

EPISTEMIC DEPENDENCE AND AUTONOMY IN JUSTIFICATION:
THE CASE FOR INTELLECTUAL AUTONOMY IN SCHOOLS

by

MURRAY ROSS

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Department of Educational Studies

The University of British Columbia
Vancouver, Canada

Date August 22, 1994

ABSTRACT

In this thesis I outline a conception of intellectual autonomy, and defend it against arguments that question the value of intellectual autonomy as an educational goal. Beyond offering a view of intellectual autonomy that is free of the defects found in other conceptions, I assess the rationality of belief on testimony, and consider the impact that externalist theories of epistemic justification might have on arguments such as mine that defend autonomy in justification. I argue that belief on testimony is more rational than is typically allowed, and that intellectual autonomy cannot be justified solely in terms of the conditions necessary for knowledge or justification. I argue instead that intellectual autonomy is best conceived as an epistemic virtue, and best fostered by introducing students to practices of epistemic justification, in classroom environments characterized by a commitment to open dialogue and debate.

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INTRODUCTION

Virtually every educational jurisdiction in North America professes a commitment to fostering rational, independent thought in the young. This commitment includes, in the language I have chosen to employ, a commitment to fostering intellectual autonomy. Given much traditional school practice, however, and the influence of misguided bodies of educational theory and research, the expectation that this commitment will soon bear fruit is little more than a pious hope. It is not my intention to offer a comprehensive descriptive account of public schooling's failure to foster intellectual autonomy. It is rather to clarify first the nature of intellectual autonomy and the problem that confronts educators who are interested in pursuing this goal. Following this it is also my aim to offer suggestions for the direction future research might take in establishing the empirical relations between schooling practices and the development of independent rational thought. My discussion will, in the main, be conceptual and philosophical, though it will rely on empirical studies for the purpose of illustrating problems and problem situations. The central problem that confronts those committed to fostering autonomy is not only one of determining the most fruitful conception of autonomy, but also one of redressing the pernicious influence of *acute epistemic dependence*. I will argue that one cannot appreciate the value of intellectual autonomy without appreciating the undesirability of acute epistemic dependence.

In general terms the problem of acute epistemic dependence is as Dewey expressed it nearly eighty years ago.

Men still want the crutch of dogma, of beliefs fixed by authority, to relieve them of the trouble of thinking and the responsibility of directing their activity by thought. They tend to confine their own thinking to a consideration of which among the rival systems of dogma they will accept. Hence the schools are better adapted, as John Stuart Mill said, to make disciples than inquirers.¹

I am not concerned with the question of whether or not in a given case it is rational to base one's beliefs on the authoritative testimony of others, for in many cases it would be foolish to do otherwise. I want to consider the more general question of whether the neglect of evidential reasoning in schools is a wise policy. A habitual reliance on authorities in the fixing of

belief may well leave individuals unfit to decide for themselves what they ought to believe.² Insofar as schools foster such a reliance they are indeed better adapted to developing in students the heteronomous condition of the disciple than the condition of critical autonomy we recognize in those who can think for themselves.

In this sentiment Dewey echoed Kant's 1784 remarks in *What is Enlightenment?*, but with an important difference. While Kant also believed that human beings too often depend upon "the crutch of dogma", and fix their beliefs on the basis of appeals to authority, he did not take this state of affairs to be due to a wholly 'natural' human disposition to be lazy. Rather the latent tendency toward laziness in grounding belief was, in Kant's view, a rather small part of the overall phenomenon of heteronomy. Laziness of the sort in which Kant was interested is a product of *the social relations* between intellectual authorities and those they seek to instruct.

In *What is Enlightenment?* Kant sets out the dichotomy between autonomy and heteronomy and argues that it is heteronomy, not the absence of reason, that accounts for a significant category of intellectual immaturity. This is the basic distinction that I will employ in my discussion of autonomy. While there can be considerable philosophical disagreement over the exact meaning of autonomy or heteronomy, especially in their relation to rationality, it is uncontroversial, I think, to hold that there is a clear and coherent distinction to be made between what it is to hold one's beliefs on the basis of authority and what it is to hold them on the basis of good reasons. There is also a clear distinction to be made between *persons* who habitually defer to authorities in their thinking, and persons who endeavor to weigh evidence, assess arguments, and justify the beliefs they hold. The latter are "appropriately moved by reasons", while the former are not. The former are in a state of *acute epistemic dependence*; the latter in a state that disposes its members toward the pursuit of what Kant called *enlightenment*. My aim in this thesis is to point the way to a conceptualization of both autonomy and immaturity that makes plain the danger of heteronomous modes of thought, and coercive classroom practices, while illustrating the desirability of enlightenment in Kant's sense of the term.

Kant locates *autonomy* within an interlocking network of concepts such as *enlightenment*, *immaturity*, *heteronomy* and *tutelage*. Significantly, the discussion of autonomy

in *What is Enlightenment?* is framed within pedagogical metaphors that stress several dangers inherent in situations characterized by teaching and learning.

Enlightenment is man's release from his self-incurred tutelage. Tutelage is man's inability to make use of his understanding without direction from another. Self-incurred is this tutelage when its cause lies not in lack of reason but in lack of resolution and courage to use it without direction from another.... Laziness and cowardice are the reasons why so great a portion of mankind, after nature has long since discharged them from external direction, nevertheless remains under lifelong tutelage, and why it is so easy for others to set themselves up as their guardians. It is so easy not to be of age. If I have a book which understands for me, a pastor who has a conscience for me, a physician who decides my diet, and so forth, I need not trouble myself.³

There are a variety of important considerations worth examining here. One is the claim that a significant portion of mankind remains immature though 'nature has long since discharged them from external direction'. The reason Kant gives for this sort of immaturity is 'laziness and cowardice', not as one might expect, the inability of the immature to reason competently. Kant here is concerned about the *suppression* of rationality and the formation of heteronomous habits over pre-existing rational capacities. While it may be granted that this remark of Kant's is an empirical claim that may or may not have been true in Kant's day, let alone in our own, the interesting conceptual point is that the absence of certain intellectual virtues incapacitates those who would otherwise be capable of reasoning adequately. It also hints that there may be coercive or otherwise threatening circumstances that lead persons to fear the consequences of thinking for oneself.

Immobilized by either fear or laziness the immature lead lives of self-incurred tutelage and remain dependent on others to do their thinking for them. It is a condition, says Kant with some irony, that is introduced and maintained by self appointed "guardians" who have "so kindly assumed superintendence" over the immature. This immaturity is self-incurred insofar as it is due to a failure of the will to resist superintendence, but it is imposed in the sense it is the product of a misguided paternalism. The way out of this state of immaturity, in Kant's view, is to begin to think for oneself, a task that is only possible under conditions of freedom. "Indeed if only freedom is granted, enlightenment is almost sure to follow." The argument is simple: to be able to think critically one must be free in certain important respects. The links between autonomy and

freedom, heteronomy and authority postulated by Kant raise a question of educational significance. What is 'natural' in the immaturity of the young and to what degree is immaturity a product of educational practices that give authority too large a place in the life of the school?

Michel Foucault and Jurgen Habermas, in their respective ways, also stress the necessity of certain types of freedom in the development and exercise of intellectual autonomy. Both have attempted to expose the mystifying influence of power and coercion in human affairs, though Habermas has done more to outline how we can rid ourselves of coercive communicative practices.⁴ Foucault holds a view of immaturity consistent with Kant's: namely that "immaturity is a certain state of our will that makes us accept someone else's authority to lead us in areas where the use of reason is called for."⁵ Foucault's interest in immaturity is very much related to his work on the coercive effects of what he calls *normalization*, and the undue influence intellectual authority may enjoy in a *regime of truth*. Foucault has elaborated his notion of *discipline* in an effort to demonstrate the operation of a new modality of power that is exercised over individuals simply by comparing them against sets of norms. I will use Foucault's work to argue that disciplinary practices based on research-based norms of effective teaching can, in principle, be used to maintain immaturity and docility in both students and teachers. For this reason I will argue that these practices and the research from which they have been developed ought to be viewed with suspicion by educators interested in fostering intellectual autonomy.

The imperfections that a Foucauldian analysis may reveal, can, I think, be traced to conceptions of teaching, motivation, and learning, that fail to conceive of students in appropriately teleological terms, and thus simultaneously fail to emphasize the role of reasons in thought and action. In place of an emphasis on reasons, educational research and theory has too frequently encouraged teachers to adopt quasi-causal models of human behavior that do little to highlight the moral and epistemological hazards of neglecting the role of reasons in the constitution of belief.

Habermas' work on communication and rationality makes it possible to distinguish between communicative acts that aim at understanding (*communicative action*) and those that aim at dominance (*strategic action*). In light of this distinction my purpose is to argue that too

many of the communicative ventures of teachers are characteristically strategic, though superficially at least they may appear to be communicative or otherwise benign. Insofar as the speech acts of teachers tend to be more strategic than communicative in the Habermasian sense they do little to introduce students to the standards of rational discourse, and may well perpetuate the practices of distorted communication. I will argue further that Habermas' conception of the ideal speech situation, free of coercive elements, is a regulative ideal by which we can judge teachers' communicative ventures and begin to construct an ideal model of classrooms and schools as uncoerced communities.

In addition to these concerns there is one final consideration. This inquiry is also motivated by a concern that the prospects for fostering autonomy will not be improved by currently influential conceptions of thinking and its relation to knowledge. I have in mind here the view of thinking that posits a sharp dichotomy between thinking and knowing. The assumption of a dichotomous relation between the two may encourage teachers to view the acquisition of knowledge as an educational objective distinct and perhaps even subordinate to the development of thinking abilities and skills. This way of conceiving of knowledge and thinking tends in my view to obscure the epistemic requirements that ought to inform teaching practice. Without clear and frequent access to these requirements that guide and define the rational formation of belief, students must have fewer opportunities to develop the dispositions and abilities that are constitutive of intellectual autonomy.

The following four questions are to be the main considerations I want to entertain in this thesis.

- 1) How should we interpret the notion of intellectual autonomy in the context of considering educational goals?
- 2) As an educational goal, how is intellectual autonomy similar to and different from critical thinking?
- 3) What is the relationship between the goal of developing intellectual autonomy and that of acquiring knowledge?
- 4) What educational arrangements are inconsistent or incompatible with the goal of intellectual

autonomy? What criteria can serve to help us pick out educational arrangements that are compatible with intellectual autonomy?

Briefly, in summary, the answer to these questions is this. The development of intellectual autonomy requires educational arrangements, in some respects free of compulsion, that give students access to the epistemic standards necessary for intelligent thought and action. The richest repository of these standards is to be found in what Popper has termed *the third world of knowledge*. Hence there is a direct relationship between developing intellectual autonomy and acquiring knowledge. The term intellectual autonomy stands roughly for the ability to think for oneself, where ability is understood to include the inclination to do so. In this it is nearly identical to critical thinking. My reason for employing intellectual autonomy rather than the more familiar critical thinking is that I wish to emphasize the dangers of basing one's judgments on authority. In particular I want to stress the pernicious influence of pedagogical practices that directly or implicitly offer authority as the ground for belief. In this sense my argument is an essay in the ethics of belief, and *a fortiori* in the ethics of teaching propositional knowledge.

The argument will also turn on the question of whether freedom in some form is a necessary condition of the development of rational autonomy. I will say that it is. I will describe several trends in education that threaten autonomy, either by imposing heteronomy on teachers, or by maintaining it in children. And I will sketch a model of classroom practice that promises to do more to preserve and extend the autonomy of students and teachers in schools than present arrangements. Along the way I will need to contend with recent arguments that suggest that the value of intellectual autonomy is overrated and misplaced.⁶ On this view the modern tradition of epistemic individualism that runs from Kant, Mill and Locke through to the present day is little more than a romantic dream that bears scant resemblance to what in fact competent thinkers actually do when deliberating about what to believe. Epistemic justification, it would appear, is not an individual, but a social phenomenon, built largely on a trust of cognitive authorities. It is argued that a more acceptable view of justification than the classical and highly individualist one is one that admits that trust in cognitive authorities is the basis of most well founded belief. I will deal with this argument by admitting the social element of epistemic justification, while denying

that a conception of epistemic justification based on appeals to authority is satisfactory for educational purposes. My discussion of epistemic justification is also meant to engage the well-known early arguments of R. F. Dearden that warn us of the dangers of abandoning the ideal of a liberal education in our pursuit of a chimerical autonomy for students. In the view of intellectual autonomy that I am espousing Dearden's earliest objections to child-centred construals of autonomy must be beside the point. This is so because on my view a liberal education that properly initiates students into the several traditions of inquiry is the primary means by which autonomy ought to be developed. Dearden's more recent views,⁷ while close to those being advanced here, do not insist on the social nature of deliberation and inquiry as I will do.

¹John Dewey, *Democracy and Education* (New York: Macmillan, 1916), 339.

²Not all reliance on authorities is unreasonable, of course. The point of distinguishing between acute epistemic dependence and less troublesome forms of epistemic dependence is precisely to get at the problems associated with basing one's form of life on thoughtless acceptance of the testimony of others.

³Immanuel Kant, "What is Enlightenment?," in *Foundations of the Metaphysics of Morals*, trans. Lewis White Beck (New York: Liberal Arts Press, 1959), 85.

⁴Michel Foucault, "What is Enlightenment," in *The Foucault Reader* ed. Paul Rabinow (New York: Pantheon, 1984); Jurgen Habermas, *The Theory of Communicative Action*, 2 volumes (New York: Beacon Press, 1984).

⁵Foucault, "What is Enlightenment?," p. 34.

⁶See for example John Hardwig, "Epistemic Dependence," *Journal of Philosophy* 82, no. 7 (1985): 335–349; Stephen Stich & Richard Nisbett, "Justification and the Psychology of Human Reasoning," *Philosophy of Science* 47 (1980): 188–202; W. H. Walsh, "Knowledge in its Social Setting," *Mind* 80, 319 (1971): 321–336; Alvin Goldman, "Epistemic Paternalism," *The Journal of Philosophy* 88, no. 3 (1991): 113–131; "Foundations of Social Epistemics," *Synthese* 73 (1987): 109–144.

⁷R. F. Dearden, "Freedom and the Development of Autonomy: A Reply to Victor Quinn," *Journal of Philosophy of Education*, 18, no. 2 (1984): 271–273; R. F. Dearden ed. "Autonomy and Intellectual Education," *Theory and Practice in Education* (London: Routledge and Kegan Paul, 1984), 110–122; R. F. Dearden ed. "Education and the Ethics of Belief," *Theory and Practice in Education* London: Routledge and Kegan Paul, 1984). 97–109.

CHAPTER ONE

INTELLECTUAL AUTONOMY

Intellectual autonomy and the means by which its development is impeded is the central theme of this thesis. In this chapter I intend to outline what is generally taken to be the nature and value of intellectual autonomy, and consider the prospects for fostering intellectual autonomy in today's schools. There are several accounts of autonomy that capture what I have in mind, but for the most part it is Kant's discussion of intellectual autonomy in *What is Enlightenment?* that will be the foundation of my account.

In the simplest of terms autonomy means self government. In political philosophy self rule is roughly equivalent to sovereignty and freedom from external interference. Political autonomy is thus largely conceived in terms of negative freedom. Personal autonomy is another matter. While the issue of sovereignty remains a part of the concept of personal autonomy, the notion of external interference is only one aspect of a very complex term. We can see this in the following two definitions. Wolff's definition, for example, does emphasize negative freedom from interference ("The autonomous man insofar as he is autonomous is not subject to the will of another"¹), while Telfer's emphasizes freedom from emotional dependency ("An autonomous agent must not have to depend on others for being told what he is to think or do."²) Both examples refer to the subjugation of sovereign will, but in the latter the threat of domination is internal, the product of a weak will. There is also the hint that autonomy consists not only in freedom from one's weaknesses, but freedom to think for oneself. It is not perfectly obvious what link there might be between the negative freedom associated with sovereignty, and the positive freedom to think for oneself. One of my tasks in this thesis is to elucidate what I take this relation to be. What sort of freedom is necessary to safeguard the freedom to think for oneself? Another of my tasks is to explain why the freedom to think for oneself is a freedom worth having. It is not obvious that thinking for oneself is a wiser policy than depending on others who may know better than you what it is reasonable to believe.

What we might call epistemic individualism is a common theme in philosophical writing. Scanlon's remarks are typical of the sentiment that one should think for oneself.

The autonomous person cannot accept without independent consideration the judgment of others as to what he should do. If he relies on the judgment of others, he must be prepared to advance independent reasons for thinking their judgment likely to be correct.³

Scanlon here underlines what he sees as the close relation between independence of mind and the rational formation of belief. This context (of judging the acceptability of testimony) is very close to the context in which students find themselves. Students are told what to believe (as it were), and, in a special sense, they have a choice in what they will believe.⁴ They may accept what their teachers tell them, or they may refuse to believe their teachers. They may suspend judgement, or they may feign acceptance to avoid trouble, and replace genuine belief with what Scheffler calls “behavioural manifestations of belief”.⁵ When it comes to the question of intellectual autonomy, it makes a difference on what basis students come to accept what they are told. To the extent persons simply accept what they are told, they are not autonomous, on Scanlon’s view. Indeed on most accounts a person is said to be lacking in intellectual autonomy when he blindly follows peer pressure, tradition, or fads. And yet one could act in conformity with peer pressure without acting on the basis of peer pressure, and thus be autonomous still. On the other hand impulsive rebelliousness against tradition or parental authority hardly counts as autonomy either. This is so because there is something about the *quality* of one’s deliberations that distinguishes the autonomous person from the non-autonomous. In most accounts autonomous deliberation is distinguished by its reliance on impersonal, objective standards of thought or action. The compulsive gambler or the drug addict is governed more by his desires than by such standards, and is therefore a paradigm example of someone who lacks autonomy.

INTELLECTUAL AUTONOMY AND FREEDOM

Stanley Benn has made a number of useful distinctions regarding the relationship between autonomy, freedom and self-rule.⁶ On his view freedom is an extremely complex concept, whose structure involves relations between other concepts such as “authority,” “rights,” “will,” “autonomy,” “self-realization,” and “personhood.” The ideally free person, he says, satisfies three conditions, one of which is autonomy. The other two are the capacity for free agency, and the capacity for freedom of action. Benn terms the capacity for free agency “autarchy”, and means by this “the ability to make decisions in light of reasons and to act on them.”⁷ Typical among the

defects that militate against the development of autarchy are varieties of impulsiveness. One may be governed by “inner-impulsions” brought on by paranoia, kleptomania or other neurotic disorders. Or one may be governed by “other-impulsions”, what Benn terms “heterarchy”. Heterarchy is a condition of submissiveness or suggestibility due, in the case of children, to a blind trust in adults, especially familiar adults. Heterarchy in adults is more often due to a weakness of the will, or the domineering force of another’s will. Autarchy is not the same as autonomy, however. While autarchy is a feature of many mature adults, autonomy is an ideal that few, if any people, actually instantiate. At best autonomy can be approximated to various degrees at different times in the lives of some, but not necessarily all people. It consists in the use of one’s autarchy, that is, in basing one’s decisions about what to believe or do on a coherent set of reasons that one has critically examined and made one’s own. There are two ways of falling short of this ideal. The first is to act “on impulse or on whim, not because [one] is inner impelled or compulsive, but because [one] acknowledges nothing as a reason for doing otherwise.”⁸ Persons who act on impulse due to an utter lack of reasonableness are, in Benn’s terminology, anomic persons. Such persons have the capacity “to grasp a more considered way of living but have simply never learned how to do it or to value anything which living by *nomos* could offer in return for the postponement of gratification.”⁹

The last condition enjoyed by the ideally free person is freedom of action. Benn construes freedom of action as the absence of unwarranted external interference by another. Examples of external interference include, obviously, physical force and threats of violence, as well as less obvious forms of interference such as the manipulation of one’s beliefs. To the extent one acts so as to escape harm, or where one’s actions are the product of willful manipulation by another this condition of freedom is absent. In the chapters to follow one of my aims will be to show that as a result of common teaching practices children stand a risk of emerging from school in a state of heterarchy insufficiently diminished in degree from the state they were in upon first entering school. Of greatest concern is that students might emerge from school *anomic* persons, that is, as students who have the capacity for intelligent and critical reflection, but who for reasons much to do with school practice have simply never learned how to think for themselves or to value the sort

of life available to those who are intellectually autonomous. I will argue that autarchy is a worthwhile educational goal because of the epistemic benefits associated with thinking for oneself. I won't employ this term however since 'autonomy' is the more familiar term. The context of my discussion should make clear whether the intended sense refers to the ideal of autonomy or the ability to make decisions in the light of reasons.

EPISTEMIC DEPENDENCE

What remains unclear is how to specify the criteria that distinguish rational acceptance from naive or unquestioning acceptance. To put the question more precisely what distinguishes epistemic independence from epistemic dependence, and to what extent is the former more rational than the latter? This is the problem taken up in Kant's *What is Enlightenment?*, and the problem that will be the focus of this thesis: What, exactly, is the proper relation between authority and intellectual autonomy in the constitution of belief, and what bearing should the answer to this question have on pedagogical practice? My thesis, therefore, is simultaneously an essay in the ethics of belief and the ethics of *communicating* belief. It centres on questions of epistemic justification, and takes epistemic dependence as its main problem.¹⁰

Enlightenment, for Kant, was a "way out" or "exit" from the sort of immaturity found in people unable to think for themselves. Immaturity, on this view, is characterized by the disposition to let others do our thinking for us, and to let ourselves be ruled by judgments other than our own. Kant puts the matter this way:

Laziness and cowardice are the reasons why so great a portion of mankind, after nature has long since discharged them from external direction, nevertheless remains under lifelong tutelage, and why it is so easy for others to set themselves up as their guardians. It is so easy not to be of age. If I have a book which understands for me, a pastor who has a conscience for me, a physician who decides my diet, and so forth, I need not trouble myself. I need not think, if I can only pay—others will readily undertake the irksome work for me.¹¹

When a book stands in place of our understanding, or a priest in the place of our conscience we are not autonomous, but heteronomous and ruled externally. Autonomy, then, is a condition where one has the ability and the inclination to reason for oneself. Immaturity, on the other hand, is a condition of self-incurred tutelage, self-incurred because "its cause lies not in lack

of reason but in lack of courage and resolution to use it without direction from another...”¹² Foucault interprets immaturity in Kant’s argument to mean “a certain state of our will that makes us accept someone else’s authority to lead us in areas *where the use of reason is called for*.”¹³ (emphasis added) This refinement is an important one since some have taken Kant to be prohibiting *any* reliance on authorities.¹⁴ I take Foucault’s point to be that there are circumstances in which a reliance on authorities is reasonable and times when it is not. Immaturity and the state of heteronomy consist in the *chronic* failure to think for ourselves when circumstances require that we do. It would be a mistake however to suppose the responsibility for heteronomy rests solely with the immature. The initial condition of the immature is used as a pretext for others “to set themselves up as their guardians.”¹⁵ Kant rhetorically adds that once these guardians “have so kindly assumed superintendence over them” the immature are transformed into domestic cattle too fearful and unaccustomed to autonomy to be able to “take a single step without the harness of the cart to which they are tethered.”¹⁶ Nonetheless, Kant maintains that if people are encouraged to take the first step, even the most domesticated can, after a few stumbling attempts, learn to cope on their own. These remarks suggest that the most significant obstacles to the development of maturity and autonomy may be conditions that limit their exercise. Further, they suggest that educators have a responsibility to avoid inhibiting students’ free use of reason, or creating in their classrooms conditions of intellectual servitude. In what seems to be a piece of uncharacteristically romantic excess Kant suggests that the main condition necessary to overcome immaturity and gain enlightenment is a condition of *freedom*. Since immaturity is due to a combination of laziness and timidity on the one hand and the willingness of authorities to maintain individuals in states of dependence, the way out of immaturity, then, is not simply a matter of deciding to think for oneself, it is also a matter of participating in a milieu characterized by freedom from interference in the use of one’s capacity for reason.

