquiry proceeds not only by the thinker exploring possibilities in terms of the evidence that might be formally marshaled, but more important to authenticity, by integrating and reintegrating the various possibilities into her or his operant phenomenological base. If a fit arises that the inquirer is comfortable with, given her or his personal understanding of the field's canonical knowledge, and other factors, then the possible reintegration might be accepted. If not, then perhaps not. Some would say that this moment of selection at the critical and creative point in inquiry is undetermined, a quantum leap of thought and commitment to belief or action. (See Swartz and Begley, 2002, and Stapp, 1993.) Others would favor a deterministic account of the reintegration. Here is not the place to contest that issue. Regardless of whether the selection is determined, the inquirer furthers inquiry through review and rearrangement of the phenomenological base, anchoring the inquiry's resolution in her or his sense of things underlying cognitive and valuational preferences; that is underlying her or his ways of paying attention in belief, assessment and action as inquiry brings forth a world. (See, for example, Maturana and Varela, 1998.) Without such an anchor, the inquirer's words would be only that. John Locke's parrot may as well have produced them.

Assertions of the results of research, or claims about its methods are dependent upon the researcher's phenomenological base for their personal authority as serious claims made within the research community. Without that personal authority, assertions of the results of inquiry can have no public authority as credible or legitimate. Public authority does not come merely by virtue of being expressed in claims that bear a logical relation with the expression of some evidentiary claims. Authority is a *feature of inquirers* just as legitimacy is. Some would disagree saying only that authority for making a claim rests in the possibility of *someone* gaining evidence for the claim or in the world being such as to back the claim. Perhaps the sort of evidence needed to be justified *in assigning full authority* to an inquirer might rest on that inquirer (in some sense) being able to gain evidence supporting the claim in question (presumably while proceeding according to the standards of the appropriate disciplines or

approaches). But *the inquirer will never really gain that authority* without responding to a disturbance of belief, value or action by appropriately reintegrating her or his sense of what she or he has confronted. An inquirer disengaged or else still in a state of confusion in his sense of things can hardly be said to have any personal authority for the claims he would make. And without that personal authority the claims of that confused inquirer would lack public authority or legitimacy. The point is nicely illustrated in a statement made by Linus Pauling during an interview by Kevin Rathunde for Mihaly Csikszentmihalyi's book *Creativity, Flow and the Psychology of Discovery and Invention*:

> I have a picture, a sort of general theory of the universe in my mind that I've built up over the decades [if you will a life narrative of the scientist I have been]. If I read an article, or hear someone give a seminar talk, or in some other way get some piece of information about science that I hadn't had before, I ask myself, "How does that fit into my picture of the universe?" and if it doesn't fit, I ask, "Why doesn't it fit in?" (Csikszentmihalyi, 118)

Clearly this "fitting in" should it come about, will rest always and fundamentally in a pre-conscious reintegration of Pauling's sense of the world, not in some articulate conscious and logical proceeding in which Pauling deliberately engages, and not in the archives of such proceedings.

Thus inquiry has a public dynamic of conscious, articulate inference based on commonly agreed upon evidence, gathered and interpreted in standard ways. Also, it has a personal, hidden dynamic of reintegrative expansion of one's holistic pre-conscious, pre-articulate, and intuitive understanding gained as an inquirer.[2] In speaking of the clash of cultures, Snow focused upon the dynamic of inference and seems to have ignored the dynamic of creative reintegration. This is not surprising. Justification still is thought to be separate from discovery and discovery thought of as so dark as to be irrelevant to accounts of the operation of rational intellectual cultures. In this frame of reference, clashes of intellectual culture seem to be characterized fully by the incongruities of their outward logical or procedural forms, not their expressions in the inquirer's personal sense of things, or, in different forms of living as registered in differing phenomenological bases. Snow's emphasis was on the public dynamic and this seems mistaken.

Snow's Challenge, Snow's Error

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[2] This is an understanding of our circumstances and of what evolving developments or virtualities these circumstances are a part.