The matter of determining the appropriate relation between authority and intellectual autonomy in the constitution of belief is not as simple as it may at first appear. Appeals to authority are based on a trusting of authorities to know what they are talking about. This sort of trust has bothered a great many philosophers. Standard logic texts, for example, identify

arguments from authority as fallacious, though they vary in their description of the circumstances under which appeals to authority are problematic.¹⁷ Locke, perhaps, puts this point stronger than most, insisting that *no* appeal to authority has any logical force. Locke's term for this fallacy, *argumentum ad verecundiam*, stresses that it is excessive modesty or shame (*verecundia*) that leads individuals to doubt their own opinions and defer to those of authorities.¹⁸ Interpreters of Locke, such as Hamblin, note that Locke is not warning us simply against bogus or irrelevant authorities.¹⁹ He is reminding us that any authority, no matter how competent, may be wrong. Moreover, even if these authorities are right, those who depend upon them cannot be said to understand what it is they profess to believe on the basis of authority.²⁰ When we base our beliefs on authorities, says Locke, our understanding is incomplete and of little use to us. We can't be said to know that which we don't understand, and we can no more "know by other Men's understandings" than we can "rationally hope to see with other Men's Eyes."²¹ When our beliefs are taken on trust, it is "opiniatrety" we possess, not knowledge: "Floating other Men's Opinions... makes us not one jot the more knowing."²²

Mill's view is similar to Locke's, except that Mill was more worried about the undesirable influence authoritarian personalities and strictures might have on public debate.²³ Those who have "no knowledge whatever of the grounds of the opinion, and could not make a tenable defense of it against the most superficial objections" are, says Mill, a danger to the traditions of rational inquiry.²⁴ Mill is anxious that authoritarian personalities may come to stifle genuine debate by means of their characteristic tendency to reject out of hand any beliefs that are inconsistent with received opinion. This tendency makes it difficult for the received view to be rejected wisely and easier for it to be rejected rashly. In a well known passage from *On Liberty* Mill outlines the chief difficulty with restrictions on debate. Each time an opinion is "compelled to silence" we lose the opportunity to discover a hitherto unknown truth, or portion thereof, that might emerge from "the collision of adverse opinions." Moreover, if well established beliefs are not allowed to be "vigorously and earnestly contested" they will, says Mill, be "held in the manner of a prejudice, with little comprehension or feeling of [their] rational grounds." Held in this way beliefs tend to become "mere formal professions", "deprived of [their] vital effect on the character and conduct."

As a consequence they are in danger of being lost or enfeebled.²⁵

The Lockean view of *argumentum ad verecundiam*, according to Schmitt, amounts to a rejection of the possibility that there could be knowledge based on testimony, since the idea of knowledge on testimony “entails that the subject must forego the source’s reason for the belief, whether that reason be understood as a set of beliefs,...or an experience.”²⁶ The upshot of Locke’s view is that there is no way a layperson can be justified on expert testimony. One enormous difficulty with this view is that it appears that the courts’ reliance on the testimony of either eye-witnesses or experts is, at best, weakly justified, or at worst, not justified at all. A growing number of philosophers have, in the last decade, begun to acknowledge the rationality of belief on testimony, and have argued that not only are appeals to authority justified, they are representative of what is *ideal* in the constitution of justified belief. According to this perspective the philosopher’s traditional distrust of appeals to authority is nothing more than a hopelessly romantic sort of epistemic individualism whose deficiencies should be obvious to anyone who has bothered to observe how people actually justify their beliefs. It is simply a fact that our most successful forms of justification are based on appeals to authority. Given the complex division of cognitive labour in the modern world we should not want it any other way. A tolerably high degree of reliability in the pronouncements furnished by experts is ensured by an elaborate system of cognitive checks and balances within institutions and professions. Admission requirements to higher levels of education or to membership in professional associations, the conventions governing the acceptance of books or articles for publication, forms of peer review and sanction, laws with respect to perjury and expert witnesses in courts of law are all devised to ensure satisfactory levels of reliable testimony. The most advanced scientific experiments today are carried out by international teams of researchers who have neither the time nor the expertise to confirm the claims of their colleagues on which they all depend.²⁷ No one person is in an epistemically most favoured position. Most of the time, then, we find ourselves in a position of epistemic dependence with respect to the testimony of others and, it is claimed, there is no reason to be worried about this. The alternative is a sort of epistemic autism that no one could seriously endorse. To the extent the view outlined above is correct there doesn’t seem to be any compelling

consequentialist reason for promoting intellectual autonomy.²⁸

So what exactly is objectionable about the sort of intellectual immaturity identified by Kant? To say such immaturity leaves us like children, or like oxen tethered to a yoke is not a particularly informative objection since it is not perfectly clear why, on purely epistemic grounds, immaturity of this sort is such a terrible thing. I want to concede that in many contexts accepting the testimony of others is a sensible policy. It is my contention, however, that a general policy of deferring to others, even *bona fide* cognitive authorities, is not a suitable policy for *education*, for the simple reason that educationally relevant epistemic goals are not best served by socializing students to accept the testimony of others. I have in mind four epistemic goals that, when taken together, combine into the single aim of filling out one's system of beliefs with as many true beliefs as possible.²⁹

- 1) The goal of acquiring true beliefs
- 2) The goal of deleting false beliefs
- 3) The goal of abstaining from acquiring false beliefs
- 4) The goal of abstaining from deleting true beliefs

While in many contexts deferring to cognitive authorities is the most rational strategy for increasing one's stock of true beliefs, it cannot be the *sole* strategy for acquiring true beliefs. Since it is unlikely that any child's life will be free of occasions where the ability to think critically is necessary, it must fall to schools (and others) to develop in children the capacity and inclination to think for oneself. Hence there is a need to develop epistemic independence, or more precisely, autonomy in justification. It is precisely over this point that those who argue for the rationality of belief on testimony part company with me and each other. Some argue that schooling is and ought to be the socialization of students into deference to cognitive authority.³⁰ Others who would likely agree that schools should teach children how to think do not appear to believe that autonomy in justification is a necessary feature of rational belief.³¹ So there is a philosophical problem to sort out. There is also a large practical problem concerning the lack of congruence between accepted school practice and the sort of pedagogy needed to foster autonomy. I want now to turn to common educational practice and the influence of certain bodies of educational research that

make the prospects for fostering epistemic independence in schools seem dim indeed. In subsequent chapters I shall return to a more detailed discussion of the philosophical issues at hand.

BARRIERS TO FOSTERING INTELLECTUAL AUTONOMY

In this section a portion of my analysis will be devoted to showing the persistence of an occupational culture of teaching within schools that serves to perpetuate noxious pedagogical orthodoxies.³² Another portion will be devoted to detailing these orthodoxies and revealing what is objectionable about them. Following this I will argue that the absence of sufficient attention to epistemic considerations in influential educational research and theory leaves the likelihood of schools fostering intellectual autonomy small indeed.

Educational philosophers have long been calling for classrooms that would do more to foster the virtues and dispositions of the critical, autonomous thinker. More than thirty years ago Israel Scheffler objected to teaching which, because it failed to appeal to the reason of pupils, could not in any strict sense count as teaching at all.³³ Many philosophers of education have since argued that instructional activities that do fail in this regard are bound to be indoctrinatory, or at least only weakly connected with what we might call education.³⁴ Some have called for open-mindedness³⁵, others for reflective skepticism³⁶, or thoughtfulness³⁷, or the disposition to be appropriately moved by reasons³⁸. By suggesting teachers ought to appeal to the reason of pupils Scheffler meant that teachers are obliged to provide pupils with the reason for believing *x* to be the case, and to see that pupils come to appreciate the force of that reason in an evidentiary argument that serves to justify the belief in question. In Scheffler's words, often quoted, "To teach is thus, in the standard use of the term, to acknowledge the 'reason' of the pupil, i.e. his demand for and judgement of reasons, even though such demands are not uniformly appropriate at every phase of the teaching interval."³⁹ Unfortunately, there is evidence that suggests that many teachers today are no more appealing to the reason of the child than did their predecessors. Nor is there ample reason to believe that future prospects will be more promising in this regard. This pessimism is due, in large part, to the influence of "the culture of teaching" on the maintenance of teaching orthodoxies.⁴⁰

The Core Pedagogy and the Culture of Teaching

Nearly a century of classroom observation in the United States reveals that despite significant changes in teacher rhetoric, a “core pedagogy” has remained surprisingly constant.⁴¹ What has persisted is teacher-centred, whole class lecture, recitation, and drill in the most basic educational outcomes—although these at times bear little relation to the fine sounding rhetoric and slogans of periodic educational reform.⁴² Even in schools that have adopted child-centred curricula and co-operative small group instruction observers have noted a continuation of the formalist presuppositions that underlie more traditional pedagogies.⁴³ Many researchers account for the durability of formalist teaching by reference to the concrete details of classroom life. The structures of time, space, and teacher-student ratios have changed very little, and over the years have taken on a cultural momentum of their own.⁴⁴ Viewed from the perspective of critical theory, these structures represent the material basis on which the cultural superstructure rests. According to this view, the conditions of teachers’ work have engendered teacher ideologies that take the concrete details of classroom life as givens to which teachers must adapt.⁴⁵ Thus the conditions of work (“the classroom press”), are the foundation of the culture of teaching.⁴⁶ It is this culture that helps to determine “what works” in a classroom, and what will count among teachers as a sensible approach to teaching. Models of teaching that differ substantially from the core pedagogy are more likely than not to be rejected as impractical. Thus so long as the basic structures remain more or less the same the tendency will be for the core pedagogy to remain also, despite its apparent limitations. Hargreaves notes this culturally reproductive aspect of teaching:

The culture of teaching, then, is a culture in which classroom experience is exalted above all else in collective discussions of educational matters. It is a culture whose conditions of existence in the pressing and recurring immediacy of classroom work and in the isolated context of classroom performance make sustained and shared reflection of a rigorous nature difficult. And it is a culture whose conditions in the allocation of time to different areas of the teacher’s task, place the classroom at the centre and all else at the periphery of this work. Once in motion, the culture of teaching is reproductive and self-generating, but only as long as the conditions of its existence—the isolation and the constraints of the classroom, the limited opportunities for reflection, the minimal allocation of statutory time to non-classroom work—persist and continue to sustain it.⁴⁷

Thus, the concrete circumstances of the teacher's job have, over the years, fostered "an ethic of practicality" that rules on the suitability of instructional methods.⁴⁸

In the busy classroom press, where the pre-occupation is largely with means and immediate outcomes, the orientation of teachers is towards the concrete and procedural rather than the theoretic or reflective. They have an understandable interest in day-to-day procedures for maintaining an orderly classroom, but often without critically examining consequences or debating longer term ends. New ideas are judged for their immediate and utilitarian impact.⁴⁹

Historically, the teacher's day has provided few opportunities for critical thought and reflection, and thus few opportunities for teachers to see the relevance of critical reflection to their work. In recent years the situation appears to have worsened as more responsibilities have been added to an already overcrowded teaching schedule. Despite significant improvements in remuneration and training over the last half century, teachers in Canada, Britain and the United States continue to report that while their occupational role has been expanded to include extra non-instructional committee work, and additional record-keeping, the amount of time in which they are to carry out these duties has not been expanded to keep pace. Teachers complain of having more social work responsibilities, more paper work, more meetings and conferences than ever before.⁵⁰ The increase in administrative tasks are the result of increased demands for teacher and student accountability, while the social work functions are a response to mainstreaming policies and the changing demographics of school populations. In the view of labour process analysts teachers' work is undergoing a process of intensification,⁵¹ where teachers' responsibilities increase without a commensurate increase in the time or training necessary to carry out these responsibilities in a competent manner. One effect of the time crunch is an increased teacher reliance on external expertise.⁵² In an effort to reduce preparation and marking time teachers report feeling compelled to turn to externally produced curricular materials that are easily administered and graded but which do not engage the critical intelligence of students.⁵³

Given that the litmus test for the acceptability of new teaching ideas is whether or not they fit easily within existing routines and resources this process of intensification will do little to move teaching in the direction needed to foster epistemic independence.

The Traditions of Schooling

In this century the earliest ethnographic foray into classrooms, that of Stevens in 1912, revealed that pupils typically spent most of their time engaged in recitation and drill, or in copying notes from the blackboard.⁵⁴ Verbal interaction between teachers and pupils took the form of teachers prompting pupils to recall information. Since then surprisingly little has changed.⁵⁵ Teachers dominated talk in the classroom then and they still do. Students were discouraged from asking substantive questions and they still are. The characteristics of classroom interaction noted by Stevens are still reported to be the dominant form of teacher-pupil interaction, and defines today the nature of modern classroom teaching in the West.⁵⁶

As late as 1956 Benjamin Bloom attempted to reduce the emphasis teachers gave to the memorization of facts and principles.⁵⁷ His highly influential taxonomy of educational objectives urged teachers and curriculum planners to consider more intellectually challenging sorts of objectives than those of factual recall.⁵⁸ More than a decade later Hoetker and Ahlbrand condemned the prevalence of the recitation method in elementary schools⁵⁹, while Bellack's⁶⁰ investigation into teachers' questioning techniques revealed that teachers typically ask more than 90 per cent of the questions, even in classrooms where the teachers were committed to promoting inquiry. The ratio of teacher talk to pupil talk was such that even if opportunities for pupil talk had been distributed fairly each pupil in a class of more than 25 would receive less than 1 per cent of the available opportunities to talk, ask questions, express doubts, etc. Indeed Bellack et al. estimated that in an average year teachers asked up to 50,000 questions while pupils asked 10 questions or less, usually concerning details of class routine, the layout of notebooks and so on. Teacher questions typically required only a rote or memory response, rather than a reasoned reply.

In 1970 Flanders observed that roughly two thirds of classroom time was spent in talking, and two thirds of that was teacher talk.⁶¹ These proportions, subsequently known famously as the two thirds rule, have been found to prevail still in North American high schools.⁶² Delamont in 1976 found that 50% of teacher talk was spent lecturing and questioning pupils about the content of the lesson.⁶³ The other half was devoted to establishing and maintaining control of the class. In

1978, sixty five years after the Stevens' study, Edwards and Furlong found teachers still raised most of the questions, and that 80 per cent of these questions were oriented to the recall of facts or simple generalizations.⁶⁴ In the same year McHoul obtained similar findings: students asked only about 10 per cent of the questions, and of these very few were substantive questions regarding the validity of the knowledge claims that were presented to them in school.⁶⁵ Both studies showed that the importance of having good reasons or grounds for belief was an issue that was virtually ignored by teachers, and students consistently failed to ask for such grounds. Of interest is McHoul's additional finding that teachers actively discouraged students from asking questions that might require them to justify knowledge claims or classroom procedures.⁶⁶ John Goodlad's 1983 study of 1000 American classrooms revealed the same teacher preoccupation with the transmission of facts, and the same student reluctance to examine critically the knowledge claims put before them.⁶⁷ These findings from North American classrooms have been confirmed by similar studies in Sweden, the United Kingdom, the Federal Republic of Germany and Australia.⁶⁸ As a group these studies suggest that classroom life is dominated by teacher talk that fails to give students any sense of what reason there may be for accepting or questioning the claims put before them. Let's consider teacher talk in more detail.

Teacher Talk

Teacher talk can be broken down into three categories: instructional monologues, social exchanges and teaching exchanges. Teachers ask questions of students in all but the first. In social exchanges teacher questions aim at organizing and controlling pupil behaviour. In many cases the interest in controlling pupil behaviour determines the nature and content of the *teaching* exchanges as well.⁶⁹ Let us consider the general features of the teaching exchange then turn to the issue of social control generally.

Strategic Dialogue: the Teaching Exchange

The teaching exchange typically conforms to what has been termed the Initiate, Respond, Feedback (IRF) cycle, where teachers initiate the questions, students respond, and teachers offer feedback. Teaching exchanges, like teacher monologues, are concerned with transmitting the

content of the curriculum, but differ from teacher monologues in the amount of participation allowed students. Indeed this teaching strategy sometimes goes by the name “active participation” and is held up as a superior alternative to monologues on the ground of greater pupil engagement and interest.⁷⁰ It is sometimes favourably compared with the Socratic method of teaching and seen, for this reason, to be a useful way to foster a critical spirit in students.

Its critics, however, view the teaching exchange as a device for indoctrinating students, and consider the practice a sham attempt at engaging children’s interest and thoughtfulness.⁷¹ Given the authoritative status of truth claims advanced by teachers, and teachers’ manipulation and restriction of dialogue and debate in these exchanges students are neither encouraged to assess knowledge claims nor see such evaluative activities as legitimate for themselves. The teaching exchange, on this interpretation, has the latent function of socializing children to accept uncritically what they are told to believe.

The fundamental problem is one of the unavoidable asymmetry of the relations between teacher and pupil during the teaching exchange. First of all, there is a lack of symmetry in the epistemic status of teacher and pupil utterances. The utterances of teachers carry more epistemic authority than those advanced by pupils. There is further asymmetry in the opportunities teachers and pupils have for talking in class. Teachers talk more often and control who shall talk, when and about what. They also control what shall count as sensible, relevant and justified by means of glossing practices called *epistemic formulations*. Teachers first ask questions, and then put glosses on the students’ responses that serve to regulate the admissibility of their contribution to the discussion. Of course in one very important sense this is as it should be. Teachers are, after all, both the cognitive and institutional authorities in the classroom. That the relations between pupil and teacher are asymmetrical in these ways is part of the reason for having such a relationship. Nevertheless, an analysis of transcripts from classroom dialogue reveals that teacher questions are often not sincere efforts to discover student points of view or engage in critical dialogue. They are rather part of a disingenuous strategy of leading students to predetermined conclusions by foreclosing debate on certain lines of argument, while maintaining the appearance of dialogue. Students eventually come to recognize that the point of such exercises is to discover what the

teacher is driving at (“Guess what the teacher is thinking?”).⁷² Seen in this light the teaching exchange is little more than an inefficient and circuitous method for transmitting knowledge that could otherwise be communicated by teacher monologues. Its primary advantage seems to be its usefulness as a strategy for keeping students “on their toes.”

The concern is that such activities communicate to students a sense that their role is more to answer questions to the satisfaction of the teacher rather than one of satisfying public standards of warrant and justification. Students’ answers are to be consistent with the teacher’s beliefs about what is true, though the teacher’s reasons for taking her beliefs to be true are seldom expressed and evaluated. Teachers give the impression they are the sole arbiters of the truth by publicly evaluating student responses while at the same time discouraging students from evaluating their own truth claims. At one level the appearance is not one of the teacher imposing her view on the students. The teacher instead appears to have integrated student points of view into the dialogue. Edwards and Furlong describe the manner in which the process is made to appear legitimate.

The teaching exchange provides a framework into which pupil talk is fitted, and that talk is assessed according to the closeness of fit. Brief pupil contributions are taken as being representative of the group, and the interaction then proceeds as *though* the other pupils either know already, or shared the same and now corrected inadequacies as those who spoke. In its orderliness, and in the shaping of meaning, the interactions can be seen as the managed product of one of the participants.⁷³

The teaching exchange ironically appears to invite dialogue while at the same time it prevents the emergence of any genuine dialogue involving the free exchange and defense of ideas. It manages to do this by means of glossing practices, steering pupil contributions towards the viewpoint held by the teacher but unstated by the teacher. Pupils’ responses that appear to lead the discussion away from the teacher’s preferred view are implicitly rejected, while pupils’ responses closer to the preferred view are employed by the teacher in a variety of ways. Pupil responses of this sort are either reiterated in their totality or are reformulated for a closer fit with the teacher’s view.

Reformulations take various forms. They range from reiteration of the question, complete but disapproving reiteration of pupil responses, partial reiteration and paraphrases, or in the case of longer responses, gists and summaries. In the course of providing summaries, gists or

paraphrases teachers frequently alter the meaning of the pupil's contribution by adding and deleting details, or putting an interpretation to the response that departs slightly from the original. In each case teachers may register their approval or disapproval of pupil responses obliquely by tone of voice, facial expression and gesture. In these ways teachers channel and shape the discussion toward a pre-specified conclusion. Worth noting is that these glossing practices often amount to putting words in the mouths of students, even as they appear to invite the pupil's point of view. They aim less at clarifying pupils' points of view than at shaping them in conformity with the teacher's point of view. Yet such approaches to classroom instruction are commonly offered as examples of how teachers can encourage pupil participation and develop points of view. Young notes the fundamentally manipulative nature of these glossing practices in this way:

The foregoing analysis draws our attention to those formulating practices which are structurally located in teacher reactions to pupil answers and which purport to formulate the pupil talk itself. In these formulations we have a practice which, while forming as much a part of the teacher's contribution to the dialogue as teacher monologue, passes itself off as a versions of the pupil's contribution.... It is difficult to avoid the conclusion that the dominant pattern of classroom communication is indoctrinational. In not one, but a multitude of ways, *it is structured so as to exclude, repress and prevent exploration of questions concerning the validity of the facts and simple generalizations which make up the bulk of the information transmitted in classrooms.*⁷⁴

The Pedagogy of Social Control

Researchers have found that teacher decisions regarding both the selection and organization of subject matter are strongly influenced by concerns related to the management of children.⁷⁵ Some of this emphasis can be traced to the advice of educational authorities. In his 1984 summary of research on classroom management Brophy suggests that the pace, depth and substance of lessons ought to be determined by a concern for minimizing student opportunities for mischief.⁷⁶ To the dismay of Beyer too many teachers think as Brophy does:

Getting students through the lesson on time and in a quiet and orderly manner, frequently becomes the primary basis for accepting or rejecting the use of a particular teaching activity. If a technique "works", that is, solves the immediate problem at hand, it is often perceived as good or appropriate regardless of possible larger consequences or the existence of alternative approaches.⁷⁷

Other observers of classroom practice have noted that the content of lessons is frequently

“downsized” to fit the perceived imperatives of order.⁷⁸ Knowledge is broken down into isolated bits, then organized around instructional objectives that lend themselves to assessment by means of worksheets, short answer quizzes and end of chapter comprehension questions. Assessment instruments such as these are easily administered and measured, and are useful for the purpose of controlling students by means of grading practices. One unanticipated consequence of such an approach, noted famously by Freire, is that knowledge transmitted in this manner is trivialized and commodified.⁷⁹ Students are tempted to view knowledge as bits of information that can be traded in for accreditation or grades. The goal for students becomes one of completing assignments that require only that they find the correct answer to recall questions. Seldom is there any opportunity for students to challenge or expand upon the points of view presented in their texts. Topics that hold the potential for disagreement are also often avoided by teachers who fear that order may be compromised by raucous debate, or that their own authority may be undermined if they are drawn into the debate and asked to defend their own points of view.⁸⁰ In Beyer’s view, “being a student means acquiring...knowledge and learning how to use it in a context that does not include criticism and has little patience with analysis.”⁸¹

The preoccupation with order is not entirely misplaced, however. At one time or another most students find their personal and social interests are either not satisfied in school, or directly conflict with the teacher’s instructional plans.⁸² Yet for most students attendance at school is compulsory. Students often react to this state of affairs with behaviour ranging from passive to open resistance, the latter most common in working class secondary schools.⁸³ Willis, for example, refers to the “aimless air of insubordination” and the manifestations of “caged resentment” that he encountered in working class British youth.⁸⁴ By most accounts teachers respond to this resistance by assigning work that is cognitively undemanding, easy to grade, and takes little time to explain.⁸⁵ The very tasks that would contribute to the development of thinking ability—infrequently assigned long term tasks of sufficient complexity to demand critical thought—are the very sort of assignments teachers avoid giving. In Woods’, as well as other British studies, teachers have been reluctant to employ instructional activities that foster critical thought because of the opportunities for mayhem such activities are felt to generate.⁸⁶ In the

United States, Cusick⁸⁷, as well as Powell, Farrar and Cohen⁸⁸ have documented the uneasy equilibrium of some schools where students exhibit a perfunctory compliance with school norms in exchange for an academically undemanding course of studies. In both Britain and the United States the undemanding character of much schoolwork can also be attributed to the imperatives of grading assigned work.⁸⁹ As noted, school grades and credits are one of the most powerful social control mechanisms available to teachers. Yet if not handled properly the distribution of grades can present control problems of its own. Compliance is gained by distributing grades frequently for schoolwork that requires no more than normal effort and perseverance. Schrag concludes from his analysis of interviews with “difficult” students:

If students feel that a decent grade is dependent primarily on their native aptitudes or intelligence, on extraordinary effort rather than on the modicum of work they are willing to undertake, the less talented and ambitious will lose their incentive to comply.⁹⁰

McNeil observed a similar phenomenon in Wisconsin high schools. She noted that the social studies teachers in her study tended to reduce the content of their lessons to disjointed lists of information. The teachers themselves were quite conscious of downsizing the curriculum in an effort to control unruly students. In their view more challenging or complex assignments antagonized the less able, while the time needed to explain such assignments provided too many opportunities for trouble to break out. As an activity, furnishing students with undemanding lists of facts and generalizations that they then write down and memorize has the virtue of stabilizing the classroom and making it more predictable.

The Epistemic Sensibility of Students

One finding from the 1985 PEEL Project in Australia points to the effect the core pedagogy may have on the epistemic sensibilities of students.⁹¹ During the course of the project a classroom teacher wrote a set of notes on the board, that the students copied down. The notes related to weather patterns in Australia, except they contained nonsense terms and patent falsehoods.⁹² Prior to his writing on the board the teacher stressed the importance of asking questions and of thinking critically. The notes would have appeared to the students as coming directly from the textbook that the teacher was holding while at the board. This procedure was

repeated in two different classes of high school students. In each class there was no more than one question, despite the repeated call for questions. One question asked for the meaning of a term, while the other hesitantly raised doubts about the truth of one of the claims (e.g. soil evaporates in warm weather.) Once apprised of the situation the chagrined students admitted they were so used to accepting uncritically the things they were told that they failed to notice anything wrong with the notes on the board. It is perhaps useful to pause and reflect on the significance of this example. It seems clear that in one sense the students in this class did *not* believe what they were being told by their teacher. That is, on the view that belief is any proposition or set of propositions to which one would assent it is reasonable to expect few students would admit to believing that soil evaporates in warm weather. Yet virtually all the students acted as if they did assent to such a claim. I would suggest the proper interpretation of this incident is not simply that students too readily accept what they are told by their teachers,⁹³ but rather that the students were largely unaware of, or ignored, the epistemic import of someone's asserting this claim or any other claim. In other words the students did not take reflective skepticism to be among their responsibilities as students. It is this assumption that critical intelligence is not called for in school that is most disturbing, for it suggests how rare it may be for students to consider the truth of statements they encounter in school. It also suggests how rare must be the opportunities for developing epistemic responsibility in students. Regardless of the accuracy of what is taught in school, if we wish students to become epistemically responsible we must, at a minimum, show them what such responsibility consists in.

A further consequence of students simply accepting claims in this manner is that such claims will likely have little bearing on the beliefs students already hold. A case in point is the 1981 study of first year university physics students that revealed that a surprisingly large proportion of them did not understand Newtonian physics though their exam results indicated that in a narrow sense they did. When asked which of two balls, one heavier than the other, would reach the ground if released simultaneously the majority of respondents chose the heavier of the two.⁹⁴ Despite having spent a good deal of time learning Newtonian physics, these students were inclined to give Aristotelian answers to questions regarding gravity. The ideas concerning the

Newtonian theory of gravity were, in Whitehead's sense, *inert*.⁹⁵ If these ideas were understood, they were not understood in a way that made them lively elements in the belief systems of students. These consequences should not surprise us. Mill and many other philosophers since have noted the relationship between critical reflection and understanding.⁹⁶ Karl Popper distinguished between three levels of understanding.⁹⁷ The lowest level of understanding consisted in possessing "a pleasant feeling of having grasped the argument".⁹⁸ The intermediate level involved having the ability to repeat the argument. The highest level of understanding was characterized by having the ability to refute the argument. For Popper, criticism is the heart of understanding. Mill, one of the best known expositors of this view, held that unless a belief is "vigorously and earnestly contested, it will, by most of those who receive it, be held in the manner of a prejudice, with little comprehension or feeling of its rational grounds."⁹⁹ In Mill's view the truth is most efficiently arrived at through "the collision of adverse opinions".¹⁰⁰ The research just reviewed suggests that in many schools there has been a notable absence of any such collision.

The Socialization of Student Teachers

The episodes from the PEEL project and the physics class are only two illustrations of a phenomenon we have every reason to believe has been a feature of schools since their inception. The persistence of this feature has been traced to a variety of factors. First, teachers are simultaneously isolated and, while engaged in their classrooms, busy to the point of distraction. The latter factor, we have seen, predisposes teachers to reject teaching methods whose merits are not immediately obvious, or whose introduction into the classroom is at all complicated, or likely to pose management problems. On the other hand, the eggcrate architecture of schools cuts teachers off from their colleagues, and has been credited with establishing and maintaining peculiar professional norms of individualism and non-interference that reduce the likelihood innovative teaching methods will be communicated within the school.¹⁰¹ One might expect that novice teachers, fresh from teacher's college, would inevitably bring new ideas into the school. No doubt novices do have an impact on their more experienced colleagues. This impact, however, appears to be slight compared to the influence of experienced teachers on the novice teacher. To start with, the teaching styles of novice teachers appear to be much more shaped by experienced

teachers than by university courses on how to teach.¹⁰² Indeed no other group is as powerful a socializing agent as the experienced teachers with whom the novice comes into contact in the first few years of teaching.¹⁰³ The substantive character of this influence is to be found in the models of instructional technique exhibited by established teachers, and the responses of these teachers to the questions and concerns of novices. Hammersley noted a variety of tactics employed by experienced teachers to disabuse new teachers of ideas that threaten established patterns within the school: denigrating the relevance of university coursework to teaching; denigrating the idealism of novice teachers, especially with respect to issues of discipline and control of students; asserting and collectively reinforcing their definition of a particular situation over interpretations offered by novices. In the majority of cases these “staffroom ideologies” were communicated by means of jokes and humorous stories, staffroom “folktales” as it were, told again and again to confirm the collective view and deride contrary views.¹⁰⁴ He also notes that under the circumstances faced by novice teachers it is only too easy to begin to adopt the collective view. “Whatever one thinks of the views expressed in this staffroom there is enormous influence on individuals to conform to the collective view. There is reassurance, security, restored pride, personal dignity, power in belonging to a team, in a situation where individuals are working under conditions of...constant stress.”¹⁰⁵

The socialization of novice probationary teachers begins much earlier than their first practicum or field experience, however. It begins with the childhood experience of the teacher to be. Every teacher was once a student, and while in school each underwent what has been variously called an “apprenticeship of observation”¹⁰⁶ or an “apprenticeship of memory.”¹⁰⁷ Hanson and Herrington, for example, note that “with their entrance into school as young children the teachers of the future begin their apprenticeship of memory. Students entering [teachers’] college already *know* what teaching is.”¹⁰⁸ Even among those whose memories of school have been dimmed by time there will be significant numbers of aspiring teachers who will learn the general features of the core pedagogy from family members and other relatives who are themselves teachers. Teaching runs in the family.¹⁰⁹

The characteristics of teachers may also pose problems for those interested in fostering

independent thought in schools. Research in the United States reveals that large numbers of American teachers share something of a common personality profile—a profile that can be used to explain patterns of selective recruitment and retention of teachers, as well as the formation of intellectual propensities and professional norms within the profession. In broad terms the teaching profession, in the United States at least, is attractive to, and comprised of, significant numbers of men and women who are authoritarian, conformist, and “other-directed”.¹¹⁰ These generalizations concerning the personality of teachers come from measures of central tendency; exceptions abound. Moreover the studies from which these generalizations are drawn are neither recent enough, nor sufficiently free of methodological problems to accept at face value. Until more and better designed studies are conducted these findings must be viewed with a degree of skepticism. Nonetheless, there is a remarkable degree of agreement among teacher educators that part of the tepid intellectual climate found in many schools may be traced to the characteristics of the teachers who work in them. As well, compared to other professional groups teachers have historically been shown to possess a higher proportion of individuals with below average academic standing,¹¹¹ who are disinclined to value independent or critical reflection¹¹², and who look to others to tell them what to do.¹¹³ Teachers with above average academic standing do enter teaching, but they are among the first to leave, usually within the first five years. Attrition within the first few years is very high. In some studies as much as forty percent of the novice teacher cohort quit teaching in the first two years.¹¹⁴ Over ten years the attrition rate has reached as high as seventy percent.¹¹⁵ In Canada the situation is often as serious. Recently in Alberta, for example, it was found that less than fifty percent of teachers in training enter and remain in the school system for more than three years.¹¹⁶

A further problem is the nature of coursework in education faculties and the willingness of many teacher educators to communicate sets of narrowly conceived prescriptions, both of which contribute to what has been described as the “tell us what to do” mentality of student teachers.¹¹⁷ Floden notes that the prescriptive character of many teacher education programs fails to “acknowledge the rationality of teachers and places researchers in an undeservedly superior position in which teachers were not able to assess the worth of what they were being told.”¹¹⁸ The

inconclusive nature of much research on teaching, or the basis on which prescriptions for teaching have been developed are typically not conveyed to student teachers, thus leaving these teachers in an epistemically dependent position, roughly parallel to the position in which experienced teachers have been shown to leave their own students.¹¹⁹ Where teacher education programs do stress the need for reflection and independent thought they have not always provided students with a clear sense of the relevant epistemic standards by which intelligent reflection is to be carried out.¹²⁰ These results should not be surprising in light of the characteristics of many teacher educators, especially those most directly responsible for teacher methodology classes and practicum supervision. Research on the characteristics of teacher educators in the US points to marked differences between education professors and other university faculty.¹²¹ Most notable is the comparatively low productivity of teacher educators with respect to scholarship and research. Broudy suggests that the reason for this can be found in the fact that education professors have an excessively practical orientation that devalues abstract thought and decision-making.¹²² Lanier and Little suggest the roots of this anti-intellectualism lie in the social background and career paths of education professors:

Faculty in institutions of higher education are expected to value intellectual challenge, questioning, criticism, and conceptual analysis. Advancing higher learning requires that scholars enter uncharted intellectual territory, and as they explore the not yet known, they must maintain a cognitive flexibility and commitment to examine alternative, sometimes competing, beliefs and assumptions. Diverse views and openness to new evidence, novel ideas, and controversial opinions are long accepted values of the academy. Conversely, the tendency to ignore or reject competing ideas and evidence, to accept old or new ideas uncritically, or to proselytize unexamined truths are signs of academic weakness. Evidence suggests that the typical lineage of teacher educators has not prepared them to appreciate the traditional values of higher education.¹²³

In addition Tabachnick et al. noted in discussions with student teachers that practicum supervisors are more intent on socializing student teachers into existing classroom practices than in encouraging them to view such practices critically.

By focusing upon how things are to be done in classrooms to the exclusion of why, the university originated discussions which tended to accept the ongoing patterns and beliefs illustrated earlier. Instead of responsibility and reflection, the actions of university personnel encouraged acquiescence and conformity to existing school routines. The latent meanings of workshops and seminars were established in a variety of ways. For example, students were continually reminded that they needed to get along if they wanted good

recommendations for their job placement folders... The content of supervisory conferences also gave legitimacy to existing classroom priorities.¹²⁴

By contrast, professors in arts and science faculties (these, in a special sense, are also teacher educators)¹²⁵ are much less concerned with the practical use to which their students' knowledge may be put. Nonetheless, undergraduate teaching, especially in the freshman and sophomore years, is often identified with survey courses characterized by a preoccupation with covering vast amounts of knowledge in a superficial manner. A close examination of the evidence or arguments in support of knowledge claims, if found at the undergraduate level at all, is most often restricted to undergraduate honors programs. Thus it seems reasonable to suppose that the neglect of epistemic considerations by both pre- and in-service teachers has also much to do with their experience as university students as well. Teachers themselves tend not to have been schooled in the strategies of critical thinking and epistemic justification, so little in their experience, either as schoolchildren, or as teachers, will have given them much insight into which among their preferred teaching strategies are least appropriate for fostering critical thinking. Thus it seems reasonable to suppose that classrooms now and in the past have not been fertile breeding grounds for intellectual autonomy. Insofar as the development of intellectual autonomy is contingent upon students being initiated into the practices of critical reflection the univocal nature of classroom discourse, and the systematic neglect of epistemic considerations must surely be obstacles to the flourishing of autonomy.

¹Robert Wolff, *In Defense of Anarchism* (New York: Harper and Row, 1985).

²Elizabeth Telfer, "Autonomy and Education," in S. C. Brown ed. *Philosophers Discuss Education* (London: Macmillan, 1975).

³Thomas Scanlon, "A Theory of Freedom of Expression," *Philosophy and Public Affairs* 1 (1972): 216.

⁴Strictly speaking we can't choose what to believe. I can't choose for example to believe that Calgary is the capital of Canada. The sense of choice invoked here is the choice whether to deliberate or not.

⁵Israel Scheffler, *Reason and Teaching* (New York: Routledge and Kegan Paul, 1973).

⁶Stanley I. Benn, *A Theory of Freedom* (Cambridge: Cambridge University Press, 1988).

⁷Ibid., 131.

⁸Ibid., 176.

⁹Ibid., 176.

¹⁰Harvey Siegel, "Rationality and Epistemic Dependence," *Educational Philosophy and Theory* 20, no. 1 (1988): 1–6.

¹¹One of many translations, from which this adapted, is "What is Enlightenment?," published with Immanuel Kant's *Foundations of the Metaphysics of Morals*, trans. Lewis White Beck (New York: Liberal Arts Press, 1959), 85.

¹²Ibid., 85.

¹³Michel Foucault, "What is Enlightenment?" Paul Rabinow ed. in *The Foucault Reader* (New York: Pantheon Books, 1984), 34.

¹⁴Wolff, *In Defense of Anarchism*.

¹⁵Kant, *What is Enlightenment?*, 38.

¹⁶Ibid., 39.

¹⁷See for instance Irving Copi's *Introduction to Logic*, 6th ed. (New York: Macmillan, 1982).

¹⁸"The first is to allege the opinion of men whose parts, learning, eminency, power, or some other cause has gained a name and settled their reputation in the common esteem with some kind of authority. When men are established in any kind of dignity, it is thought a breach of modesty for others to derogate any way from it, and question the authority of men who are in possession of it. This is apt to be censured as carrying with it too much of pride, when a man does not readily yield to the determination of approved authors which is wont to be received with respect and submission by others; and it is looked upon as insolence for a man to set up and adhere to his own opinion against the current stream of antiquity, or to put it in the balance against that of some learned doctor or otherwise approved writer. Whoever backs his tenets with such authorities thinks he ought thereby to carry the cause, and is ready to style it impudence in anyone who shall stand out against them. This I think may be called *argumentum ad verecundiam*." John Locke, *An Essay Concerning Human Understanding*, ed. John W. Yolton (London: Dent, 1961), 278.

¹⁹C. Hamblin, *Fallacies* (London: Methuen, 1970), 68.

²⁰Welbourne (1981) suggests an alternative reading to Hamblin's. It is possible that Locke means only to say that belief based on authority is less reliable, and further that since it lacks full understanding it is less useful.

²¹Locke, *An Essay Concerning Human Understanding*, 278.

²²*Ibid.*, 278.

²³John Stuart Mill, *On Liberty* (New York: The Liberal Arts Press, 1956).

²⁴*Ibid.*, 13.

²⁵*Ibid.*, 15.

²⁶Frederick F. Schmitt, "Justification, Sociality and Autonomy," *Synthese* 73 (1987): 54.

²⁷W. H. Walsh, "Knowledge in its Social Setting," *Mind* 80, no. 319 (1971): 321–336; John Hardwig, "The Role of Trust in Knowledge," *The Journal of Philosophy* 88, no. 12, (1991), 693–694; R. T. Allen, "Because I Say So! Some Limitations Upon the Rationalization of Authority," *Journal of Philosophy of Education* 21, no. 1 (1987): 15–24.

²⁸There is of course the well known teleological justification for intellectual autonomy which originated with Kant. I am more interested in providing a consequentialist justification for autonomy in terms of the epistemic benefits autonomy of this sort confers on those who can think for themselves. The teleological account runs as follows. Because human beings have a capacity for rational choice, they possess a value that is unconditional. Objects of conditional value, on the other hand, are valuable only under certain conditions: that is, for what they may lead to or bring. Thus, objects of conditional value are valuable only as means to ends. Objects of unconditional value, such as human beings, have value then, not as means, but as ends in themselves. On account of their unconditional value persons are said to deserve respect, hence the intimate connection between the concept of autonomy and what is called the principle of respect for persons. To respect persons, on this account, is to see them as unconditionally valuable agents, and so to recognize they should not be treated as the means to our own private ends. To treat persons merely as a means is to treat them as if they were not rational and moral agents. So it this capacity for rational and moral choice that confers a special dignity on persons which other moral agents ought to respect. To reject the considered judgments of other persons, or interfere with their right to act on those judgments is to demonstrate a lack of respect. Therefore the principle of respect for persons requires that, subject to certain side constraints, moral agents have the right to hold their own opinions and act on them, free from our interference. Those who possess the dignity due to persons are morally entitled to determine their own destinies. The fact that freedom from interference is contingent upon one's possessing a capacity for rational judgment sets a variety of limits on an agent's right to autonomy. In the first place to the extent individuals lack this capacity paternalistic treatment is seen to be justified. To the extent an individual's actions may bring harm to others she forfeits the right to non-interference. Autonomy as a right is a right against attempts to interfere with or diminish an agent's ability to act autonomously. So, for example, a student's right to autonomy is violated when she is treated as if she has no capacity for autonomy, or if she is treated in a way which fails to respect what autonomy she does have. It is on this ground that paternalism and indoctrination are often objected to. Indoctrination violates the student's right to autonomy because it undercuts the student's ability to assess critically her

beliefs and desires. Threats, coercion and psychological manipulation similarly violate the agent's right to autonomy if it can be shown that the justification for paternalistic treatment fails. Among the consequentialist objections that can be leveled against paternalism of this sort is the danger that continuous subjection to even mild forms of coercion and manipulation will in all likelihood diminish the agent's ability to act autonomously. Even though I am more interested in the consequentialist argument than the teleological, I have included this discussion of the latter because it helps to bring out the manner in which moral and epistemic concerns begin to converge.

²⁹This characterization of epistemic goals is taken from Schmitt, "Justification, Sociality, and Autonomy."

³⁰Stich and Nisbett, "Justification and the Psychology of Human Reasoning"; Allen, "Because I Say So!"

³¹Goldman, "Epistemic Paternalism"; Hardwig, "Epistemic Dependence."

³²It is perhaps misleading to speak of a *single* culture of teaching since there are in fact many. The culture I intend to examine most closely is the one most relevant to the failure of schools to challenge the minds of students.

³³Israel Scheffler, *The Language of Education* (Springfield, IL: Thomas, 1960).

³⁴Thomas Green, "A Topology of the Teaching Concept," in *Concepts of Teaching: Philosophical Essays*, ed. C. J. B. MacMillan and Thomas W. Nelson (Chicago: Rand McNally, 1968); *The Activities of Teaching* (New York: McGraw Hill, 1971); John Kleinig, *Philosophical Issues in Education* (London: Croom Helm, 1982); R. E. Young, "Teaching Equals Indoctrination: The Dominant Epistemic Practices of our Schools," *British Journal of Educational Studies* 32, no. 3 (1984): 220-238.

³⁵William Hare, *Open-Mindedness and Education* (Montreal: McGill-Queens University Press, 1979); *In Defence of Open-Mindedness* (Montreal: McGill-Queens University Press, 1985).

³⁶Robert Ennis, "A Conception of Critical Thinking," in *Proceedings of the Philosophy of Education Society 1979*, ed. Jerrold R. Coombs (Normal, IL: 1979); John McPeck, *Critical Thinking and Education* (New York: St. Martin's Press, 1981).

³⁷Francis Schrag, *Thinking in School and Society* (London: Routledge, 1988).

³⁸Harvey Siegel, *Educating Reason: Rationality, Critical Thinking and Education* (New York: Routledge, 1988).

³⁹Scheffler, *The Language of Education*, 57-8.

⁴⁰I owe this contrast to Francis Schrag. *Thinking in School and Society*, 73

⁴¹Larry Cuban, "Persistent Instruction: Another Look at Constancy in the Classroom," *Phi Delta Kappan*. 6 (1986): 711; Cuban, *How Teachers Taught: Constancy and Change in American Classrooms, 1900–1980* (New York: Longman, 1984); Cuban, "Persistent Instruction: The High School Classroom 1900–1980," *Phi Delta Kappan*. 64 (1982): 113–118.

⁴²Neil Sutherland, "The Triumph of 'Formalism': Elementary Schooling in Vancouver from the 1920s to the 1960s," *B C Studies* no. 69–70 (1986): 175–210.

⁴³See Sutherland, "The Triumph of Formalism," for evidence in the Canadian context, and Peter Woods, *Sociology and the School: An Interactionist Viewpoint* (London: Routledge and Kegan Paul, 1983); Andy Hargreaves, *Curriculum and Assessment Reform* (Toronto: OISE Press, 1989) for evidence from British sources.

⁴⁴Seymour B. Sarason, *The Predictable Failure of Educational Reform* (San Francisco: Jossey Bass, 1990).

⁴⁵Peter Woods, "Culture of the School—Teachers," in *Sociology and the School: An Interactionist Viewpoint* (London: Routledge and Kegan Paul, 1983); Peter Woods ed., *Teacher Strategies: Explorations in the Sociology of the School* (London: Croom Helm, 1980).

⁴⁶Sharon Feiman-Nemser and Robert Floden, "The Cultures of Teaching," in *Handbook of Research on Teaching*, ed. Merlin C. Wittrock (New York: Macmillan, 1986), 505–526.

⁴⁷Hargreaves, *Curriculum and Assessment Reform*, 56.

⁴⁸Walter Doyle and G. Ponder, "The Practicality Ethic in Teacher Decision-Making," *Interchange*. 8, 3 (1978): 1–12.

⁴⁹Walt Werner, "Curriculum Integration and School Cultures," *Forum on Curricular Integration: Occasional Paper #6* (Burnaby: Tri-University Integration Project, 1991), 20.

⁵⁰Quoted in Andy Hargreaves and Rouleen Wignall, *Time for the Teacher: A Study in Collegial Relations and Preparation Time Use among Elementary School Teachers* (Toronto: Ontario Institute for Studies in Education, 1989).

⁵¹See Michael Apple, *Teachers and Texts: A Political Economy of Class and Gender* (New York: Routledge and Kegan Paul, 1989); Andy Hargreaves, "Time and Teachers' Work: An Analysis of the Intensification Thesis," *Teachers College Record* 94, no. 1 (1992): 87–107; S. M. Larson, "Proletarianization and Educated Labour," *Theory and Society* 9 (1980): 131–175.

⁵²Michael Apple and Susan Jungck, "You Don't Have to be a Teacher to Teach This Unit: Teaching, Technology and Control in the Classroom," in *Understanding Teacher Development*, eds. Andy Hargreaves and Michael Fullan (New York: Teachers College Press, 1992), 20–42.

⁵³Apple, *Teachers and Texts*; Hargreaves, "Time and Teachers' Work."

⁵⁴Romniett Stevens, *The Question as a Measure of Efficiency in Instruction: A Critical Study of Classroom Practice* (New York: Teachers College Press, 1912).

⁵⁵Larry Cuban, *How Teachers Taught* (New York: Longmans, 1984).

⁵⁶Robert E. Young, *A Critical Theory of Education: Habermas and Our Children's Future: Habermas and Our Children's Future* (New York: Teachers College Press, 1990); Francis Schrag, *Thinking in School and Society*.

⁵⁷Benjamin Bloom, *A Taxonomy of Educational Objectives Volume 1: Cognitive Domain*.

⁵⁸Interestingly enough Stevens too had years earlier complained that teacher questions stressed only memory and the recall of simple generalizations. She also noted that the question/answer method generated a destructive sort of nervous tension among students, though it was teachers and not students who were doing most of the thinking.

⁵⁹J. E. Hoetker and W. Ahlbrand Jr., "The Persistence of the Recitation," *American Education Research Journal*, 6 (1969): 145–167.

⁶⁰A. Bellack et al., *The Language of the Classroom* (New York: Teachers College Press, 1965).