The mistake is clear in Snow's express hope that human society might meet his challenge through a third culture(s). Snow suggested that only thinking in the quantitative social sciences might take full advantage of the scientific/industrial revolution and ameliorate the human condition. Perhaps this was because such sciences objectified and thus reduced or truncated the human agent beyond recognition. Indeed, humans so regarded could be seen as bio-physical or other such scientifically approachable things open to manipulation in ways that might bring them into better alignment with each other and the world. Perhaps, for example through advertising or, as Rupert Murdoch supposedly has suggested, through amusement, people can be brought to green their lives and reduce their carbon footprint. Or perhaps genetic modifications can yield future generations free of some of the terrible diseases that have plagued children and adults for millennia. (See McKibben, 2005.) However promising, such emerging third cultures will sweep away the human capable of morality or of responsibility—the very being whose recalcitrance Snow sought to redress.

The social sciences Snow enlisted for his purposes of amelioration do seem to promise a silver lining to this cloud of reducing away responsible and ethical humans to machines. However, contrary to this outcome, human beings do seem to have the capacities to appreciate and respond to the conditions of others in trouble. If they do not, then what is all the fuss about? And they find these capacities not in the logics or protocols of their disciplines, but in their engagements with others, engagements that are ultimately personal, founded in their sense of things and in the significance they assign to things. These engagements are the elements of human relationship that allow us to respect, empathize, sympathize, or identify, "one with another." Entering into such relationships is what brings others into a person's life in so far as these encounters create an attention grabbing "disturbance" and lead to a reintegration of the person's sense of things that involves recognition of the other. The other, in this way, becomes someone of human concern. The real hope to meet Snow's challenge seems to lie not in the public patterns of thought that distinguish sciences from each other, from technologies, or from the various arts and humanities. Rather it lies in the felt connections of respect, empathy, sympathy or identity expressing the reintegrated sense of the agent's circumstances in so far as they register and embrace the presence of the other.

Snow thought to repair the gap between intellectual cultures as the means to ameliorate the human condition. And the repair kit was to be another set of intellectual cultures

characterized at the level of their logical form and their justificatory demands. These share with the cultures of science an underlying phenomenological base that objectifies humans. But this approach to the interface of human need with the second scientific/industrial revolution mistook the creation of additional public forms of reason's culture for the needed (ramifying) expansion of the personal human understory of that culture. It is that expansion and the further development of the art of responding alike as "members one of another" that will make the difference in seeing and meeting responsibilities in society. What is needed is not any specific additional, variant of objectifying intellectual culture. After all, there are many such viewpoints and attendant technologies that will take society into the future. Rather what a better future cannot do without is a culture of human connection linking each with every other and with the ecological framework needed for life. Nothing will take society sustainably into the future without humans coming to act on behalf of such connections and coming to do so "without thinking about it." Snow simply assumed such a culture of care and separated it off from that of reason. This was his mistake.

Snow's error emerged naturally enough from thinking of reason's culture in terms typically modern. The culture of reason was seen as manifest in individuals, not in social relations. For Snow it would be particular scientists or literati like himself who realize the culture of reason in their practice. And these persons would be decent enough to respond to human need. But these public practices of inquiry are cases of people responding "alike" "without thinking about it" automatically and differentially across cultural forms in conflict or at war. Thus really they remove one from another, not connect one to another. (See Snow, 1964, p. 10.) The cultures of science along with social science, stand opposed to those of sensibility, the former being objectifying, the latter treating humans holistically and as both responsible and caring. Reason's culture understood as Snow did is thus part of the problem not part of the solution. Of course technical know-how and scientific knowledge (including social scientific knowledge) as well as knowledge within the arts and humanities will help the benefactors of humanity sort out the practical working details of their schemes and policies. But this will neither necessarily engage anyone in realizing the needed changes, nor lead anyone to care as "members one of another." More science, especially if it conceptually undermines the very sort of connectivity needed for amelioration will not help. The bonding Snow sought is not possible on this view of congregating humans. The culture of reason is made real, expressed, and

empowered in *social life and engagements* by virtue of humans having a phenomenological base of felt thought *common* enough on critical matters of value and aspiration to link autonomous agents in communities of concern, and *open* enough in the endorsements it affords with respect to others so as to accept a wide range of mutually beneficial personal forms and styles of living.

The Difficulty of Meeting the Challenge

Viewed in this light, Snow's challenge takes a new turn. His suggestion that education can transform "some of our better minds" now becomes a question about what form of education could possibly take humans us into Snow's future. *For now the challenge is one of I. engendering the capacity to use in imagination the arts, sciences, humanities, technologies, the grasp of scale and sorts of human misery to be dealt with, and II. developing in these persons the phenomenological base adequate to appreciate these troubles, and to exercise the needed sensitivity so as to create a reintegrative vision of the future adequate to remedying the source of the troubles.* That is quite a task. Education has not yet devised any reliable ways to bring along the better minds among our students so as to even give them the knowledge of the inferential canons of various intellectual cultures. Nor has it come close to understanding let alone devising a reliable means to engage students in the work, not just the logical trappings of these cultures. In short, there is no reason to associate (1) knowledge of human problems and of (2) how to address them—if ways there are, with (3) the caring and wisdom and good judgment adequate to address these problems reasonably through their operation in the reintegration of the phenomenological base of agents.

These are three continuing tasks. Their precise character and demands change as social conditions, popular culture and substitutes for learning of the needed sorts morph at ever-increasing rates—in fact, just as Snow predicted they would. Humans further fog the path they travel to meet these needs of education as they change the significance they assign to possible futures and to the styles they favor for pursuing these futures. Furthermore, the modernist trend has settled upon many societies along with an arguably bankrupt distrust in human community and individual freedom as a means to needed social change and improvement. Expressing these trends, modern public education commonly rejects teaching even a comparative examination of moralities and treats as totally out of the question undertaking any program of character development. In this atmosphere the educative tasks associated with 1) and 2) are difficult enough.

Those associated with 3) are of a different order altogether. In care, wisdom and judgment each, lurks an invitation to unclarity, and difference between persons and their ethos. This perhaps (no doubt along with population increases, special interest governments, and the complicated nature of populous societies looking to the public sector for protection and enablement) generates diffidence toward leaving people to the devices of their own character and insight. This in turn challenges the personal moral authority of persons. Such challenges escalate into challenges of social capital and throw the future into the hands of state agencies. But reliance upon the state to ensure ameliorative trends through policy left to science, technology and social science alone are no answer to this crisis of faith in personal concern and insight. Education needs to rise to the occasion in a way taking agents beyond new rules whose failure (like that of the failure of new wars to ensure the peace) leads to yet more new rules (and to more war). The third task of education must be taken seriously if we are to meet Snow's challenge and that is, indeed, a different sort of task. Caring, wisdom, and good judgment seem to call for educative means that are manners of instilling traits and of nurturing art in the presence of which a better future can unfold, rather than tactics for conveying information and developing skills in the presence of which informed and well-trained humans can induce or control the appearance of a better future.

From Achievement toward Striving

Thus, Snow's ameliorative future is one requiring comfort with a culture of reason that is for any one at any time only partially clear, and is continuously evolving within the basic individual and collective renderings of one's personal situation and its significance. Humans must become comfortable with and rise to the challenges of a culture of reason fraught with dangers, promising at best to keep open a future of further work toward decent, fulfilling lives with material justice for all. Snow's challenge was one of accomplishment it seems. In the end all reason's culture really offers is striving; striving that is informed and self-controlled within limits of hope for a future such as Snow sought and caution directed toward ensuring that striving is sustainable. But that is not so bad. Indeed, it is all any living beings such as humans are, might hope for—a life of striving for peace and harmony within an evolving general culture of reason.