⁶¹See Robert E. Young, "Critical Theory and Classroom Questioning," *Language and Education* 1, no. 2 (1987): 125–134.

⁶²Robert E. Young, "Teaching Equals Indoctrination: The Dominant Epistemic Practices of Our Schools," *British Journal of Education Studies* 22, no. 3, 115–145.

⁶³Sara Delamont, *Interaction in the Classroom* (London: Methuen, 1976).

⁶⁴A. Edwards and V. Furlong, *The Language of Teaching* (London: Heinemann, 1978).

⁶⁵A. McHoul, "The Organization of Turns at Formal Talk in the Classroom," *Language in Society* 7 (1978): 183–213.

⁶⁶McHoul, "The Organization of Turns at Formal Talk," 197.

⁶⁷John Goodlad, *A Place Called School: Prospects for the Future* (New York: McGraw Hill, 1984).

⁶⁸Young, *A Critical Theory of Education*.

⁶⁹See Walter Werner, "Curriculum Integration and School Cultures," Occasional Paper Series: FOCL, Tri-University Project, 1991); Peter Woods, "Culture of the School—Teachers," in *Sociology and the School: An Interactionist Viewpoint* (London: Routledge and Kegan Paul, 1983).

⁷⁰Carol Cummings, *Teaching Makes a Difference* (Edmonds, WA: Teachers, 1980).

⁷¹Peter Woods, "Culture of the School—Teachers," in *Sociology and the School: An Interactionist Viewpoint* (London: Routledge and Kegan Paul, 1983).

⁷²Robert Young, *Critical Theory and Classroom Talk* (London: Taylor and Francis, 1993).

⁷³Edwards and Furlong, *The Language of Teaching* (London: Heinemann, 1978).

⁷⁴Young, "Teaching Equals Indoctrination," 126.

⁷⁵F. Schwartz, "Supporting or Subverting Learning: Peer Group Patterns in Four Tracked Schools," *Anthropology and Education Quarterly* 12, 2 (1981): 99–121; D. Eder, "Ability Grouping as a Self-Fulfilling Prophecy: A Micro Analysis of Teacher-Student Interaction," *Sociology of Education*. 54, 3 (1981): 151–161; R. Alington, "The Reading Instruction Provided Readers of Differing Reading Ability," *Elementary School Journal* 83, 5 (1983): 548–559

⁷⁶Jere Brophy, "Classroom Management and Organization," *Elementary School Journal* 83, no. 4 (1983): 265–285.

⁷⁷Linda Beyer, "What Knowledge is of Most Worth in Teacher Education? in *Educating Teachers: Changing the Nature of Pedagogical Knowledge*, ed. J. Smyth (London: Falmer Press, 1987), 21.

⁷⁸Milbrey Wallin McLaughlin, "What Matters Most in Teachers' Workplace Context?," in *Teachers' Work: Individuals, Colleagues, and Contexts*, eds. Judith Warren Little and Milbrey Wallin McLaughlin (New York: Teachers College Press, 1993); Thomas Popkewitz, "The Social Structure of Schools and Reform: A Case Study of IGE/S," in *Qualitative Evaluation: Concepts and Cases in Curriculum Criticism*, ed. G. Willis (Berkeley: McCutchan, 1978), 413–441; John Goodlad, *A Place Called School: Prospects for the Future* (New York: McGraw-Hill, 1984); Carol Evertson, "Differences in Instructional Activities in Higher and Lower Achieving Junior High English and Math Classes," *Elementary School Journal* 82, 4 (1982): 329–350; R. N. Page, "Lower-Track Classes at a College-Preparatory High School: A Caricature of Educational Encounters," a paper presented at the annual meeting of the American Educational Research Association, New Orleans, 1984); R. A. Hanson and R. E. Schutz, "A New Look at Schooling Effects from Programmatic Research and Development," in *Making Change Happen?*, ed. Dale Mann (New York: Teachers College Press, 1978), 120–149; J. Oakes, *Keeping Track: How Schools Structure Inequality* (New Haven, CT: Yale University Press, 1985).

⁷⁹Paolo Freire, *Pedagogy of the Oppressed* (New York: Seabury, 1970).

⁸⁰Woods, *Teacher Strategies*, 142.

⁸¹*Ibid.*, 22.

⁸²Martin Hammersley and Peter Woods eds., *Life in School: The Sociology of Pupil Culture* (Milton Keynes, England: Open University, 1984).

⁸³Ibid.

⁸⁴Paul Willis, *Learning to Labour* (Westmead: Saxon House, 1977), 36.

⁸⁵It is a commonplace of sociological research in education that these non-epistemic practices are more pervasive in the schools serving low income neighbourhoods. See F. Schwartz, "Supporting or Subverting Learning: Peer Group Patterns in Four Tracked Schools," *Anthropology and Education Quarterly* 12, no. 2 (1981): 99–121; Wilbur Brookover, N. V. Brady and M. Warfield, *Educational Policies and Equitable Education: A Report of Studies of Two Desegregated School Systems* (East Lansing, MI: Center for Urban Affairs, Michigan State University, 1981); A. G. Powell, E. Farrar and David Cohen, *The Shopping Mall High School: Winners and Losers in the Educational Marketplace* (Boston: Houghton Mifflin, 1985); Lois Weis, *Issues in Education: Schooling and the Reproduction of Class and Gender Inequalities* (Buffalo, NY: State University of New York, Buffalo, Department of Educational Organization: Occasional Paper Number Ten, 1986); R. A. Hanson and R. E. Schutz, "A New Look at Schooling Effects from Programmatic Research and Development," in *Making Change Happen?*, ed. Dale Mann (New York: Teachers College Press, 1978), 120–149.

⁸⁶Woods, *Sociology and the School*.

⁸⁷Philip Cusick, *Inside High School: The Student's World* (New York: Holt, Rinehart and Winston, 1973).

⁸⁸Powell et al., *The Shopping Mall High School*.

⁸⁹Woods, *Sociology and the School*; Linda McNeill, "Defensive Teaching and Classroom Control," in *Ideology and Practice in Schooling*, eds. Michael Apple and Lois Weiss (Boston: Routledge and Kegan Paul, 1983); Hammersley and Woods, *Life in School*.

⁹⁰Schrag, *Thinking in School and Society*, 94.

⁹¹Jim MacKenzie, "Authority," *Journal of Philosophy of Education*. 22, no. 1 (1988): 107–111.

⁹²For example, the notes contained terms like "hygration," and suggested that soil evaporates. See appendix in Jim MacKenzie, "Authority,".

⁹³This is the interpretation offered in Mackenzie, "Authority".

⁹⁴R. F. Gunstone & R. T. White, "Understanding Gravity," *Science Education* 65 (1981): 291–299.

⁹⁵Alfred North Whitehead, *Aims of Education* (London: Macmillan, 1929).

⁹⁶John Stuart Mill, *On Liberty* (New York: The Liberal Arts Press, 1956).

⁹⁷Karl Popper, "Intellectual Autobiography," in *The Philosophy of Karl Popper*, ed. Paul Arthur Schlipp (LaSalle, IL: Open Court Publishing, 1974).

⁹⁸*Ibid.*, 58.

⁹⁹Mill, *On Liberty*, 43.

¹⁰⁰*Ibid.*, 43.

¹⁰¹Sarason, 162–163.

¹⁰²According to Zeichner there is virtually no empirical support for the idea that university based supervisors have any significant influence on student teachers. See Kenneth M. Zeichner, "The Ecology of Field Experience: Toward an Understanding of the Role of Field Experiences in Teacher Development," in *Advances in Teacher Education, volume 3*, eds. Martin Haberman and Julie M. Backus (Norwood, NJ: Ablex Publishing Co., 1987), 124.

¹⁰³W. Hoy, "Organizational Socialization: The Student Teacher and Pupil Control Ideology," *Journal of Educational Research* 61 (1967): 153–155; "The Influence of Experience on the Beginning Teacher," *School Review* 76 (1968): 312–323; "Pupil Control Ideology and Organizational Socialization: A Further Examination of the Influence of Experience on the Beginning Teacher," *School Review* 77 (1969): 257–265; W. Hoy and R. Rees, "The Bureaucratic Socialization of Student Teachers," *Journal of Teacher Education* 28, no. 1, 23–26; D. J. Willower, "The Teacher Subculture," *Samplings* 1 (1968): 45–59; Peter Woods and Martin Hammersley, *School Experience* (London: Croom Helm, 1977); David Lortie, *Schoolteacher* (Chicago: University of Chicago Press, 1975); Philip W. Jackson, *Life in Classrooms* (New York: Holt, Rinehart & Winston, 1968); Andy Hargreaves, *Curriculum and Assessment Reform* (Toronto: OISE Press, 1989).

¹⁰⁴Peter Woods, "The Meaning of Staffroom Humour," in *Classrooms and Staffrooms: The Sociology of Teachers and Teaching*, ed. Andy Hargreaves and Peter Woods (Milton Keynes: Open University Press, 1984), 190–202.

¹⁰⁵Woods and Hammersley, 48.

¹⁰⁶Lortie, *Schoolteacher*, 13

¹⁰⁷David Hanson and David Herrington, *From College to Classroom: The Probationary Year* (London: Routledge and Kegan Paul, 1976).

¹⁰⁸*Ibid.*, 12.

¹⁰⁹Judith E. Lanier and Judith W. Little, "Research on Teacher Education," in *Handbook of Research on Teaching*, 3d ed., ed. M. C. Wittrock (New York: Macmillan, 1986), 525–569.

¹¹⁰M. L. Kohn and C. Schooler, "Job Conditions and Personality: A Longitudinal Assessment of their Reciprocal Effects," *American Journal of Sociology* 87, 6 (1982): 1257-1286; Lortie, *Schoolteacher*; M. L. Kohn, *Class and Conformity: A Study in Values* (Homewood, IL: Dorsey Press, 1969); Robert Floden, Margaret Buchmann and L. R. Schwillie, "The Case for the Separation of Home and School," paper presented at the annual meeting of the American Educational Research Association, New Orleans, 1984).

¹¹¹Lanier and Little's 1986 survey of the research on teacher education concluded that "persons with low measures of academic talent dominate the field" (p. 565). See Judith E. Lanier and Judith W. Little, "Research on Teacher Education," in *Handbook of Research on Teaching*, 3d ed., ed. M. C. Wittrock (New York: Macmillan, 1986), 525-569. See also D. H. Kerr, "Teaching Competence and Teacher Education in the United States," in *Handbook of Teaching and Policy*, Lee S. Shulman and G. Sykes eds. (New York: Longman, 1983), 126-149; V. S. Vance and P.C. Schlechty, "The Distribution of Academic Ability in the Teaching Force: Policy Implications," *Phi Delta Kappan* 64, 1, September (1982): 2-27; P.C. Schlechty and V. S. Vance, "Recruitment, Selection and Retention: The Shape of the Teaching Force," *Elementary School Journal*, 83, (1983) pp. 469-487.

¹¹²Dan Lortie, *Schoolteacher* (Chicago: University of Chicago Press, 1975); Margaret Buchman and J. Schwillie, "Education: The Overcoming of Experience," *American Journal of Education*. 92, 1 (1983): 30-51; B. R. Tabachnick, T. S. Popkewitz and Kenneth Zeichner, "Teacher Education and the Professional Perspectives of Student Teachers," *Interchange*. 10, 4 (1979-1980): 12-29; Walter Doyle and G. Ponder, "The Practicality Ethic in Teacher Decision-Making," *Interchange*. 8, 3 (1978): 1-12.

¹¹³Walter Doyle and G. Ponder, "The Practicality Ethic in Teacher Decision-Making," *Interchange* 8, no. 3 (1978): 1-12; M. B. Bierly and D. C. Berliner, "The Elementary School Teacher as Learner," *Journal of Teacher Education* 33, no. 6 (1982): 37-40; Sharon Feinman-Nemser and Margaret Buchman, "Pitfalls of Experience in Teacher Education," *Teachers College Record* 85, no. 1 (1985): 53-67; K. K. Zumwalt, "Research on Teaching: Policy Implications for Teacher Education," In *Policy Making in Education: 81st Yearbook of the National Society for the Study of Education*, A. Lieberman and M. W. McLaughlin eds., Part 1. (Chicago: University of Chicago Press, 1982), 215-248; Lortie, *Schoolteacher*.

¹¹⁴Richard Murnane, Judith Singer, John Willett, James Kemple and Randall Olsen, *Who Will Teach?* (Cambridge, MA: Harvard University Press, 1991).

¹¹⁵Murnane et al., "How Long Do Teachers Stay in Teaching?," *Who Will Teach?*

¹¹⁶L. T. Williams, *Developmental Patterns of Teaching Careers*. Unpublished Doctoral Dissertation, University of Alberta, Edmonton, Alberta, 1986), quoted in R. F. J. Jevne and H. W. Zingle, *Striving for Health: Living with Broken Dreams* (Edmonton, Alberta: Alberta School Employee Benefit Plan, 1991).

¹¹⁷Margaret Buchmann, "The Use of Research Knowledge in Teacher Education and Teaching," *American Journal of Education* 92, no. 4, (1984): 421–439; Gary D. Fenstermacher, "On Learning to Teach Effectively from Research on Teacher Effectiveness," in C. Denham and A. Lieberman eds. *Time to Learn* (Washington, DC: National Institute of Education, 1980); Zumwalt, "Research on Teaching: Policy Implications for Teacher Education."

¹¹⁸Robert E. Floden, "The Role of Rhetoric in Changing Teachers' Beliefs," *Teaching and Teacher Education*.

¹¹⁹Frederick Erickson, ed. "Qualitative Methods in Research on Teaching," in M. C. Wittrock *Handbook of Research on Teaching*, 3d ed. (New York: Macmillan, 1986).

¹²⁰A recent example of this phenomenon can be seen in James G. Henderson's *Reflective Teaching: Becoming an Inquiring Educator* where terms like *reflection* and *inquiry* are programmatically defined in terms more moral than epistemic, and fitted into an interlocking system of fine-sounding but vague slogans. For example consider the following from chapter one, "Reflective Teaching and Educational Inquiry,":

"[Reflective teachers] are sincere and thoughtful professionals who constantly learn from their reflective experiences."

"The caring teacher takes the time to help all students discover their individual inclinations and capitalize on them."

"Caring teachers must also be 'co-operative educators'. Teachers guided by an ethic of caring understand that they can't practice personal confirmation and honest dialogue unless they work co-operatively with their students, and perhaps with their students' parents as well."

"Caring teachers think of themselves as facilitators of learning; they act as counsellors and advisors in their subject fields and not just as imparters of knowledge."

"The reflective teacher takes this constructivist approach and sees learning as a complex interaction among each student's past experiences, personal purposes and subject matter requirements."

"Teachers who become skilled problem solvers by following an ethic of caring and the constructivist theory of learning provide a special service in their classrooms."

"Reflective teaching is enhanced by an inquiring attitude toward education. The essence of educational inquiry involves taking a questioning, pondering, democratic perspective on the personal and public virtues of teaching and learning."

¹²¹Lanier and Little, "Research on Teacher Education."

¹²²Harry S. Broudy, "What Do Professors of Education Profess? *Educational Forum* 44, 4 (1980): 441–451.

¹²³Lanier and Little, "Research on Teacher Education," 533.

¹²⁴Tabachnick et al., "Teacher Education and the Professional Perspectives of Student Teachers", 22.

¹²⁵By one American estimate four-fifths of a secondary teacher's required program, and two-thirds of an elementary teacher's program, is provided by undergraduate study in faculties outside education. As more faculties of education in the United States and Canada phase out undergraduate degrees in education the proportion of teacher education outside education faculties will likely increase. See Wittrock, *Handbook of Research on Teaching*, 529.

CHAPTER TWO

THE NEGLECT OF EPISTEMIC CONSIDERATIONS IN RESEARCH ON TEACHING

To this point I have argued that the culture of teaching and the socialization of novice teachers into this culture combine to preserve long-standing, but undesirable methods of teaching. My chief worry concerned teaching practices which, by their neglect of reasoning, run the risk of fostering intellectual dependence in schools. Let us suppose that the arguments thus far have exaggerated the extent to which successful educational reform is unlikely. We might think that the culture of teaching and the forces of teacher socialization are not the powerful influences I've made them out to be, that effective programs of teacher education nullify their effects. Effective teacher preparation might then fortify novice teachers against the influence of teacher socialization in schools, and thereby lessen the chances that undesirable teaching practices will persist. In this discussion I plan to cast doubt on such an optimistic thesis. For while some courses of study in teacher education programs challenge established practices that stunt intellectual virtue, there are influential bodies of educational research and theory whose dissemination in initial teacher preparation programs reinforce these practices, not least because they already resemble teaching practices familiar to pre-service teachers. Of the many bodies of research and theory relevant to teacher training I will consider only two:

- 1) Process-product research on teaching effectiveness.
- 2) A conception of thinking skills that dichotomizes the relation between thinking and knowing.

My main objections can be summed up as follows. In process-product research we find recommended teaching strategies that are premised on conceptions of learning, achievement, and motivation that are either unduly restrictive or altogether wrong-headed. In matters related to classroom management and motivation as well as matters more directly related to teaching, process-product research advocates a pedagogy that fails to respect the intelligence of the learner and overlooks the place of critical thought in educational achievements.

Secondly, popular notions of the relation between thinking and knowing posit a sharp dichotomy between the two, and conceive of thinking in terms of discrete and highly generalizable skills. I will argue that this skill talk risks giving rise to a pedagogy of practice that is

inappropriate to the development of critical intelligence. It also fails to make clear the pedagogically significant relations between knowing and thinking. The picture of knowing and thinking to be found in many teacher education programs is more a caricature of the achievements we seek in education. To the extent teachers aim at ephemera of this sort their efforts to develop intellectual autonomy will be off the mark. Or so I will argue.

STRATEGIC AND LOGICAL ACTS OF TEACHING

Following Green, we can say that considerable emphasis in the literature of teacher preparation is given to the 'strategic acts' of teaching, while teaching's 'logical acts' are virtually ignored.¹ Strategic acts include planning, motivating, disciplining, questioning and the like. Logical acts, on the other hand, include explaining, concluding, giving reasons, amassing evidence, inferring and so on. Logical acts are essentially epistemic in character insofar as they aim at fostering rational belief, while strategic acts lack this epistemic purpose. The neglect of logical acts in teacher preparation texts is a serious defect of this research, a defect, that, I believe, can be traced to a crudely causal view of teaching and learning. While it is commonly admitted by teacher educators that teaching requires a knowledge of subject matter in addition to pedagogical knowledge, teachers colleges tend to restrict themselves to training teachers in the methods related to the strategic acts of teaching. Teacher education texts have the character of how-to manuals, providing prospective teachers with lists of do's and don'ts, sets of simple prescriptions for planning, motivating, questioning, etc. Effective teaching is viewed in terms of the utilization of discrete skills; the logical character of acts that aim at fostering rational belief are virtually ignored. E. D. Hirsch has observed of this tendency that

American schools of education are conceived on the principle that pedagogy itself is a skill that can be applied to all subject matter. Many of the courses taken by prospective teachers emphasize techniques of teaching and ways of improving students' "inferencing skills" and other general abilities as they are defined by theories of educational psychology. Thus the principle that abstractly defined skills are more important than specific information cannot be relinquished without compromising the fundamental assumptions of education schools. If educationists did not assert that skill in pedagogy is more important than mere information (which can always be looked up) they would not be able to resist the common sense view that the best teachers...would tend to be those who are well prepared in the subjects that they teach.²

While Hirsch may exaggerate the importance of subject preparation to teaching, his observation that education faculties have an institutional bias toward inflating the importance of generic skills is an important one. Teachers are not typically taught which questions on a given topic are important to ask. Instead they are taught the *form* of questions that require students to evaluate or analyze. There is little guidance given in how to determine which are the important claims, actions or events in need of evaluation or analysis. Thus there is the danger that teacher questions will be trivial or pointless even while they possess the appropriate form. Skill in classroom management tends to be viewed as a matter of instituting routines, procedures and sanctions that make the classroom a predictable environment. Absent is the idea that student misconduct will frequently be due to a lapse in moral judgment. Textbook discussions concerned with techniques of classroom management seldom describe student misconduct as selfish, inconsiderate, rude, insolent, or cruel—terms that carry moral significance. Nor do these texts commonly employ terms like ‘foolish,’ ‘wrong-headed,’ ‘self-defeating,’ or ‘reckless’. Instead student misconduct is discussed in terms of “off-task behavior” and non-compliance with school or classroom rules. The emphasis on derived over fundamental rules encourages an authoritarianism that, I will argue, is out of place in institutions charged with fostering intelligent belief and action.

Process-Product Research

Process-product research has been called the most vigorous and productive of the research programs investigating teaching.³ It, more than any of its rivals, has had a significant impact on teacher training and practice in the field, though the research community has lost faith in its ability to generate robust findings. Despite the misgivings of many empirical researchers and more than a decade of criticism from educational philosophers the findings from this research constitute a staple of initial teacher education programs. Though the bulk of this research is conducted in the United States, its influence has been internationalized by commercial programs such as Madeline Hunter’s *Instructional Theory into Practice*, teacher education textbooks, and a variety of journals, of which the *Elementary School Journal* is but one example.

Classroom teachers are more likely to know process-product research by a different

name—teacher effectiveness research,—or be familiar with the instructional programs and constructs it has produced such as *direct instruction*, *active instruction*, *time on task*, and *academic learning time*.⁴ Process-product research is so named because of researchers' interest in defining the relation between what teachers do when teaching (the process) and what students achieve as an apparent result of this teaching (the product). The research to date has generated several recommendations regarding teacher effectiveness, especially in the areas of classroom management and motivation, and has led to the development of instructional models based on meta-analyses of the data.

With *direct instruction*, the best known of these models, teacher behaviors are designed to maximize the length of time students remain engaged in their work, thus in the literature there is a heavy emphasis on teacher directed lessons characterized by high rates of student 'success', and continuous monitoring of student progress. The price of comparatively high rates of success and engagement time is a disturbing redefinition of what students ought to study in school. Although it may appear that direct instructional methods are the most efficient way to use time and resources, in practice direct instruction means that teacher talk dominates the class, while the content is intentionally simple and easy to grasp so teachers can ask many questions and get many responses. Questions of this sort tend to be exclusively closed; that is, they are questions for which there is only one right answer. Open-ended questions are to be discouraged, as is discussion, and debate. Topics and issues of any complexity, controversy, or ambiguity (for the student) are pushed to the side.

Barak Rosenshine, a direct instruction advocate, has admitted that process-product research has little to say on how to teach composition, increase reading comprehension or develop analytic skill.⁵ He does claim, however, that the research results are relevant in:

teaching mathematical procedures and computation, reading decoding, explicit reading procedures (such as distinguishing fact from opinion), science facts and concepts, social studies facts and concepts, map skills, grammatical concepts and rules, and foreign language vocabulary and grammar.⁶

Significantly, what distinguishes these two lists is the extent to which students may succeed simply by means of memorizing facts, rules, concepts, or procedures. Very little

reasoning is required by these outcomes (although a rather barren notion of learning a concept is implied). Little room exists for developing knowledge or understanding in any serious sense when teaching is largely given over to the transmission of basic facts and skills. Students are not encouraged to hold or abandon their beliefs on the basis of reasons, evidence and warrant. Little time in the “effective” lesson is to be allotted to deliberating about the adequacy of evidentiary arguments, or producing and defending one’s own. In what sense is the neglect of reasoning a problem? It might be argued that most of elementary schooling, at least, ought to be devoted to basic outcomes that will form a foundation for more sophisticated understanding at a later date. There is some sense to this view, especially when applied to the teaching of concepts and rule following procedures, but it would be a mistake to see the teaching of concepts as somehow divorced from teaching people how to think.⁷ The remainder of Brophy’s list—teaching mathematics, science and social studies—suggests a crudely mechanistic view of what it is to acquire knowledge in these disciplines. A common criticism of mathematics teaching is that children are instructed in rote procedures that they unthinkingly follow to obtain a correct answer. There are good reasons to reject this view of mathematical understanding. In an essay entitled “Basic Mathematical Skills” Scheffler criticizes what he calls “the false public image of mathematics”.⁸ This is an image of mathematics as something “exact, mechanical, numerical and precise—yielding for every question a decisive and unique answer in accordance with an effective routine.” The gist of his argument is that mathematics is quite different from this public image. Mathematics is not a collection of procedures for obtaining answers to problems, but rather a field of human understanding. To understand mathematics one must comprehend the truth of mathematical expressions and propositions. Though there may be step-by-step procedures one can follow in arriving at correct answers, one cannot be said to understand these procedures unless one understands the reasoning behind each step in the procedure, and why a correct answer is correct.

Skill and the Pedagogy of Practice

Scheffler’s observation on mathematics instruction stresses two points: first, that skill and comprehension are quite different things, and second, that the differences between them mean that

methods that are suitable for developing skills are not suitable for developing understanding or comprehension.

I have said much about skill, virtually nothing about comprehension. What sort of skill is *that*? Elsewhere I have argued that it is not a skill at all. To approach education as if it were always a matter of equipping the pupil with skills distorts our thinking....[One cannot] speak of practice in the realm of comprehension as one does in reference to skills. One cannot develop an understanding of quantum theory by understanding it over and over again, nor can one deepen one's understanding by faithfully repeated performances of understanding. One can tell a pupil to practice writing out a proof, it makes no sense to tell him to practice understanding it.⁹

The general point is this, and it applies to all fields of human understanding, not just mathematics. If teachers aim at fostering understanding they must provide the explanations, the analysis, etc., that will enable students to understand why we take some set of propositions, even mathematical propositions, to be true. This means giving students the reasons why we take something to be true. Much mathematics teaching in the past appears to have mistakenly taken mathematical understanding to be a matter of skill.¹⁰ Accordingly, a great deal of mathematics teaching resembled a direct instruction lesson with its demonstration and guided practice. The same complaint holds for science education. Numerous studies have shown that science students tend to approach scientific problem solving as an exercise in the application of scientific formulae. Even very successful students were shown to put most of their effort into memorizing formulae and identifying the sort of problem to which a given formula would apply.¹¹ By contrast professional scientists tend to operate within what Larkin and Chabay have called "the mental space of scientific reasoning". Scientists, they say, are more likely to "talk qualitatively of force momentums, velocity changes, and the relations between them, without ever writing an equation."¹²

Students can obtain correct answers by following the steps they practice, but this sort of pedagogy provides very little understanding of what these problems actually mean, why a correct answer is correct, what bearing these mathematical operations or scientific formulae have on real world problems, or how mathematics and science are, indeed, forms of human understanding.

Social studies instruction fares no better in this regard than instruction in mathematics and science. Unlike the knowledge claims in the latter two domains the knowledge claims advanced in

social studies are often contested. It is the nature of the disciplines that make up the social studies that the knowledge claims and value positions with respect to particular issues are the subject of much debate among experts. Where authorities fail to agree appeals to epistemic authority are illegitimate. Thus didactic teaching in social studies lacks the justification it might have if broad consensus among experts prevailed as it does in many areas of mathematics and science. It is well-established in research on social studies instruction that the majority of social studies textbooks fail to acknowledge the range of disagreement among experts on various topics. Discussions of culture, for example, frequently adopt a stance of cultural relativism without acknowledging the contentious nature of this view. Topics in history, economics, and politics frequently receive a chauvinistic treatment that would not be accepted by all historians, economists, or political scientists. For example, sympathetic interpretations of American foreign policy are frequently the only interpretations made available to American students. The *ideal* functioning of free markets is frequently presented in terms that suggest the ideal is the actual, just as the superiority of American political institutions is argued for on the basis of comparisons between the theoretically *ideal* functioning of these institutions and the *real* problems of political institutions in other countries. The latter example is perhaps more clearly an example of textbook bias than one of denaturing topics in social studies. The prevalence of bias in social studies textbooks is one of the most well documented failures in the entire domain.¹³ Textbooks in both the United States and Canada have been criticized for gender¹⁴ and political bias,¹⁵ and for misrepresenting the nature and extent of conflict in history and contemporary society.¹⁶ Gender stereotyping in texts is charged with socializing girls and boys into accepting the inferiority and passivity of girls and women. Texts commonly trivialize or ignore women's role in societies past and present. Women who are acknowledged in history texts tend to be those who have distinguished themselves in male domains. Historically significant topics in which women have played a major role—midwifery and human reproduction, housework, sexuality, marriage, and divorce—have not until very recently received sufficient attention. In Canadian textbooks biographical portraits of men outnumbered those of women by a ratio of 6 to 1.¹⁷ Critics have also observed that most textbooks present an unrealistically upbeat account of the nation's past and present. The shameful

chapters in national history receive considerably less treatment. Conflicts that do receive treatment are more often international conflicts than domestic ones. Labour history is either ignored, or presented as the history of conciliation between management and workers. The history of aboriginal people, when not overlooked altogether, is presented in terms that downplay the catastrophic moral and physical impact of European contact and domination. The mistreatment of women and children, especially crime against women and children, is virtually ignored in the elementary grades where the family and community are major topics of study. Instead students are left with the impression that in society “a happy consensus reigns,” where members of families, communities, and states have their needs met by existing social/political institutions and traditions.¹⁸ Students who continue their education to the university level will encounter in their sociology, history, and political philosophy textbooks arguments and points of view intentionally withheld from them a few years earlier. Critics of textbooks in both the United States and Canada observe that few teacher education programs alert prospective teachers to these deficiencies, or give them training in the analysis of textbooks.¹⁹

The Neglect of Reasoning in Classroom Management

Process-product research has been especially influential in the area of classroom management. Jere Brophy, one of the most enthusiastic promoters of this research, gives us examples of how an effective teacher manages her class.²⁰ Significantly, in these examples the teacher does not give students *reasons* for study and co-operation. There is no effort at moral education, nor any direct reasoning with students about the purpose and value of their studies. Misbehavior is not viewed as the product of faulty reasoning, so much as the effect of a poorly structured set of activities and procedures. Teachers, therefore, are not encouraged to justify lessons to students. Neither are they to engage students in practical reasoning. Instead they are to reduce opportunities for idleness and mischief by closely watching students, and manipulating the pace and difficulty of the lesson. Indeed, the effective manager is primarily an effective manipulator of children’s emotional states, particularly the anxiety of children with respect to earning the teacher’s approval or censure. Effective managers, according to Brophy, use presentation and questioning techniques that keep students alert and accountable. These

techniques, borrowed from Kounin, include *withitness*, *overlapping*, *signal continuity* and *group alerting*.²¹ In practical terms these techniques amount to teachers “looking around the group before calling on someone to recite, keeping the students in suspense as to who would be called on next by selecting randomly, getting around to everyone frequently...” (group alerting).²² Effective teachers “monitored the classroom regularly, stationing themselves where they could see all of the students continuously...[to] let students know their teachers were ‘with it.’” (withitness).²³ Effective managers also “move near the inattentive students, use eye contact where possible, direct a question to them, or cue their attention with a brief comment...” (signal continuity).²⁴ What is striking about these suggestions, apart from their banality, is the way in which they sidestep the question of whether we ought to give students reasons for what we ask them to do.

Since challenging material or subjects of any complexity may present management difficulties, Brophy recommends easy seat work for students on the grounds that “confusion about what to do or lack of even a single important concept or skill will frustrate students’ progress and lead to both management and instructional problems for teachers.”²⁵ When students are working with the assistance of teachers the research, says Brophy, suggests that success rates of 75–80% should be expected. When students are working independently success rates of 95–100% are necessary.

Evidential and Non-Evidential Styles of Belief

So long as teachers teach propositional knowledge as if it is only a set of disjointed facts to be remembered there is the danger that students will develop a *non-evidential style of belief*.²⁶ If we are committed to developing intellectual autonomy in students then at the least we are committed to the idea that students should hold their beliefs on the basis of good reasons, and adequate evidence. We must therefore give students good reasons for what we want them to believe, and encourage a reasonable skepticism until such reasons are provided. With respect to motivation and classroom management the commitment to critical thinking ought to alert us to the dangers of giving logically irrelevant reasons for study, hard work, and reasonable behaviour. Following Foley, such reasons may be termed non-evidential prudential reasons, that class of

reasons one might adopt on practical grounds in the interests of your non-epistemic well being. The motivation for accepting a belief on such practical grounds is essentially Pascalian. Pascal urges us to believe in God because the consequences of non-belief are severely distressing (providing God exists and possesses the punitive inclinations against non-believers attributed to Him in the Bible). The implicit argument for student's acting in compliance with teacher requests or with the school's standard of behavior is one restricted to the prudential considerations of avoiding sanction, or gaining rewards of a non-epistemic nature. Student attention is directed not to a set of *fundamental* rules that have their ground in the goals of education, but rather to a set of *derived* rules whose derivation gives little sense of their relation to what is fundamental. Rules of behavior in classrooms and schools tend to be stated as imperatives or prohibitions that do not reveal the moral nature of the fundamental rule from which they are derived. Prohibitions against running in the halls or talking in class have a tendency to become enforced or defied on authoritarian or anti-authoritarian grounds where the fundamental ground is overlooked. A more appropriate situation would be one where teachers offer reasons for adopting a particular belief or embarking on a particular course of action. Student resistance to *these* efforts can be less ambiguously viewed as a refusal to believe the propositions advanced in classes, or more generally a refusal to engage in inquiries whose relevance and value is unclear to the students. Appealing to student capacities to reason disambiguates at least to some degree student resistance. As things now stand, student resistance tends to be interpreted by teachers and prominent classroom management theorists as immature defiance to institutional authority. Resistance of this sort is to be circumvented by reducing opportunities for off task behavior, and/or instituting a system of contingently applied penalties and incentives unrelated to the epistemic merits of the beliefs held up for consideration. Few of the prominent management theorists stress the need for reasoning, and this oversight lowers the probability that students will become acquainted with the fundamental moral and epistemic standards that define the form of life associated with the educated person. Instead student purposes are depicted in terms of the pursuit of high grades, teacher approval and compliance with school rules. None of these courses of action will do much in themselves to acquaint students with the logically relevant reasons for study or considerate and

reasonable behavior.

The difficulty here can perhaps be best illuminated by reference to the idea of a practice and the standards immanent in a practice. MacIntyre has argued there is an important tension between acting in the pursuit of goods that are extrinsic to a practice and acting in the pursuit of goods that are internal to it.

By a practice I...mean any coherent and complex form of socially established cooperative human activity through which goods internal to that form of activity are realized in the course of trying to achieve those standards of excellence, and human conceptions of the ends and goods involved, are systematically extended.²⁷

MacIntyre lists as examples of practices: architecture, agriculture and various traditions of inquiry such as physics, chemistry, biology and history. Each has its own standards and purposes, its own methods and traditions. Unlike goods internal to a practice, external goods are contingently attached to practices, as are money, status and prestige to the practice of medicine. Unlike external goods that can be pursued in a great variety of practices, internal goods can be acquired only within the practices. MacIntyre's discussion is especially instructive for those who are attempting to initiate children into complex human practices such as those found in various traditions of inquiry that comprise the bulk of school subjects.

Consider the example of a highly intelligent seven-year-old child whom I wish to teach to play chess, although the child has no particular desire to learn the game. The child does however have a very strong desire for candy and little chance of obtaining it. I therefore tell the child that if the child will play chess with me once a week I will give the child 50 cents worth of candy. Thus motivated the child plays and plays to win. Notice however that, so long as it is the candy alone which provides the child with a good reason for playing chess, the child has no reason not to cheat and every reason to cheat, provided he or she can do so successfully. But, so we may hope, there will come a time when the child will find in those goods specific to chess, in the achievement of a certain highly particular kind of analytical skill, strategic imagination and competitive intensity, a new set of reasons, reasons now not just for winning on a particular occasion, but for trying to excel in whatever way the game of chess demands. Now if the child cheats, he or she will be defeating not me, but himself or herself.²⁸

Goods internal to a practice can only be specified in terms of the practice, and can only be identified and acquired within the experience of participating in the practice itself. MacIntyre distinguishes between two types of goods internal to a practice: the excellence of the product (which includes excellence in the production of the product and the product itself), and the good

of a certain form of life. A practice, therefore, involves standards of excellence that apply both to the product and its production, and define excellence in means and ends. To learn these standards and to come to accept their normative force is to enter into a form of life. Richard Peters anticipated MacIntyre's view of practices in his discussion of what it is to be educated.

A man cannot really understand what it is to think scientifically unless he not only knows that evidence must be found for assumptions, but knows also what counts as evidence and cares that it should be found. In forms of thought where proof is possible cogency, simplicity, and elegance must be felt to matter. And what would historical or philosophical thought amount to if there was no concern about relevance, consistency, or coherence? All forms of thought and awareness have their own internal standards of appraisal. To be on the inside of them is both to understand and to care.²⁹

This picture of a practice, its defining standards and goods, and the sort of schooling necessary to initiate students into an intellectually complex practice is, unfortunately, quite remote from the experience most teachers have had in their own education, and quite remote also from the sort of schooling many teachers are capable of providing to their own students. The state of being on the inside of a practice such as science or history is not likely to be available to students who do not reach the level of advanced study in university. Is there any special reason why this should be so, other than its being due to the traditions of schooling and undergraduate education? I think not. There is little evidence to suggest children cannot develop at least the *disposition* to be critical and the *inclination* to base their beliefs on evidence. Indeed the insistent curiosity and the demand for reasons among small children are well known features of early childhood. There is reason to believe that these dispositions are more extinguished than fostered in schools as children pass from the elementary grades to secondary school and beyond. Nor do schools appear to introduce students to the critical standards that partially define the traditions of inquiry and mark out the domain of epistemic justification. Denied experiences that would put them in touch with these standards it is little wonder that students fail to develop a critical spirit, and instead develop a non-evidential style of belief. Schools and universities must take some responsibility for this state of affairs to the degree they neglect evidential reasoning and offer non-epistemic motivations for belief and action.

There are two important points here for teachers to bear in mind. The first is that it makes

a difference what sort of reason we give students for doing what we ask them to believe or to do. The second is that our motivational practices in school, including grading practices, promote a devotion to external goods that is at cross purposes with our fundamental educational goals of having students act on the basis of good reasons, and of their discovering the value to be found in the world of knowledge and skill. If the reason for belief or action is intimately and logically related to the activity we want students to engage in and succeed at then that reason will reveal something of the point of the practice. Without an understanding of the purpose of a practice the reason for thinking certain methods are superior to others will remain obscure. There are standards that define excellence in the activity as well as standards that define excellence in the products of activity. Without an emphasis on justification for action and belief these standards must remain hidden from view. If justifications are only contingently related to the activity, as the candy was in MacIntyre's example, then such justifications indicate little of what is intrinsically valuable in the practice, and thereby tend to stand as barriers to the pursuit of those goods that are internal to the practice. Among these are the goods of a particular way of life, in this case the way of life of an educated person. Students who have no inkling of what these goods may be are simply not educated. It is difficult to see how school practices as described here will give students much insight into this way of life or the standards that define it.

Reasons and Motivation

One of the most widely used introductions to research on teaching, Arends' *Learning to Teach*, devotes a chapter to summarizing research on the variety of ways in which teachers can structure the classroom environment and manipulate students' psychological states to ensure co-operation and effort. In this chapter Arends devotes several pages to Madeline Hunter's methods for motivating students. These include the following:

- 1) **Level of concern:** Level of concern is the level of stress or anxiety students feel during your lesson. Hunter insists that if students aren't moderately stressed they won't be properly motivated. Hence she suggests teachers do such things as "stand next to a student who is not participating to raise concern"; Announce that "This will be probably be on the test".
- 2) **Feeling tone:** According to Arends, "students put forth more or less effort according to the

unpleasantness or pleasantness of the learning environment.” An unpleasant *feeling tone* is the result of a teacher intentionally saying negative things (“That story must be finished before you are excused for lunch”) A pleasant *feeling tone* is the result of the teacher saying something encouraging or pleasant (“You write such interesting stories, I’m anxious to read this one.”)

- 3) **Success:** By this Hunter means to remind us that success at a task can be encouraging, while failure may result in a discouraged and unmotivated learner. To this basic insight she adds that if tasks are too easy we don’t feel successful in mastering them, while if tasks are too hard we can’t be successful. Thus, we are motivated by tasks that are moderately challenging. Teachers, on this view, should set challenging tasks that still allow students to be successful.
- 4) **Interest:** Teachers ought to make their lessons interesting, novel, and vivid.
- 5) **Knowledge of results:** Teachers need to give specific and immediate feedback on student work.
- 6) **Influence and Affiliation Motives:** Teachers need to give students some say or influence in the way things are done in the classroom, as well as giving students opportunity to work in social groups.

On the face of it most of these “strategies” for motivating students seem perfectly innocent, sensible even. The problem is that not one of them involves giving students the logically relevant reason(s) for engaging in their schoolwork. Presumably there is a good reason for students to do the things we ask them to do. We need to give students these reasons, and expect students to demand them. Hunter’s virtual silence on the importance of giving these reasons is a mistake in the view of those committed to fostering a *reason-for-acting* mentality in students. Manipulating the feeling tone and level of concern fails to communicate any sense of the educational benefits to be derived from academic study. What is being appealed to here, instead of reason of this sort, are emotions or psychological states like fear, pride, and anxiety. No doubt there are times when teachers will need to appeal to such things, particularly when appeals to reason have failed. But the impression left by Hunter is that appealing to these states is what teachers ought to do in the first instance, not as a last resort. Interest, knowledge of results and the rest are fine, in themselves, but they are not a replacement for giving students the genuine

reasons we have for thinking that what we are asking them to do is worth doing. The argument against Hunter's approach can be summed up thus. If we, as a matter of course, appeal to the reason of students (by giving them the logically relevant reasons for doing what we ask them to do) students have a much greater chance of getting the message that to be an intelligent person is to do things for a good reason.

It might be offered in defense of teacher manipulation that children lack the maturity to govern themselves, or lack the ability to understand any justifications that might be advanced by teachers. After all the effectiveness of rational persuasion with respect to children depends on the rational capacity of children. But anyone who wishes to depart from rational persuasion in argumentation must carry the burden of proof for demonstrating rather than merely assuming the inability of children to benefit from rational persuasion. Following Kohlberg, Habermas notes three phases of cognitive development; only the first of these is compatible with the neglect of rational persuasion.

- 1) For the pre-school child, who is cognitively still at the stage of pre-operational thought, the sector of his symbolic universe relevant to [social] action consists only of individual, concrete, behavioral expectations and actions, as well as consequences of action that can be understood as gratifications or sanctions.
- 2) As soon as the child has learned to play social roles his symbolic universe [can now include] actions as the fulfillment of temporally generalized behavioral expectations [norms].
- 3) When finally the youth has learned to question the validity of social rules and norms of action...there...appear principles in accordance with which opposing norms can be judged.³⁰

At the first level the extent to which children can be held morally or epistemically responsible is quite limited. At the second and third levels, however, children and adolescents are capable of reasoning along conventionally normative lines at the least. Adolescents at the third level are capable of a significant degree of epistemic and moral independence. They are able, says Habermas, "to assert their identities independent of concrete roles and particular systems of norms."³¹ That is they become capable of the criticism of norms on the basis of principles. Max Miller, an associate of Habermas, has found that children as young as three years old take note of

circumstances where justification is called for, and enter into basic forms of argumentation to resolve the issue. Miller lays out the formal structure of an argument between three year olds that shows that there is no formal logical difference between the justificatory argument of a rational adult and that of a three year old.³² The difference lies in the norms upon which children rely in their efforts to come to an agreement. Of special interest is Miller's finding that the appropriateness of the norms employed by young children is limited by the context or problem situation in which they find themselves.³³ Miller concludes that, within the appropriate problem level, children can, in principle, engage in justificatory argument much more the equals of adults than hitherto allowed. What is crucial, however, to the success of classroom argumentation is that students be allowed to set the problem level by virtue of the questions they raise and the problems they encounter. This recommendation must sound very much like the constructivism of current educational theory, but it needn't possess the same solipsistic implications. It is not being suggested, as is sometimes argued, that because children 'make meaning' out of their existing systems of belief, teachers should stifle their inclination to follow an established course of study, and instead hand over the task of curriculum design to the children in their classes. The claim is much more modest. It is that the occasions when children identify what is problematic for them may be used by teachers to identify the level of debate most appropriate to the goal of fostering intellectual autonomy. As things currently stand the evidence suggests teachers conduct their classes at a level more appropriate to pre-school students operating in the first of the Habermas/Kohlberg stages. To the degree Miller is correct, there appears to be no good reason to teach in the ways suggested by behaviourist educational researchers like Madeline Hunter, providing our goal is the development of rational capacities and passions.

Once one has been alerted to the absence of a *reason for acting* perspective in the research on classroom management, it is easy to see that this lacuna is a defining feature of the orthodoxies with respect to motivation and preventative discipline. In textbook after textbook one finds little or no mention of, and certainly no emphasis of, the importance of reasoning with children about what to do.³⁴ Instead one finds quasi-causal perspectives supplied by behavioral³⁵ and clinical psychology³⁶, classroom ecology³⁷, and teacher effectiveness research³⁸. The first two

perspectives emphasize the psychological causes of behavior, while teacher effectiveness research is more concerned with teaching behaviors that are believed to cause, or otherwise bring about “on-task” student behavior and superior test scores. The list of what causes misbehavior is long, but includes pupil insecurity, a neurotic need for teacher attention, or power, as well as the more functional need for affiliation, and self-esteem. The effects of inept parenting, bad peer relationships or disadvantaged social backgrounds are often cited as well, but these typically are viewed as being beyond the power of teachers to remedy. Their significance to the present argument is that they exemplify the emphasis on non-epistemic causes of behavior, and are part of a view of motivation premised on an incomplete account of human action. While there is no discounting the causal influence of factors such as the need for affiliation and self esteem, in the context of education student motivation is best understood in terms of student *thinking*. So the common reminder to focus on student behavior instead of their reasons is little help in alerting teachers to the view that as human agents students do what they do for a reason. If the reason is a poor one, and reflects more than a momentary lapse of judgement, the appropriate teacher intervention is, ideally, one which attempts to show to the student the inadequacy of her reasons. Instead what is most often prescribed is an intervention that supplies or withholds whatever extrinsic goods are valued by students. This strongly behaviourist orientation fails to encourage teachers to see students in these teleological terms, and thus contributes to the neglect of reasons as the basis for thought and action.

Classroom management texts repeatedly stress the need to *minimize* opportunities for student decision-making about what to do, and treat evidence of emotional dependency not as making a case for the need to reduce this dependency so much as underlining the need to modify one’s teaching in the face of it. Emmer, Evertson and Sanford echo Brophy’s claim that a key difference between effective and ineffective classroom managers is that effective managers eliminate any ambiguity about what students are to do. Effective managers, they say, establish routinized procedures for student participation and movement, and where instructions or work requirements must be communicated they are unequivocally clear.³⁹ Classroom activities that do not lend themselves to straightforward routinization are to be considered less attractive than those

whose simplicity reduce the need for student judgment and interpretation. The advantage of routinizing procedures, claims Brophy, is that such classrooms “seem to work automatically”.⁴⁰

Doyle and Carter go so far as to endorse the maintenance of heteronomy in the interest of control. In one of their studies, they observed students who demanded to be told what to say and what to do in an creative writing assignment. It was obvious that the teacher was attempting to foster creativity and self-direction by providing a range of writing options. It was also clear that the class feigned confusion to force the teacher to become more explicit in her directions, and to do more of their thinking for them. Some were merely wasting time to avoid work, while others were made anxious by the prospect of thinking for themselves. Recall Kant’s claim that “laziness and cowardice are the reasons why so great a portion of mankind, after nature has long since discharged them from external direction, nevertheless remains under lifelong tutelage, and why it is so easy for others to set themselves up as their guardians.” Doyle and Carter’s advice is that order must take priority over fostering autonomy. Rather than conclude that heteronomy ought to be reduced or eliminated, they take emotional dependency as a given to which teachers must accommodate themselves in the interest of maintaining control.