This striving will take the form of seeking both individually and collectively a reintegration of one's sense of things that is adequate to the ethical task humans can envision

together. The integration will not (on all counts) be merely what *individuals* can affect and sustain as they construct their life's narrative. Rather the integration will be at the level of a network of interrelationships within which as many communities with differing inferentialist canons as gain purchase can flourish. And it will be an expansive community that will provide dialogical and even agency space within an arena as large as possible and as large as is consistent with other communities having full opportunity to gain the same. Here, the imagination runs to a situation of flourishing diversity of intellectual endeavors with compatible or conflicting inferential canons but also convergent if not common phenomenological bases of inquiry and decision. Indeed, such intellectual pluralism will need to be accompanied by an even greater individual and collective richness and convergence of phenomenological bases anchoring the logical patterns of inquiry of that variety of endeavors. Simon Blackburn has captured an important part of the spirit of such an ethic:

> As well as coherence, there are maturity, imagination, sympathy, and culture. An immature, unimaginative, unsympathetic, and uncultivated ethic might be quite coherent, in the way that the Decalogue is quite coherent. But the people who embody the attitudes it commends will not be particularly admirable.
>
> …What we need to do is to make our responses mature, imaginative, cultured, sympathetic, and coherent, and we can accept what help we can from people who have thought more deeply about human life—people who have climbed further up the mountain. Persons on different mountains need not perturb us, except as it were politically, unless they can show that they are where we ought to be. But to show that they must do some ethics, and we in turn will be using our values as we respond to theirs. We stand on our own feet, and our feet are human feet. This is how it is, and how it must be. (Blackburn, 2000, p. 310)

There cannot be a phenomenological base of felt thought without an organized take on the circumstances in which inquirers find themselves. In part, this means that inquirers will have to find the significance of those circumstances in their life personally, and will have to shape their public practice of reason's culture in accord with their reintegration of a place in those circumstances. Actions and beliefs do not come labeled good, bad or indifferent, right, wrong or permitted. That seems to be a matter of what humans can make of them with the assistance of the background knowledge and thought processes of the particular cultures of reason in which

they place themselves in so far as this placement is anchored in an acceptable reintegration of a sense of their lives and their world.[3]

Thus inquiry's organization of the world is always partial, and cast in terms of the saliencies found expressing the self and communities of inquirers. Engagement with the world in inquiry is always in part ethical. Further, these saliencies need to be accessible to all lest some will be isolated and have no place in which to practice their culture and ethic. And so, saliencies need to be something inquirers can share across the divides of those cultures. Inquirer and other need to bring forth a sense of the world open to others within limits that practice will specify. This is a needed constraint making the integrative creation of each such varying phenomenological base open and indeed complementary to a very inclusive culture of ethical thought. The spirit of ethics available for Snow's challenge is, then, that of striving to integrate our lives individually and collectively so as to sustain self and others in their various undertakings, to the extent we can. But this is only a striving.

Conclusion: Wisdom, Pluralism and Snow's Challenge

Wisdom, the prize of this striving, is well worth having. But it is impossible to recognize from afar, since wisdom is a feature of certain on-going organizations of engagements within a webwork of those mutually granted inherent ethical significance. Wisdom is the dynamic of sustainable engagements between those who are mutual stakeholders in both the pursuits in question and in a sustainable openness to the saliencies of those who are not. It is openness to others and the intellectually respectful interactions between oneself and another. If there is no conflict between the different points of wisdom so framed, then the pluralism of inferentialist canons and phenomenological bases anchoring them is not contentious. (See Hugh Lacey, 2005, for a related point with respect to strategies of scientific theory making, and the personal and social impacts of using these strategies.) If there is, the conflict needs to be worked through. And perhaps in that process inquirers will change or simply agree to defer to or avoid the other. In either case refusing to grant authority to the wisdom of another striving within a form of reason's culture having the features just outlined, seems indefensible, a begging of the question against the legitimacy of Snow's challenge. Pluralism of inferentialist canon and of phenomenological base allowing for wisdom arguably seems to be a condition of improving the

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[3] There also are complementarities in which the shaping and use of the logical form of an inquirer's work complement the reintegration of the phenomenological base of that inquirer. This is not the place to expand beyond the above brief remarks on complementarities running from reintegration to logical form.

human lot. Striving within and for such a pluralistic world perhaps is the real end of Snow's challenge. Without this, inquiry surely will fail to find inclusive and effective means for suiting science and sensibility to human need through individual and collective creativity

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