Some students became quite adamant in their demands....On such occasions, order began to break down and the normal smoothness and momentum of the classes were reinstated only when the teacher provided the prompts and resources the students were requesting. The teacher was pushed, in other words, to choose between conditions for students’ self-direction and preserving order in the classroom.⁴¹

Doyle and Carter note with some satisfaction that the teacher in this case was experienced enough to know that “order had to come first or everything else was lost.” This sentiment is widespread in the research literature as well as in schools. When control breaks down, the cause is seen to lie in the teacher’s failure to anticipate dependency and immaturity. It is as if students are merely reactive agents in an environment of teacher regulated stimuli.

The manner in which students are characterized in this research is indeed puzzling, as is the fact that few people have objected to this characterization. One of the more revealing objections, by John Meyer, points to the way in which the prescriptions from this research may dull the moral sensitivity of teachers. “Too much research looks at the technology of teaching as if it were the mechanical action of a person on an object.” In Meyer’s view the student is seen as “a

mildly intelligent monkey (or occupant of a monkey-like role), constrained by the immediate distribution of rewards.”⁴² Students are typically depicted as being the passive recipients of one or another of various educational “treatments” or “inputs”, or as being subject to the influence of a host of stimuli that will, under optimal conditions, produce the desired educational “outcomes”.

Once students are conceived of as the passive recipients of “treatments” they become little more than receptacles of inputs, or objects to be manipulated. This carries a number of consequences. The student is to a large extent freed of any responsibility for learning; the responsibility therefore shifts to the teacher. In addition, *manipulating* students begins to appear reasonable, even desirable. Aside from the moral dangers associated with this sort of manipulation is the threat to intellectual autonomy: students may not be given a chance to develop the critical abilities and dispositions that are constitutive of being an educated person. Since “effective” teaching methods of this kind are authoritarian in the strictest sense of the word, “effective” teaching methods carry the risk of impressing on youngsters the values of obedience and industry at the expense of independent critical thought. Students are to accept the truth of statements, insofar as the issue of truth and justification ever arises, on the basis of authority, either the authority of the teacher or the authority of the text. They are to complete their exercises and do their homework, it would appear, because the teacher expects them to and will catch them out if they don’t. This is just the sort of teaching practice that is likely to engender the habit of holding beliefs dogmatically, on the basis of someone else’s word, or of acting unthinkingly to avoid censure. Without opportunities to consider the reasons why a belief is widely held to be true, it will seem to many students that it is not *their* business to know why a claim is justified so long as *someone* does.⁴³

So the main argument against the most widely cited prescriptions in educational research is that students are not expected to think critically about what their teachers tell them to believe or do. Indeed, teachers are encouraged to reduce the occasions where student thoughtfulness is even necessary. Therein lies the maintenance of immaturity in students.

THINKING SKILLS

Talk of skills is ubiquitous in current educational discourse. By one estimate the number of

books and articles that offer lists of educationally important skills runs in the hundreds.⁴⁴ There are thinking skills, psycho-motor skills, listening skills, reading skills, inter-personal skills, problem solving skills, information processing skills, communication skills, generating and integrating skills, remembering skills. The list appears to go on forever. This fecund proliferation of skills should not surprise us. According to Daniels the list of skills could indeed go on forever.⁴⁵ Because of the polymorphous nature of cognitive concepts any and every intentional action that eventuates in an achievement, no matter how modest, may count as a skill. Just as there are an indefinite number of behaviors that would count as obeying, given certain assumptions regarding the agent's intentions, the list of cognitive skills and processes is virtually boundless as well. There is little point, however, in elaborating longer and more finely detailed lists of skills. Such lists point us in the wrong direction, away from the normative requirements that define the successful act, and toward an empty pedagogy of practice. What is also striking about this list is the manner in which distinctions between widely disparate capacities and dispositions are effaced by bringing them together under the category of skill.⁴⁶ It should be plain that the motor skill of dribbling a basketball or executing a forward somersault is categorically a different thing from the "skill" of analyzing an argument or treating another person with courtesy and respect. The term "skill" when applied to these various contexts blurs important differences, some of which are crucial to intelligent curriculum planning or teacher education. Daniels remarks:

Classifying knowledge, skills, attitudes, interests, strategies, and processes together as species of the same sort of thing masks the differences between them. Attitudes, for instance, are propensities or inclinations to act in certain ways. Skills are capacities that may be exercised, but that need not be. Processes are neither propensities nor capacities; they are, in one sense of the word, events. We have attitudes, we have and use skills; but processes happen or we learn to make them happen. It may be that as teachers we want to inculcate attitudes, develop skills, and teach students how to carry out certain processes. But it will not do to pretend that all the upshots we seek are simple subdivisions of a single psychology of instruction—just because we as teachers happen to seek them all.⁴⁷

Not only are there distinctions to be made between these categories, the skills listed above, if they are that, differ with respect to determinacy and complexity. The skill of snapping one's fingers is a relatively simple and determinate skill, whereas riding a bicycle or operating a

lathe involve sets of skills that are not easily or sensibly described in isolation from one another. More complex still are the skills of an historian or surgeon which in addition to being more complicated require considerable judgement in their execution. This complexity, the need for judgement, the relative value of surgery over cycling signal important differences. Such differences are significant because they give us a sense, when properly understood, of how we ought to go about developing the competencies in which we are most interested. When misunderstood these differences may lead us to emphasize wrong-headed and ineffective pedagogies.

The failure to distinguish important differences among competencies might lead to grief in several ways. A major difficulty has to do with the physical and manual connotations that surround the word *skill*. Skill talk seems most at home in the domain of psycho-motor skills. Dribbling basketballs, doing somersaults, planing a block of wood, making an incision, sewing a dress—these are all central cases of skill. Dictionary definitions, though not the final word, support this view of skills. Webster's Dictionary, for example, defines skills as "(1) a great ability or proficiency, expertness that comes from training or practice, or (2a) an art, craft or science, especially one involving the use of hand or body, and (2b) ability in such an art, craft, or science."⁴⁸

Talk of skills, then, is suggestive of physical proficiency in an art, craft or science that is best developed by training or practice. Forms of competence that are not of this sort will not be best developed by teaching methods that are appropriate to the more physical and manual skills. Scheffler makes a similar point in his discussion of the difference between propositional and procedural knowledge. Procedural knowledge—know-how and skills—are categorically different from propositional knowledge that is more closely connected with questions of truth and justification than with matters of efficacious procedures. Scheffler observes there are pedagogically important differences between skills and understanding:

The notion of practice seems clearly relevant to skills and know-how; they are, indeed, typically built up through repeated trials or performances....One cannot develop an understanding of the quantum theory by understanding it over and over again, nor can one strengthen or deepen one's understanding by repeated performances of understanding.⁴⁹

Dribbling a basketball well, then, is largely a matter of guided practice and drill. Reading, when construed as understanding what one reads, is less a matter of practice, than of understanding. In order to understand what one reads one must have the conceptual resources to make sense of the words on a page and the pattern they take in a narrative, an argument, a description or what have you. This may involve many different kinds of things: a knowledge of literary conventions and rules, or a knowledge of human behaviour; what is needed is at least a partial understanding of the theme or subject of the text. Successful reading most of all requires one's having the appropriate conceptual resources. The requisite resources will vary much more from context to context than the talk of reading skills allows. The tale of the Emperor's New Clothes is unintelligible to those who don't have the concepts of vanity, greed, kings and their relation to courtiers, at least in embryonic form. Reading and understanding in another context, say that of a narrative of Newton's influence on science depends on the reader possessing at least a rudimentary understanding of gravity and velocity. It is undeniable that one cannot learn to read without practice, but practice alone will not yield up an understanding of texts. Skills talk runs the risk of promoting a pedagogy of practice where some other approach is called for. It also obscures the importance of context in the exercise of intellectual abilities. The skill of dribbling a ball is something that can be exercised in a number of situations and for a number of purposes. It can easily be applied across contexts in a way that intellectual abilities cannot. Barrow observes that "the skills of an historian—the ability to weigh evidence, for example, are not things that can be transferred. This has nothing to do with empirical arguments about transference; it is a matter of logic that weighing evidence in moral philosophy requires understanding that is not given by learning to weigh evidence in history."⁵⁰ The skills of an historian are abilities that depend on understanding history more than on some form of mechanical practice. These conceptual points can be buttressed by reference to empirical findings. Though Daniels' objections to skills talk dates back twenty years, critics today make the same points. One of the best known efforts to enumerate the skills of information processing, those of Sternberg,⁵¹ have been criticized for the endless proliferation of skills, which despite their number, have little transference.⁵²

Nowhere is the significance of context more apparent than in the domain of critical

thinking. In this general category one often finds such skills as decision-making skills, problem solving skills, inferencing skills, or so called higher order thinking skills. What these have in common is the supposition that there are highly transferable thinking skills that have their application in a wide variety of circumstances. Proponents of these thinking skills appear to believe it is possible to provide practice in the exercise of these skills in a small number of contexts then have pupils successfully apply these skills in a much wider range of contexts. The information or subject matter on which these skills are brought to bear is of secondary importance. The point I wish to argue is that the ability to think critically cannot be developed in this way.

I say this for two reasons. The first is the conceptual point often raised by McPeck⁵³, and argued for even more persuasively by Ryle⁵⁴: thinking, whether critical or not, is always thinking about *something*. What should be obvious from even a cursory examination of arguments in either practical or theoretical reasoning is the fundamental role played by factual premises. Those who are ignorant of the relevant facts will not be able to construct or detect sound arguments, even with an excellent grasp of deductive validity. This fact in itself does not establish a need for knowledge in the strong sense conceived by Scheffler, for true beliefs will serve just as well as justified true beliefs in any case. It does however establish that thinking is not a content independent activity. In support of this view there are numerous empirical studies which suggest that knowledge that is simply given to students to remember will not prove as useful in thinking as knowledge that is examined with a critical eye.⁵⁵

Secondly, while it may be possible to have the ability to think without exercising this ability in a given case, an individual could not sensibly be called a critical thinker without revealing a disposition to think critically. A person's being disposed to do something depends on the commitments and values that person holds. So whether a person is disposed to be logical, critical, reasonable, etc., will depend on what he has come to take seriously. What we take seriously, or more simply, what we value, is also something that we can reason about. If we want children to learn to think critically we must introduce them to various domains and subject matters, for each will contain, in the practices of criticism which lie at their heart, the value standards that motivate

and guide inquiry. If we want children to possess so called social skills we would do well to introduce them to the arguments in the more explicitly normative domain of moral and values reasoning.

Dispositions as Virtues

Skills talk, which renders every sort of desirable trait or ability a skill, tends also to obscure the role of intellectual virtues in the exercise of intellectual autonomy. Wallace offers a useful way to distinguish skills from virtues: each overcomes different impediments.⁵⁶ Lacking a skill is a technical difficulty, while lacking the requisite virtue leaves one unable to overcome a contrary inclination. Baron's review of the empirical evidence concerning rational thinking identifies two deviations from rationality, two impediments, if you like: individuals typically "overweigh the immediate costs of thinking relative to the long term benefits" and "gather and interpret evidence in a way that does not challenge possibilities about to be adopted."⁵⁷ These two tendencies are not attributable to a lack of technical skill in thinking so much as they are inclinations that reduce the likelihood of an individual thinking as carefully as he or she might. As antidotes to contrary inclinations virtues are not restricted to specific activities in the way skills are. Von Wright notes that playing a piano or driving a car are matters of skill limited to the activity in question, while the courage of a pianist filling in for a famous virtuoso has much in common with the courage of the psychiatrist interviewing a psychopath. The activities themselves have little in common, yet the virtue of courage has application across contexts.

Knowledge and Thinking

One of the ironies of the current spate of reform efforts in education is that while most curriculum documents stress the importance of promoting intellectual development few evince an understanding of the role of knowledge in thinking. The view that knowledge and thinking are separate is well established in education. In Benjamin Bloom's 1954 *Taxonomy of Educational Objectives in the Cognitive Domain* knowledge and what are now called higher order thinking processes are distinguished, with knowing being tagged as the process that has been given too much emphasis in schools. The higher order processes—analysis, synthesis, and evaluation were

seen as being neglected since the bulk of teaching in schools appeared to be aimed at the transmission of facts and principles to be remembered. Indeed Bloom clearly equated knowledge with information to be remembered. This identification of knowledge with information is a fundamental mistake that has caused much mischief in education for it obscures the dimension of epistemic justification in genuine knowledge claims. Bloom was right to object to the emphasis on rote learning in schools, but mistaken in thinking that the practice of memorizing facts is consistent with a full bodied conception of knowledge. A full bodied conception of knowledge would require that what we call knowledge would include the element of justification or warrant. One cannot be said to know much of value if one is ignorant of the reasons (the justification) we have for thinking a particular conclusion is true. It is in the “logical space of reasons”⁵⁸ where we best develop our ability to reason, and the logical space of reasons is situated in the justifications we have for our knowledge claims. Rather than de-emphasize the teaching of knowledge, we need to do a much better job of teaching knowledge, one that stresses the strengths and faults of the justifications we take to be adequate in the knowledge claims we generally accept.

Given this construal of knowledge it should not surprise us that there is significant resistance to the view that one of a teacher’s primary responsibilities is the transmission of knowledge. Instead something referred to as “process” is to be favoured over “content”. Although what is meant by process is not always clear, the term content appears to be synonymous with such things as concepts, facts, principles and the like. In some cases the distinction employed to derogate knowledge is one between higher and lower order mental processes: knowing is a lower order mental process while analyzing and evaluating are higher order mental processes. In other schemes knowledge is seen as mere information, and thinking a matter of information processing. These various synonyms for knowledge are even less suggestive of epistemic considerations. The terms content and information give no hint of the need for assessing truth claims.

For example, *Involvement in Learning: Realizing the Potential of Higher Education*, an influential report of the National Institute of Education in the United States, claims that “capacities and skills are the truly enduring effects of higher education.”⁵⁹ Less attention is given

to knowledge which is variously referred to as the “content or raw material of a discipline.” The report leaves educational institutions to decide on the “raw material” that will serve as the means to the development of skills. Among the skills are those of writing and speaking, critical thinking and analysis, synthesizing, imagining, and creating. One commentator has observed of this emphasis that

something is missing from this formula, and the reason is the separation of knowledge from skills and so forth, as if one of these things were the broth and the other the pot. What happens if the institutional decisions about the objects of knowledge are inadequate?...Will all the skills in the world then be of any value?...Can a report that does not speak of the *what* of knowledge be anything more than a series of encouraging (or discouraging shouts)?⁶⁰

What is striking about the characterization of skills in curriculum and policy documents is not only the importance attached to these skills relative to knowledge and attitudes, but the number of *cognitive* abilities now classified as skills. This emphasis on skills, present in schools for many years, has been given official sanction in British Columbia as a result of a major curriculum revision program known as the *Year 2000*,⁶¹ and in Saskatchewan’s on-going curriculum revision efforts. The proposed changes to the curriculum found in the *Year 2000* are predicated on an assessment of social and economic trends in British Columbia that have a bearing on education. One of these trends, *the knowledge explosion*, is reported to be global in its scope and is used to make the case against education’s traditional emphasis on the transmission of knowledge. The significance of the knowledge explosion is that it is unrealistic and miseducative to persist in teaching knowledge since not only is there too much knowledge at present for students to acquire, there will be a great deal more in the future. It is claimed that the rate at which knowledge is produced and then made obsolete is so rapid that the traditional reliance on knowledge is no longer suitable in the age of information. It would be much more sensible, on this view, to teach children how to access and process information stored in libraries and data banks than have them commit facts to memory. The Carnegie Task Force on teacher education adopts this line in its report, *A Nation Prepared: Teachers for the 21st Century*. It is not the job of schools to provide students with the knowledge they will need to know in their adult roles, but rather with a knowledge of how to find out what they need to know: “They [students] will not

come to the workplace knowing what they need to know, but knowing how to figure out what they need to know, where to get it, and how to make meaning of it.”⁶² The primary sense of “knowing” in this passage is that of knowing how or skills; it is also a commodified view of knowledge whose utility lies in its applicability to the world of work, and in its interpretive usefulness. On this view there appears to be a skill by means of which one “makes meaning” out of the knowledge demanded by one’s work. These are odd distinctions to say the least. There is first the split between knowing how and knowing that where the latter does little to supply the former. Then there is the split between knowledge and meaning where the latter is imposed on the former.

Of the sort of knowledge needed the report has this to say:

The skills needed now are not routine. Our economy will be increasingly dependent on people who have a good intuitive grasp of the ways in which all kinds of physical and social systems work. They must possess a feeling for mathematical concepts, and the ways in which they can be applied to difficult problems, an ability to see patterns of meaning where others see only confusion: a cultivated creativity that leads them to new problems, new products, and new services before their competitors get to them; and in many cases, the ability to work with other people in complex organizational environments where work groups must decide for themselves how to get the job done.⁶³

While the wholesale abandonment of knowledge is not being proposed, its pride of place in education has been put into question. It is to be displaced, at least somewhat, by a greater emphasis on skills and attitudes. Prominent among these skills are information processing skills, thinking skills, decision-making skills, problem-solving skills and communication skills. This list of skills gives some hint of a postulated dichotomy between knowledge and thinking. One has knowledge, perhaps in a data bank, or in one’s head, and then, depending on the situation, one processes this knowledge in a variety of ways. If confronted with a problem, a problem-solving process is called for. If one needs to make a decision, a decision-making process is called for. Once the requisite process is identified it can then be employed in relation to one’s “knowledge base”. These various skills are seen to be distinct enough from knowledge and from each other that they can be taught and exercised separately. That is, one can be taught how to solve problems in a general sort of way and then go on to solve specific problems by accessing and processing the relevant information. Furthermore, since there is more information now, and more sophisticated

technologies for processing information than ever before educators ought to give more weight in curriculum planning to these processes and technologies and less weight to the fact stuffing and cramming that has characterized a great deal of schooling to date. In Saskatchewan the bifurcation of knowledge and thinking is written explicitly into curriculum guides. On the advice of Barry Beyer, the Saskatchewan curriculum guides divide thinking skills into a hierarchy of twelve skills that are to be taught in sequence, one or two skills per grade level. Each successive skill is said to depend on the preceding skill. The skill of “data location” begins the sequence in grade four, with data gathering in grade five, and data organization in grade six. The remaining sequence goes as follows:

Grade 12: Evaluating

Grade 11: Synthesizing and Analyzing

Grade 10: Analyzing and Hypothesizing

Grade 9: Inferencing, Generalizing and Classifying

Grade 8: Comparing

Grade 7: Summarizing

Since it seems the absurdity of this arrangement is not transparent to everyone some discussion of its weaknesses is called for. First of all it is assumed that evaluating, synthesizing and analyzing are higher order thinking skills in this hierarchy. They are the most complex, and are less likely to be mastered if lower order thinking skills have not been mastered first. Indeed it is insisted that “students are not able to learn to the mastery level more than 5 skills per year.”⁶⁴ It is also assumed that school age children will lack these skills or will be somehow deficient in their use. These skills are to be mastered by means of “frequent, but intermittent (not massed) practice of the skill.”⁶⁵ The guide further cites Beyer as claiming that research shows that thinking skills must be learned in the context of course content since “skills learned in isolation of content will not automatically transfer to any content that may be selected later.”⁶⁶ The implication appears to be that transfer to other contexts, perhaps even automatic transfer, will be possible if teachers develop these skills in relation to some course content.

What should be obvious is that skill in the employment of these “skills” is highly context

dependent. In many contexts even pre-schoolers will be seen to possess these skills. No argument is necessary to justify the claim that pre-schoolers are capable of making sound comparisons (introduced in grade 8), classifying objects into categories (grade 9), and generalizing from experience (grade 9). All three “skills” are required to draw the conclusion and make the claim that “cotton candy is sweeter than apples”. And yet teachers are warned against attempting to teach more than two or three of these skills per year since students are not able to learn more than five skills per year. Take evaluation, allegedly the most complex, therefore reserved for the highest level of secondary education. To the extent that the skill of evaluation is a necessary condition of developing stable preferences and acting on them this skill is present in infancy. Presumably what skills advocates are after is the ability to make intelligent evaluations across a range of contexts. But if that is what is desired neither this taxonomy nor the prescriptions for teaching that frequently accompany it will suffice. What is not made at all clear in the curriculum document is the criteria-driven nature of evaluation. An evaluation of the new cars for 1995 will draw on evaluative criteria relevant to cars, while the criteria for evaluating Napoleon’s tenure as Emperor of France will require altogether different criteria. Mileage per gallon, frequency of repair rates, and the results of low speed collision tests will be of no use in assessing Napoleon’s greatness. To say evaluative criteria are context sensitive is just to say that attempts to develop these skills in a general way is an idle fantasy. An ability to analyze chemical compounds will be of no use in tasks requiring the analysis of philosophical arguments or stock market reports. To be able to analyze chemical compounds what is needed is some defining purpose for the analysis and a knowledge of chemical compounds as extensive as is required by the analysis. To analyze philosophical arguments (which is to evaluate them as well) is to employ critical standards such as logical coherence and an extensive knowledge of other philosophical arguments that bear on the topic under discussion. The upshot is that there is little reason to believe this taxonomy of generic skills is a useful way to characterize thinking tasks because it drains thinking of its substantive and frequently content-dependent character.

In order to maintain the view that knowing and thinking are separate one must ignore a distinction brought forward by Plato, between what it is to *know* something to be true and what it

is to have a true belief.⁶⁷ Having knowledge, on this view, implies that one is able to give a satisfactory account of how one knows.⁶⁸ That is, one must be able to provide evidence or grounds for taking a belief to be a true belief. Within epistemology this view falls within *internalist theories of epistemic justification*. Internalists can be distinguished from *externalists* by their emphasis on the internal character of epistemic justification. Justification, for the internalist, is a matter of the subject being able to offer an argument that justifies a belief in question, while for the externalist the subject may be quite unaware of the reason why a belief is justified and thus would be unable to offer any justification. The neglect of epistemic justification in schools is more problematic to internalists than externalists, and for this reason the debate between these two will be considered in some detail in the chapter to follow.

An implication that the internalist view carries for teachers is that children must be able to provide an evidential argument of at least a rudimentary sort to be justified in claiming to know anything. That is, children must be able to demonstrate, to some degree at least, that their grounds for holding a belief are in accord with *public standards of relevance and adequacy*, the force of which they understand. If teachers were to emphasize the need for students having evidentially held beliefs instead of beliefs held on the basis of convention or authority, as well as give their students access to this evidence, students would be better positioned to learn to think for themselves.

It is also common in curriculum documents to find references to critical thinking that suggest a more or less complete failure to understand its normative nature. Teachers are encouraged to view thinking as a matter of following invariant procedures and steps. For example, many curriculum guides advocate the teaching of a five step problem solving method modeled on Dewey's scientific problem solving method. Teachers are instructed to provide students with opportunities to practice solving problems by working through the successive stages of problem identification, hypothesis formation, testing, etc., on the assumption that an unfamiliarity with these steps explains why children fail to solve problems intelligently. (Indeed the choice of problems to be solved often seems not to matter in teaching methods texts and courses. Any topic of interest to students will do). Yet what reason is there to believe children are

unfamiliar with these steps, or that the problem domain is unimportant? Imagine a five year old looking for his teddy bear. He walks into his room and realizes he doesn't know where his teddy bear is. In other words he identifies the problem. He then generates several hypotheses regarding the whereabouts of his bear—under the bed, in the closet, in his toy box, etc. He then proceeds to test each hypothesis by looking under the bed, in the closet, in the toy box. Upon discovering his teddy bear in the toy box he not only confirms one of his hypotheses but is able to infer that his mother put the toy there because he knows he wouldn't have, and because she always insists the toy box is the place for toys. Scenarios like this one no doubt occur again and again well before most children enter the first grade and receive what their teacher may think is their first exposure to the problem solving method. It is not unfamiliarity with solving problems that accounts for a given failure in problem solving, so mere practice in problem solving will do little to prepare students for solving difficult problems. As Dewey recognized, what makes problem solving difficult is an inability to tell the exact nature of a problem situation, or the range of potential hypotheses that may be worth pursuing, or the standards by which hypotheses may be tested. Absent in many educational discussions of problem solving is any clear grasp of these difficulties or how to go about resolving them for children. Problem situations of educational importance, along with competing hypotheses and the standards by which they can be tested tend to reveal themselves in traditions of critical thought. To ignore these traditions or these elements within them is to squander an opportunity to familiarize students with some of the most successful arguments and standards to date.

The Discipline of the Norm

It is worth noting that both the aforementioned research on teaching, and the generic skills conception of thinking can be viewed as rudimentary attempts to standardize the way teachers teach. They offer pedagogical norms of effectiveness as definitive of good practice and thereby supply the means by which poor teaching can be identified, and corrected. Norms such as these are institutionally powerful. Once they have been accepted, they have a way of disciplining individuals into conformity with them. It is Foucault's special contribution to have elaborated the political power of the norm which, in the context of this discussion, merits further examination.

Let us begin with Foucault's discussion of the emergence and operation of disciplinary power in the first modern prisons.⁶⁹ Foucault saw in the first prisons the emergence of techniques of control based on supervision and the establishment of norms that this supervision made possible. Discipline, in Foucault's sense, began to operate in prisons and in other social institutions responsible for human improvement (schools, asylums, clinics, barracks, etc.) during the nineteenth century. By means of three instruments: *hierarchical observation*, *normalizing judgement*, and *the examination*—these are Foucault's terms—it became possible to know individuals and thereby transform them.

Hierarchical observation refers to the manner in which supervisory arrangements are organized within a bureaucratic framework. Each supervisor must in turn be supervised in such a way that the entire organization is knitted together in a network of inspection. Once it is possible to observe those within an organization, and once those within it are brought into view, it becomes possible to know them and thereby alter them. Where direct observation is not possible it is necessary to develop indirect supports or "relays" that over time connect the information of accumulated periods of time. Periodic inspections of schools and classrooms are examples of the former, while standardized norm referenced achievement tests are examples of the latter.

Systematic observation makes it possible to gather enough information about people to develop a sense of what is normal. From there it is a relatively simple matter to employ norms to maintain normality or to begin to move toward some ideal or superior state of affairs. Norms provide a standard against which individuals can be judged. In the context of inspection throughout an organization, normalizing judgement makes possible the fixing of individuals along a continuum that has reward and punishment at its poles. Examination and inspection, governed by norms and operating within a bureaucratic hierarchy, combine to produce "a normalizing gaze" through which individuals can be judged and classified.

In short, the art of punishing, in the regime of disciplinary power, is aimed neither at expiation, nor even precisely at repression. It brings five quite distinct operations into play: it refers individual actions to a whole that is at once a field of comparison, a space of differentiation, and the principle of a rule to be followed. It differentiates individuals from one another, in terms of the following rule: that the rule be made to function as a minimal threshold, as an average to be respected, or as an optimum toward which one must move.

It measures in quantitative terms and hierarchizes in terms of value the abilities, the level, the “nature” of individuals. It introduces, through this “value-giving” measure, the constraint of a conformity that must be achieved. Lastly, it traces the limit that will define difference in relation to all other differences, the external frontier of the abnormal.... The perpetual penalty that traverses all points and supervises every instant in the disciplinary institutions compares, differentiates, hierarchizes, homogenizes, excludes. In short, it normalizes.⁷⁰

The ideal classroom of the “effective teacher” is one that is firmly situated with this “regime of disciplinary power”. Norms of effective teaching (that emerged from the examination of teaching behaviors and student achievement) permit comparisons to be made between teachers. Interpreted in this way the norms derived from process-product research place teachers under “the constraint of a conformity that must be achieved.” They serve as “minimum thresholds” of competence, “averages to be respected”, or optimums toward which [teachers] must move.” The link to achievement test scores permits the measuring in quantitative terms of “the ability, the level, the nature of individuals”, and makes possible the ranking of both teachers and students. Once ranked, individuals who have been constituted as the “ineffective teacher”, or the “learning disabled student”, who have been placed in “the external frontier of the abnormal” these individuals can be improved, normalized, or excluded. Regardless of which treatment they receive, they have been identified, constituted as individuals, and made into sites for the exercise and production of power and knowledge.

Teachers are thus pressured to teach in much the same way, with the paradoxical result that this similarity between them makes the differences between them (in pedagogy, in success) more readily discernible. What is especially interesting about these disciplinary instruments is that at the same time during which they control teachers, they control students; both are caught in a disciplinary web.

In the hierarchically ordered power structures of schools, supervisors can insist that behaviors that the research has identified as being the most efficacious are those that teachers must employ. Teachers are then pressured to standardize their teaching practices, while students are pushed to exhibit a narrow range of competencies. This sort of homogeneity permits the making of comparisons that would be impossible, but for these conditions of formal equality. On the basis of such comparisons, individuals (both students and teachers) can be related to one

another, ranked and classified. Comparative knowledge such as this can then be employed in the allocation of rewards, incentives and sanctions, the pursuit or avoidance of which becomes the reason for acting. In this manner teachers are ruled heteronomously.

It is important to note that the pressure to teach along the lines suggested by the research may be felt either as external pressure or as a conviction about how one ought to teach. Because this research is stamped with the legitimacy of science it may be more readily accepted and may more easily displace the professional judgment of individual teachers who would prefer to teach in some other way. Because it 'exudes a penalty of the norm' it may bully teachers into teaching as they are told. In Foucault's words it has the potential to make us "accept someone else's authority to lead us in areas where the use of reason is called for." In Erickson's phrase it places "external limits on the capacity of a teacher to reflect critically on his or her practice." Effectiveness research may well become for the teacher precisely what Kant cautioned his contemporaries against. It may become the book that understands for us. In this sense the research would become the analog of Kant's guardians "who have so kindly assumed superintendence over us". It serves on the one hand to do our thinking for us, and on the other to prevent us from thinking. Kant's 'way out' of immaturity is the free use of reason, which in the disciplinary regime, is the very thing most threatened.

¹Thomas Green, *The Activities of Teaching* (New York: McGraw Hill, 1971).

²E. D. Hirsch, "The Primal Scene of Education," *The New York Review of Books* March 2, 1989, 29.

³Lee S. Shulman, "Paradigms and Research Programs in the Study of Teaching," in *Handbook of Research on Teaching*, 3d. ed., ed. M. C. Wittrock (New York: Macmillan, 1986), 3-36.

⁴Strictly speaking, teacher effectiveness research is only part of the larger research program known as process-product research. Since it is teacher effectiveness research that is most often translated into prescriptions for teachers, and since teacher effectiveness research shares most of the important assumptions that frame inquiries in process-product research the two will be viewed as equivalent here. For a discussion of the ways in which teacher effectiveness research figures as only a part of the larger tradition see N. L. Gage and Margaret C. Needels, "Process-Product Research on Teaching: A Review of Criticisms," *Elementary School Journal*, 89, no. 3, 1989; Jere Brophy and Thomas L. Good, "Teacher Behavior and Student Achievement," in *Handbook of Research on Teaching*, 3d. ed., ed. M. C. Wittrock (New York: Macmillan, 1986), 328–375; Alan Tom, *Teaching as a Moral Craft* (New York: Longmans, 1984).

⁵Barak V. Rosenshine, "Explicit Teaching," in *Talks to Teachers: A Festschrift for N L Gage*, ed. D. C. Berliner and B. V. Rosenshine (New York: Random House, 1987), 75.

⁶*Ibid.*, 75.

⁷On the relation between concept learning and critical thinking see Jerrold Coombs, "Critical Thinking and Problems of Meaning," in *Critical Thinking and Social Studies*, ed. Ian Wright and Carol LaBar (Toronto: Grolier, 1987).

⁸Israel Scheffler, "Basic Mathematical Skills," in *In Praise of the Cognitive Emotions* (New York: Routledge, 1991).

⁹*Ibid.*, 75.

¹⁰Recent surveys of student opinion in elementary mathematics classes reveals that "many children believe that the goals of mathematics problem solving is to find the single correct answer as determined by the teacher. For these children, problems are seen only as opportunities to find and apply proper computational rules to some arbitrary set of numbers." See Rochelle G. Kaplan, Takashi Yamamoto, and Herbert P. Ginsburg, "Teaching Mathematics Concepts," in *Toward the Thinking Curriculum: Current Cognitive Research: Yearbook for the Association of Supervision and Curriculum Development*, ed. Lauren B. Resnick and Leopold E. Klopfer (1989), 63; Rochelle G. Kaplan, Burgess, and Herbert P. Ginsburg, "Children's Mathematical Representations Are Not Always Mathematical," *Genetic Epistemologist* (1990).

¹¹M. T. H. Chi, J. Feltovich, and R. Glaser, "Categorization and Representation of Physics Problems by Experts and Novices," *Cognitive Science* 5 (1981): 121–152; D. and H. A. Simon, "Individual Differences in Solving Physics Problems," in *Children Thinking: What Develops?*, ed. R. S. Siegler (Hillsdale, NJ: Lawrence Erlbaum Associates, 1978); J. H. Larkin, "The Role of Problem Representation in Physics," in *Mental Models*, ed. D. Gentner and A. L. Stevens (Hillsdale, NJ: Lawrence Erlbaum Associates, 1983); J. H. Larkin, "Enriching Formal Knowledge: A Model for Learning to Solve Problems in Physics," in *Cognitive Skills and Their Application*, ed. J. R. Anderson (Hillsdale, NJ: Lawrence Erlbaum Associates, 1981).

¹²Jill H. Larkin and Ruth W. Chabay, "Research on Teaching Scientific Thinking: Implications for Computer Based Instruction," in *Toward the Thinking Curriculum: Current Cognitive Research: Yearbook for the Association of Supervision and Curriculum Development*, ed. Lauren B. Resnick and Leopold E. Klopfer (1989), 151.

¹³*Report of the Royal Commission on the Status of Women in Canada* (Ottawa, 1970); Jane Gaskell, "Stereotyping and Discrimination in the Classroom," in *Precepts, Policy and Process: Perspectives on Contemporary Education*, ed. J. Donald Wilson and Hugh Stevenson (Calgary: Detselig, 1977); Batcher et al., *And Then There Were None: A Report Commissioned by the Status of Women Committee, Federation of Women Teachers of Ontario* (Toronto, 1975). British Columbia Teachers Federation, *Women in Teaching Textbook Study* (Vancouver, 1975). Richard Paul et al., "Some Common Problem with Social Studies Texts," in *Critical Thinking Handbook: 6th to 9th Grades*. 172–176; Isabel L. Beck and Margaret G. McKeown, "Substantial and Methodological Considerations for Productive Textbook Analysis," in *Handbook of Research on Social Studies Teaching and Learning*, ed. James P. Shaver, 496–512; Donald Fisher, "The Political Nature of Social Studies Knowledge," *History and Social Science Teacher* 18, no. 4 (1983): 219–225; Patricia Baldwin and Douglas Baldwin, "The Portrayal of Women in Classroom Textbooks," *Canadian Social Studies* 26, no. 3 (Spring 1992): 110–114.

¹⁴Baldwin and Baldwin, "The Portrayal of Women in Classroom Texts".

¹⁵Paul et al., "Some Common Problems with Social Studies Texts"; Fisher, "The Political Nature of Social Studies Knowledge".

¹⁶Fisher.

¹⁷Baldwin and Baldwin.

¹⁸Fisher.

¹⁹Baldwin and Baldwin, McKeown and Beck, "Substantial and Methodlogical Considerations for Productive Textbook Analysis."

²⁰Jere Brophy, "Classroom Organization and Management," in *Elementary School Journal*, 83, no. 4 (1983): 265–285.

²¹John S. Kounin, *Discipline and Group Management in Classrooms* (New York: Holt, Rinehart & Winston, 1970).

²²Brophy, 267.

²³Ibid. 267.

²⁴Ibid. 267.

²⁵Ibid. 268.

²⁶I owe this term to Thomas Green's discussion of the teaching concept in "A Topology of the Teaching Concept."

²⁷Alasdair MacIntyre, *After Virtue* (Notre Dame, Indiana: University of Notre Dame Press, 1984), 187.

²⁸Ibid.

²⁹R. S. Peters, *Ethics and Education* (London: Allen and Unwin, 1966): 31.

³⁰Jurgen Habermas, *Moral Consciousness and Communicative Action* trans. Shierry Weber Nicholson (Cambridge, MA: MIT Press, 1990).

³¹Ibid., 14.

³²Max Miller, "On First Learning How to Contradict," in *Children's World and Children's Language*, ed. J. Cook-Gumperz, W. Corsaro, & J. Streeck (Berlin: Mouton de Gruyter, 1986).

³³Robert E. Young, *A Critical Theory of Education: Habermas and Our Children's Future* (New York: Teachers College Press, 1990), 117.

³⁴Richard I. Arends, *Learning To Teach* (New York: McGraw Hill, 1991); Gary D. Borich, *Effective Teaching Methods* (Toronto: Maxwell Macmillan, 1992); Allan C. Ornstein, *Strategies for Effective Teaching* (New York: Harper and Row, 1990); Thomas L. Good and Jere Brophy, *Looking Inside Classrooms*, 5th ed. (New York: Harper Collins, 1990).

³⁵L. Canter and D. M. Canter, *Assertive Discipline* (Los Angeles: Canter and Associates, 1976). It is important to note that despite the enormous popularity of the Canter's approach among teachers, the research upon which Assertive Discipline rests only weakly supports the program of interventions.

³⁶Robert Dreikurs, *Psychology in the Classroom: A Manual for Teachers*, 2d. ed. (New York: Harper and Row, 1968).

³⁷Richard A. Schmuck and Patricia Schmuck, *Group Processes in the Classroom*, 5th ed. (Dubuque, Iowa, W. C. Brown, 1988).

³⁸Walter Doyle and K. Carter, "Academic Tasks in the Classroom," *Curriculum Inquiry* 14 (1984): 124-149; John Kounin, *Discipline and Group Management in Classrooms* (New York: Holt, Rinehart & Winston, 1970); V. Gump, "School Settings and their Keeping," in *Helping Teachers Manage Classrooms*, ed. D. L. Duke (Alexandria, VA: Association for Supervision and Curriculum Development, 1982); Walter Doyle, "Classroom Organization and Management," in *Handbook of Research on Teaching*, 3d. ed., ed. M. C. Wittrock (New York: Macmillan, 1986).

³⁹E. T. Emmer, Carol Evertson, J. Sanford, B. S. Clements, W. E. Worsham, *Classroom Management for Elementary Teachers* (Englewood Cliffs, NJ: Prentice-Hall, 1984); E. T. Emmer, Carol Evertson, J. Sanford, B. S. Clements, W. E. Worsham, *Classroom Management for Secondary Teachers* (Englewood Cliffs, NJ: Prentice-Hall, 1984).

⁴⁰Brophy, "Classroom Organization," 266.

⁴¹Walter Doyle and K. Carter, "Academic Tasks in Classrooms," *Curriculum Inquiry*. 14 (1984): 146.

⁴²John W. Meyer, "Levels of the Educational System and Schooling Effects," in *The Analysis of Educational Productivity*, ed. C. Bidwell and D. Windham (Cambridge: Ballinger, 1980), 53.

⁴³As we shall see in the chapter following there are educationists who think attitudes of this sort are perfectly reasonable, and ought to be fostered in schools.

⁴⁴Robert Marzano, Ronald S. Brandt, Carolyn Sue Hughes, Beau Fly Jones, Barbara Z. Presseisen, Stuart C. Rankin and Charles Suhor, *Dimensions of Thinking: A Framework for Curriculum and Instruction* (Alexandria, VA: Association for Supervision and Curriculum Development, 1988).

⁴⁵LeRoi B. Daniels, "What is the Language of the Practical? *Curriculum Theory Network*. 1974).

⁴⁶The following discussion owes a great deal to the exchange between Robin Barrow, Morwenna Griffiths, and Richard Smith in *Journal of Philosophy of Education*, 21, no. 2 (1987): 187–214.

⁴⁷Daniels, p. 14.

⁴⁸quoted in Barrow, 190.

⁴⁹Israel Scheffler, *Conditions of Knowledge*. (Chicago: University of Chicago Press, 1961), 20.

⁵⁰Barrow, 192

⁵¹Robert Sternberg, "Sketch of a Componential Subtheory of Human Intelligence," *Behavioral and Brain Sciences* 3 (1980): 573–614; "Components of Human Intelligence," *Cognition* 15 (1983): 1–48; *Beyond IQ: A Triarchic Theory of Human Intelligence* (London: Cambridge University Press, 1985).

⁵²Jonathan Baron, *Rationality and Intelligence* (London: Cambridge University Press, 1985); U. Neisser, "Components of Intelligence or Steps in Routine Procedures," *Cognition* 15 (1983): 189–197; Francis Schrag, *Thinking in School and Society* (New York: Routledge, 1988).

⁵³John McPeck, *Critical Thinking and Education* (New York: St. Martin's, 1981).

⁵⁴Gilbert Ryle, *On Thinking* (Totowa, NJ: Roman and Littlefield, 1979).

⁵⁵Lauren B. Resnick, "Toward the Thinking Curriculum: An Overview," in Lauren B. Resnick and Leopold E. Klopfer ed. *Toward the Thinking Curriculum: Current Cognitive Research: Yearbook for the Association of Supervision and Curriculum Development* (Alexandria, VA: ASCD, 1989), 1–18. See also Isabel L. Beck, "Improving Practice Through Understanding Reading"; James A. Minstrell, "Teaching Science for Understanding"; Jill H. Larkin and Ruth W. Chabay, "Research on Teaching Scientific Thinking: Implications for Computer Based Instruction," all in *Toward the Thinking Curriculum: Current Cognitive Research: Yearbook for the Association of Supervision and Curriculum Development*, ed. Lauren B. Resnick and Leopold E. Klopfer (Alexandria, VA: ASCD, 1989).

⁵⁶James D. Wallace, *Virtues and Vices* (New York: Cornell University Press, 1978).

⁵⁷Jonathan Baron, *Rationality and Intelligence* (London: Cambridge University Press, 1985), 85

⁵⁸Wilfred Sellars, *Science, Perception and Reality*. (London: Routledge and Kegan Paul, 1963).

⁵⁹U. S. National Institute of Education, Study Group on the Conditions of Excellence in American Higher Education. *Involvement in Learning: Realizing the Potential of American Higher Education* (Washington: U. S. Government Printing Office, 1984), 232.

⁶⁰Hazard Adams, *Antithetical Essays in Literary Criticism and Liberal Education* (Tallahassee: Florida State University Press, 1990), 233.

⁶¹An early draft version of the Mission Statement indicates the relative lack of status knowledge is to have in the new curriculum. Knowledge is not even mentioned. Significantly, nor is the idea of enabling learners to develop their potential mentioned. The complete text is as follows: "The major purpose of the British Columbia school system is to enable our youth to develop the intellectual skills and attitudes needed to maintain a healthy society and prosperous economy." In the final version of the Year 2000 knowledge is, of course, indicated as one of the three "learning dimensions," which make up the "framework for learning." One wonders nevertheless how much of the original derogation of knowledge is carried over into the final document. The extent to which the economy is to be in the driver's seat with respect to justifying education and defining its purpose is also worth noting.

⁶²Carnegie Forum on Education and the Economy, Task Force on Teaching as a Profession, *A Nation Prepared: Teachers for the 21st Century* (Hyattsville, MD: Carnegie Forum on Education and the Economy, 1986), 20.

⁶³*A Nation Prepared*, 20.

⁶⁴Province of Saskatchewan, Department of Education, Training and Employment, *Social Studies 10: Social Organizations—Curriculum Guide*. 1992), 16

⁶⁵Province of Saskatchewan, Department of Education, Training and Employment, *Social Studies 10: Social Organizations—Curriculum Guide*. 1992), 16.

⁶⁶Province of Saskatchewan, Department of Education, Training and Employment, *Social Studies 10: Social Organizations—A Curriculum Guide*. 1992), 16.

⁶⁷Plato, "Meno," in *Plato*, 12 volumes, translated by H. N. Fowler (Cambridge, MA: Harvard University Press, 1921), 97a/98c.

⁶⁸This view has recently come under attack from externalist epistemology which denies the relevance of the subject's own evaluations and perspective. See Frederick F. Schmitt, *Knowledge and Belief* (London: Routledge, 1992).

⁶⁹Michel Foucault, *Discipline and Punish* (New York: Vintage Books, 1979).

⁷⁰*Ibid.*, 182–183.

CHAPTER THREE

THE CONTESTED NATURE AND VALUE OF AUTONOMY

Before going any further it is necessary to consider whether promoting intellectual autonomy is worth the effort. As indicated in the first chapter not everyone thinks so highly of autonomy. Iris Murdoch, for example, likens the solitary, autonomous man to Lucifer, expelled from heaven for doubting the wisdom and love of God, and laments that autonomy is accorded such prestige in the political and social philosophy of Western democracies.¹ Dearden thinks the value of autonomy is greatly over-rated since independence of mind in itself does not ensure moral or critical intelligence. The great criminal and robber baron capitalist may instantiate autonomy more than the educated person. The educated person, he thinks, is more the product of disciplined inquiry than of unfettered freedom.² Benn echoes this sentiment in his suspicion that Cesare Borgia might well have been every bit as autonomous as Socrates.³ Neither Benn nor Dearden see much reason to expect the autonomous man will be especially virtuous or reasonable. Elizabeth Telfer, for her part, worries that many accounts of autonomy permit an arrogantly solipsistic approach to testimony that rejects the views of others, especially those views it would be rash to ignore.⁴ Gerald Dworkin wonders why autonomy is held in such high regard since it conflicts, or so he thinks, with a host of other values such as loyalty, objectivity, commitment, benevolence and love. Moreover he believes that autonomy as it is commonly presented rules out valuable human practices such as promising, worship, obedience to command, even conformity to law.⁵

There seems to be a conflict between self-determination and notions of correctness and objectivity. If we are to make reasonable choices, then we must be governed by canons of reasoning, norms of conduct, standards of excellence that are not themselves the products of our choices. We have acquired them at least partly as the result of others' advice, example, teaching—or, perhaps, by some innate coding. In any case, we cannot have determined these for ourselves.⁶

Among educational philosophers Brian Crittenden has raised similar objections. Crittenden believes that a commitment to intellectual autonomy is a commitment to the idea that the agent is to be the originator of all her beliefs, as well as of the standards by which certain beliefs are to be

judged more justified than others.

Intellectual autonomy would require...that a person not accept any of his important beliefs primarily on the authority of others, but on his own experience, his own reflection on evidence and argument, his own sense of what is true and right. For complete intellectual autonomy it would also seem necessary that a person should determine for himself the second order question about what constitutes a true claim, adequate evidence, a justifiable moral principle, and the like. Even the crucial concepts in which he perceives and understands should be of his own design, or at least accepted from others only because he is personally satisfied that such concepts are satisfactory.⁷

Crittenden contends such a view is patently mistaken. The radical subjectivism implied by this view of autonomy dissolves into solipsism where no distinction can be drawn between knowledge and belief, where there can be no ground for claiming anyone is mistaken. Conversely those who hold to such a view cannot even intelligibly say the autonomous individual believes that which is true *for him*. For where it is not possible to identify error, neither is it possible to distinguish truth or rationality. Given that education is “an induction into the standards of truth and rationality...as they have been articulated in *the on-going public traditions of human understanding*” autonomy cannot sensibly be promoted as an aim of education.⁸ Crittenden has little patience even for those like Kant whose arguments for autonomy acknowledge the constraints of rational criteria. According to Crittenden the basis of Kantian autonomy is “the idea of the will of every rational being as a will which makes universal law.”⁹ Crittenden claims this view of self-legislation is both morally hazardous and fundamentally incoherent. First, an individual cannot will a universal law without being prepared to challenge the autonomy of everyone else. If we suppose all rational individuals must agree on which principles to adopt autonomy seems to be without much point. If we assume that individuals will frequently disagree, the injunction to will a universal law is an invitation to conflict and totalitarian oppression, just as argued by Berlin.¹⁰ Secondly, as Baier points out, “it is logically impossible to claim each individual is subject only to the laws of his own creation. If no member of a society were subject to the will of any other, then there would simply be no law and so no legislation, including self-legislation.”¹¹ The problem, on this view, is that the very idea of legislation and hence of self-legislation is inappropriate to the determination of which moral principles should apply. Even if Baier is mistaken in dismissing the metaphor of legislation from moral theory, there is reason, says

Crittenden, to suppose his criticism applies to the field of education. The reason is the simple one that an individual can never obtain an education by means of self-legislating acts. We would be better advised, on this view, to jettison talk of autonomy in favour of talk that emphasizes the need of students to understand what is learned, not on the authority of the teacher, but on the basis of the evidence that would justify their claim to know.

INTELLECTUAL AUTONOMY AND THE WILL TO HETERARCHY

Dworkin, for his part, attempts to argue against our retaining anything but a weak, procedural notion of autonomy, one that stresses second order reflection, but which does not specify any content to this reflection. He raises the possibility that 'autonomy' may not be a particularly useful concept. On Dworkin's view a person could rationally give up what is ordinarily recognized as autonomy and still be autonomous. Dworkin puts the point this way:

Suppose we have a person who has not been subjected to the kinds of influence—whatever they turn out to be—that interfere with procedural independence. Suppose the person wants to conduct his or her life in accordance with the following: Do whatever my mother or my buddies or my leader or my priest tells me to do. Such a person counts, in my view, as autonomous.¹²

It is hard to conceive of a view more distant from Kant's than this. Dworkin calls his conception of autonomy *weak* in contrast to the strong view held by many philosophers. What distinguishes the two views is that while the Kantian view gives substantive content to the notion of autonomy, Dworkin's does not. Dworkin's autonomy is a purely formal notion that does not specify which decisions are consistent with autonomy and which aren't. The concept of autonomy should not suggest any content to the decisions an autonomous person makes. One can decide that the best life is a monastic life governed by vows of obedience, or the best course of action the course dictated by one's political party or guru.

Dworkin characterizes his procedural conception of autonomy in the following way:

Autonomy is conceived of as a second order capacity of persons to reflect critically upon their first-order preferences, desires, wishes and so forth and the capacity to accept or attempt to change these in light of higher-order preferences and values. By exercising such a capacity, persons define their nature, give meaning and coherence to their lives, and take responsibility for the kind of person they are.¹³

With this conception of autonomy we avoid the conflict between the different values

indicated above, and refrain from specifying what form a meaningful and coherent life must take. To understand what Dworkin means by a formal procedural notion of autonomy we need to focus on the nature of deliberation prior to the agent's making a promise or taking a vow of obedience. In the case of one who decides always to do what his mother wants, it is the *procedure* that eventuates in the decision that is relevant to a determination of autonomy. The temporal point relevant to a determination of autonomy is one that *precedes* the decision. It is the deliberation prior to the decision that is to count, not the content of the decision or the agent's actions that follow. We cannot object that autonomy is lost once the decision is made to defer to someone else's judgment since, on Dworkin's view, the character of the agent's deliberations carries over to characterize the actions that follow from his decision. In the case of the man who decides he will do only what his mother wants, "we must," says Dworkin, "make reference to his intentions to do what his mother wants. It is his decision, arrived at freely, backed by reasons that makes his mother's wishes effective in determining his actions. He is doing what he wants to do. He is leading just the kind of life he thinks is worth leading. How can he not be autonomous?"¹⁴

INTELLECTUAL AUTONOMY AS A GOAL OF EDUCATION

For the sake of argument let's accept that intellectual autonomy is a desirable trait. Must we accept also that it is equally a desirable educational goal? The answer given in philosophy of education has been an ambivalent one. Those who wish to see more of a place for intellectual autonomy in schools have tended to stress the importance of evidential reasoning, while those with less enthusiasm for autonomy emphasize the need to deny autonomy to the young because children are too immature to benefit from the exercise of whatever partial autonomy they do possess. The arguments in favour of intellectual autonomy depend first upon a theory of epistemic justification known as internalism, and second upon faith in the ability of children to benefit from rational discussion.¹⁵ In the pages to follow I intend to consider the challenge to internalism that has emerged in the last decade, and the arguments that cast doubt on the desirability of fostering epistemic independence in schools. I intend to preface this discussion with a survey of internalist commitments in educational philosophy, in the hope that the contrast between internalism and its critics will throw some light on the issue of autonomy in justification.

Educational philosopher Kenneth Strike once remarked that an essential task for education is the distribution of rationality.¹⁶ On Strike's account one obstacle that stands in the way of succeeding at this task is the inability of students to revise their beliefs in light of new and compelling evidence. In this we find Strike echoing Mill's worry that the practical hazard of accepting beliefs on the testimony of authorities is an impaired capacity for rational belief revision.

There is a class of persons...who think it enough if a person assents undoubtingly to what they think true, though he has no knowledge whatever of the grounds of the opinion and could not make a tenable defense of it against the most superficial objections. Such persons if they can once get their creed taught from authority, naturally think that no good, and some harm, comes of its being allowed to be questioned. Where their influence prevails, they make it nearly impossible for the received opinion to be rejected wisely and considerately, though it may still be rejected rashly and ignorantly; for to shut out discussion entirely is seldom possible, and when it once gets in, beliefs not grounded on conviction are apt to give way before the slightest semblance of an argument. Waiving, however, this possibility—assuming that the true opinion abides in the mind, but abides as a prejudice, a belief independent of, and proof against, argument—this is not the way in which truth ought to be held by a rational being. This is not knowing the truth. Truth, thus held, is but one superstition the more, accidentally clinging to the words which enunciate a truth.¹⁷

The preceding chapter's discussion of epistemic practices in schools showed, I think, that the practices, if not teachers themselves, "make it nearly impossible for the received opinion to be rejected wisely and considerately". Moreover these practices interfere with the intelligent grounding of belief. If it is true that beliefs not grounded in any genuine understanding will be either feebly held, or dogmatically adhered to, the consequence of teachers neglecting the element of justification in knowledge claims is an impaired capacity for rational belief revision. This point has been argued most lucidly in educational philosophy by Green¹⁸ whose distinction between evidential and non-evidential styles of belief brings Mill's concern over unintelligent belief revision into educational focus.

Over the last decade the evidentialism typified by Green has come to be known as a type of epistemic *internalism*, largely as a result of the criticism of *externalists* who doubt that non-evidential belief is in any way unintelligent. As with evidentialism, internalism holds that knowledge and justification are based on reasons or evidence that are somehow available to the agent. More precisely, the evidence must be possessed by the agent and *appreciated* as evidence.

Evidence that is appreciated as such is said to be *epistemically* within the agent's grasp, or epistemically internal. It should be plain that the notion of epistemic independence is an internalist notion, so any criticism of internalism will bear on the acceptability of intellectual autonomy as I have conceived it. Some discussion of the debate between internalist and externalists is therefore necessary. Let's begin with a survey of what we can now recognize as the internalist commitments in philosophy of education.

The Austinian Tradition

According to internalism, epistemic agents, in being justified, claim (or could claim) a right to know that includes being free of any reproach for claiming to know. This feature of internalism is obvious in ordinary language analysis of the type exemplified by Austin and Urmson, and is present to a significant degree in the writing of educational philosophers.

Austin claimed that "whenever I say I know, I am always liable to be taken to claim that, in a certain sense appropriate to the kind of statement (and to present intents and purposes), *I am able to prove it*."¹⁹ [my emphasis] Similarly, Urmson noticed that the verbs *know*, *guess*, *suppose* and *estimate* belong to the family of verbs that indicate the evidential status of a statement and the epistemic situation of the agent:

This is the group [of verbs]...which is used to signal what the degree of reliability is claimed for, and should be accorded to, the statements to which they are conjoined. Thus 'I guess that this is the right road to take' is a way of saying that this is the right road, while indicating that one is just plumping and has no information, so that the statement will be received with the right amount of caution; 'I know' shows that there is all the evidence that one could need, and so on.²⁰

This sort of analysis has led educational philosophers to emphasize the importance of making epistemic justifications available to students.²¹ It also conforms with the tripartite definition of knowledge that is still widely accepted, the Gettier counter-examples notwithstanding.²² For example, prior to Gettier, Ayer concluded that "the necessary and sufficient conditions for knowing something is the case are first what one is said to know be true, and secondly that one be sure of it, and thirdly that one should have the right to be sure."²³ Chisholm's account, roughly identical to Ayers, states that "'S knows that h is true' means: (i) S

accepts h ; (ii) S has adequate evidence for h ; and (iii) h is true.”²⁴ Following Gettier²⁵ Chisholm offers this analysis of knowledge: “ S knows at t that h is true, provided (1) S believes h at t ; (2) h is true; and (3) h is evident at t for S .” As late as 1989 Chisholm was still insisting that knowledge is justified true belief.²⁶ Similarly Roderick Firth insists on the internal character of being justified in belief.

To decide whether Watson knows that the coachman [committed a crime] we must decide whether or not Watson is justified in believing that the coachman did it. Thus if Watson believes that the coachman did it, we must decide whether his conclusion is based rationally on the evidence.²⁷

Scheffler and the Evidence Condition

Common to most of these analyses is the theme that before it can be said an agent is justified in holding a belief that *agent* must possess the justification for this belief. This theme is picked up and explored by Israel Scheffler in his influential *Conditions of Knowledge*. From the standard analysis of knowledge Scheffler derived practical guidance for the teacher, and outlined criteria by which we can understand what it means for a student to know that p .²⁸ Here Scheffler stresses that the distinction between knowing and having a true belief is made by reference to the surplus value of knowledge over true belief.

In every case where evidence is required for the right to be sure, knowing involves not merely having adequate evidential data but also appreciating their value as data, in the light of an appropriately patterned argument.

Citing Augustine, Scheffler further observes that:

the pupil who knows...is not just someone who has a belief which is true.... He must further have considered *within himself* whether what has been said is true. He must have engaged in a personal process of evaluating the belief in question, by reference to *his own source of interior truth*.²⁹ [my emphasis]

In this discussion Scheffler’s commitment to internalism is explicit. It is the student who must possess adequate evidence for the beliefs she comes to hold. To this end she must be in a position to follow and evaluate the evidentiary argument that purports to justify the claims at hand. Crucially, she must come to feel the force of this argument. Among the obvious implications to be drawn is that teachers must provide students with the evidentiary argument that supports a given claim. They must also ensure that students understand the argument sufficiently well to see

its force. In so doing they guard against students holding beliefs they do not understand or that are for them *inert*. Further, without some sense of the grounds for belief students cannot understand the nature of the discipline under study, or its distinctive truth tests and standards. Whether the subject be history, physics or mathematics, each has distinctive methods for ascertaining the truth, and distinctive standards for judging success in this regard.³⁰ But it is not simply that the disciplines are ends in themselves and their study justified solely in terms of their intrinsic value. Rather the disciplines are arenas in which students can come to grips with “whatever competent investigation has achieved in the way of reliable knowledge and skill” in order that they might be initiated into “the critical life” characterized by “the quest for and the exchange of reasons.”³¹

In training our students to reason we train them to be critical. We encourage them to ask questions, to look for evidence, to seek and scrutinize alternatives, to be critical of their own ideas as well as those of others. This educational course precludes taking schooling as an instrument for shaping their minds to a preconceived idea. For if they seek reasons, it is their evaluation of such reasons that will determine what ideas they eventually accept.³²

It is on this basis that Scheffler denies the appropriateness of appeals to authority in educational contexts. Teachers should not base their teaching on such appeals, and students should not be permitted to hold their beliefs on such grounds.

Green and Evidentially-Held Belief

In a similar vein Green has concluded, from an analysis of the family of concepts related to teaching, that beliefs can be held evidentially or non-evidentially.

When beliefs are held without regard to evidence or contrary to evidence, or apart from good reasons or the canons for testing reasons and evidence, then we may say they are held non-evidentially. It follows that beliefs held non-evidentially cannot be modified by introducing evidence or reasons or by rational criticism. When beliefs, however, are held “on the basis of” evidence or reasons, they can be rationally criticized, and therefore can be modified in the light of further evidence or further reasons, then we shall say they are held evidentially.³³

Green adds that students who hold true beliefs non-evidentially cannot know why such beliefs ought to be taken as true. For them such beliefs can only be ‘correct’, and as a consequence can never be *known*. “We cannot be said to *know* that a belief is true,” says Green,

“if we cannot give any reasons for it, any explanation of it, or any evidence in support of it.”³⁴ His advocacy of evidential styles of belief does not rest simply on a definition of knowledge. His analysis points to the practical limitation of ‘correct’ over known beliefs: namely that those who do not hold their beliefs on the basis of good reasons and evidence are not in a position to change their beliefs in light of better reasons and more substantial evidence. Rational belief revision is impaired by the absence of well grounded belief. On this point Green echoes Mill’s concern that a belief “not grounded on conviction is [either] apt to give way before the slightest semblance of an argument,” or is apt to “abide as a prejudice, a belief independent of, and proof against, argument.”

Hirst and the Forms of Knowledge

The very idea of a rational mind has been linked in educational philosophy to the various forms of knowledge and the truth tests that distinguish one from the other. Most of this thinking can be traced to the work of Paul Hirst, but its influence is widespread. On Hirst’s account, to have a rational mind just is to be in possession of knowledge, robustly conceived.

The forms of knowledge are...the basic articulations whereby the whole of experience has become intelligible to man, they are the fundamental achievement of mind. Knowledge however must never be thought of merely as vast bodies of tested symbolic expressions.... To acquire knowledge is to become aware of experience as structured, organized and made meaningful in some quite specific way, and the varieties of knowledge constitute the highly developed forms in which man has found this possible. To acquire knowledge is to learn to see, to experience the world in a way otherwise unknown, and thereby come to have a mind in a fuller sense.³⁵

On this account initiation into the various forms of knowledge will involve one’s becoming familiar, not only with the conclusions of a field, but also with the truth tests and critical standards that yield those propositions that comprise the justifications for truth claims.

More recently McPeck has argued a similar position in his effort to defend a conception of critical thinking based on a knowledge of the disciplines. In either case, the development of rationality, or the capacity for critical thought hinges on students having access to the ‘logical space of reasons’.³⁶

This sort of argument has implications for the reasonableness of deference to teacher

authority, as deCastell notes:

The aim of developing informed rational autonomous persons entails that what the learner accepts as true comes to be increasingly grounded in “good reasons” for such acceptance as true. But as Hirst pointed out, the criteria for the truth of propositions vary with the kind of proposition asserted, so that a progressive understanding of the discipline itself is the necessary condition of an increasingly rational acceptance of educational authority. All too obviously, then, students who are not taught the discipline (which provides such criteria) are denied access to the means of rational autonomous development.³⁷

Siegel on Being Appropriately Moved by Reasons

Siegel’s conception of critical thinking, though different from McPeck’s, is nonetheless just as committed to the notion that rationality requires autonomy in justification. The rational agent, says Siegel, is *appropriately moved by reasons*. Thus a critical thinker is one “who appreciates and accepts the importance and convicting force of reasons. When assessing claims, making judgments evaluating procedures, or contemplating alternative actions, the critical thinker seeks reasons on which to base her assessments, judgments, and actions.”³⁸ From this description of the critical thinker Siegel is able to derive a commitment to epistemic independence. He claims that once we accept critical thinking as an important goal of education we have explicitly acknowledged the importance of autonomy.

If we think it good that a student become a critical thinker, we must approve as well of the student’s ability and disposition to consult her own independent judgement concerning matters of concern to her. The critical thinker must be *autonomous*—that is, free to act and judge independently of external constraint, on the basis of her own reasoned appraisal of the matter at hand.³⁹

Epistemic Paternalism

Mill, though well known as a champion of freedom of thought and expression, is notorious for his paternalistic denial of these freedoms for children. According to Mill, children ought to be denied liberty on the ground they have not attained “the maturity of their faculties”.⁴⁰ Mill indirectly elaborates this notion of maturity by adding that the immature are those who “are still in a state to require being taken care of by others.”⁴¹ This is a group that includes ‘barbarians’ as well as “young persons below the age which the law may fix as that of manhood or womanhood.”⁴² Barbarians are to be denied liberty for the same reason liberty is to be denied the

young. The immaturity of “those backward states of society in which the race itself may be considered as in its nonage” is seen as sufficient justification for denying “barbarians” liberty.⁴³

Thus:

Despotism is a legitimate mode of government in dealing with barbarians, provided the end be their improvement, and the means justified by actually effecting that end. Liberty, as a principle, has no application to any state of things anterior to the time when mankind have become capable of being improved by free and equal discussion. Until then there is nothing for them but implicit obedience to an Akbar or Charlemagne, if they are so fortunate as to find one. But as soon as mankind have attained the capacity of being guided to their own improvement by conviction or persuasion (a period long since reached in all nations with whom we need here concern ourselves), compulsion, either in the direct form or in that of pains and penalties for non-compliance, is no longer admissible as a means to their own good, and justifiable only for the security of others.⁴⁴

Mill’s argument justifies the granting of liberty on epistemological grounds and denies it on the basis of limited rational capacity (defined in terms of the ability to benefit from rational discussion). Thus, while liberty is necessary to the pursuit of the truth, the development of individuality and genius, indeed, to the “mental well-being of mankind”, children and barbarians are not entitled to liberty since they are incapable of “improvement by free and equal discussion.” As a result “there is nothing for them but implicit obedience to an authority.”

Richard Peters and Francis Dunlop have both argued, though in different ways, that since children are initially incapable of evaluating the truth claims of their teachers, teachers needn’t devote much time to convincing their students of the rightness of a particular view. Instead teachers should expect students to take their accounts on trust, and teach accordingly. Dunlop’s condemnation of premature attempts to foster reasonableness is especially forthright, though expressed in the context of arguing against child-centred curricula.

The task of the teacher is not to indulge the pupil’s own naive wants and aspirations; it is rather to transform desires and aspirations. Therefore, teachers properly display a downward regard for their pupils who in turn evince a reciprocal upward regard. More precisely, the student should trust his teachers beyond all reasons (since he has no criteria by which to test them) and submit to their authority.⁴⁵

Peters, too, believes that up to a certain point in the child’s development she lacks the criteria by which to test teachers’ claims. Children, he says, lack the ability to evaluate truth claims, perhaps not in any general way, but relative to their familiarity with a practice, whether the

practice be science, philosophy, or what have you. Those sufficiently familiar with a practice are, in Peters' phrase, on the "inside of a form of life" of which the practice is a part. Those who have little understanding of the substantive content of a practice, its standards of appraisal, or those who do not possess the rational passions that would commit them to these standards are said to be "outside the form of life". On Peters' view students must assiduously study their way inside this form of life, and, initially at least, they must recognize that their being outside the practice leaves them reliant on their teachers. Alasdair MacIntyre takes a similar view. His conception of practice, you will recall, is more precisely spelled out than Peters' notion of a form of life, and less tied to academic disciplines. Nonetheless, every practice, whether it be architecture, farming, or the historian's craft, requires a certain kind of relationship between teacher and student.

It belongs to the concept of a practice as I have outlined it...whether we are painters or physicists or quarterbacks or indeed just lovers of good painting or first rate experiments or a well-thrown pass: that its goods can only be achieved by subordinating ourselves within the practice in our relationship to other practitioners. We have to learn to recognize what is due to whom; we have to be prepared to take whatever self-endangering risks are demanded along the way; and we have to listen carefully to what we are told about our own inadequacies and to reply with the same carefulness for the facts.⁴⁶

Practitioners, for their part, are equally bound by the rules and standards that partially define the practice, and that set a limit on the practitioner's relation to the uninitiated. For the novice as well as the master to enter into a practice is "to accept the authority of those standards and the inadequacy of [their] own performance as judged by them. It is to subject [their] own attitudes, choices, preferences and tastes to the standards that currently and partially define the practice."⁴⁷

Of interest in this passage is the idea that though the learner is epistemically subordinate to the teacher, the teacher is subordinate to the authority of the standards that partially define the practice. Two consequences for my argument follow from this observation. Teachers themselves must be sufficiently "inside the practice" to know and to be committed to the relevant standards, and they must also teach in such a way that these standards are made manifest to their students.

Of course, the novice is, in a special sense, more subordinate to the master as well as the standards, since the master, by virtue of being a master, is able to understand and appreciate the

rules that delimit the practice. The novice must take many more matters on faith. For MacIntyre the relevant intellectual virtue for the novice is one of humility.

If, on starting to listen to music, I do not accept my own incapacity to judge correctly, I will never learn to hear, let alone appreciate, Bartok's last quartets. If, on starting to play baseball, I do not accept that others know better than I when to throw a fast ball and when not, I will never learn to appreciate good pitching let alone to pitch. In the realm of practices the authority of both goods and standards operates in such a way as to rule out all subjectivist and emotivist analyses of judgment.⁴⁸

MacIntyre's discussion of practices points to a variety of the ways in which the integrity of practices is threatened. The main threat comes from what he calls "goods external to the practice". Goods external to a practice, such as money, fame and the like, are external in the sense they belong to some individual as property, and are not essentially an aspect of the practice. External goods can always be acquired outside the practice, unlike goods internal to the practice that are acquired only in the pursuit of those excellences that partly constitute the practice itself. These two sorts of goods stand in an antagonistic relation to one another since external goods are, in principle, always capable of being given more priority, especially in the institutional settings where many practices are carried out. Against this ever present threat posed by external goods are the virtues, that help preserve standards and the excellences that constitute achievement in the practice. Humility is among MacIntyre's list of virtues, along with courage, justice and honesty. Judging from MacIntyre's remarks regarding the epistemic dependence of the uninitiated the sometimes subjectivist and emotivist perspectives characteristic of child-centred educational theory would likely be viewed by MacIntyre as a threat to the integrity of those practices into which education is meant to be an initiation.

A teacher's authority, on this view, is based on her understanding of the standards and rules imbedded in the practice. She is as much subject to these standards as her students will be if she succeeds as their teacher. Obedience to authority is thus called for because without such obedience teachers cannot teach well, and students will never learn.

To an extent children *do* represent a special case, thus educational philosophers are somewhat divided on this issue: Scheffler⁴⁹ and Green⁵⁰ coming close to advocating for children the epistemic rights that Mill advocates for those who have reached adulthood, while Peters⁵¹,

Hirst⁵² and Dearden⁵³ declare themselves as standing somewhere near the midpoint between those who press for less epistemic paternalism and those who push for more. In their own ways each of the latter three stress that the immaturity of the child, and the child's relative ignorance provide grounds for some degree of authoritarian and paternalistic teaching. They do, however, view autonomy as a valuable trait that under the appropriate circumstances teachers should endeavor to develop in their students. A few, such as R. T. Allen⁵⁴ and Francis Dunlop⁵⁵, object even to this rather modest liberalism. Since their arguments could be used to justify the epistemic practices of teachers described thus far they deserve some examination.

The Rationality of Epistemic Dependence

Allen, for example, indicates that when students demand epistemic justifications they have among the best justifications when their teachers respond with "Because I say so". Allen, in particular, objects to the rationalism of Peters and Hirst and states that "living by the Rationalist principles...[of] Hirst and Peters would lead us into radical autism"⁵⁶. Which principles does he have in mind? Hirst and Peters claim that there is a *prima facie* antagonism between reason and authority.⁵⁷ Allen accepts Hirst and Peters' definition of authority ("authority is present when something is correct or to be done because an individual or body of men, who has been given the right, says so"), but objects to their demand that authority be 'rationalized', brought in line with reason. Hirst and Peters insist that authorities in educational institutions ought to be viewed only as provisional authorities because authorities are often mistaken. Hence their pronouncements ought to be viewed with a tinge of skepticism and caution. This skepticism is reasonable only so far as it arises from a familiarity with the forms of knowledge under study. Once students are far enough along in their studies to be capable of informed judgment it is sensible to expect fruitful criticism from them, but not before. This point notwithstanding Hirst and Peters are explicitly in favour of epistemic independence as a long term goal of educators:

There must be provisional authorities in the different forms and fields of knowledge with which universities and schools are concerned. Their job is to hand on an inheritance in such a way that others can come to criticize it and eventually dispense with their teachers. They must exercise their authority in such a way that another generation can learn to live without them.⁵⁸

Elsewhere Peters has stated that authority in schools is needed so “another generation can live without authority.”⁵⁹ Allen takes Hirst and Peters to task on this last point. He claims that as a matter of fact higher and lower education teaches students to accept cognitive authorities, and this is just as it should be.

In Allen’s opinion, governance by authorities optimizes our chances of getting a sound education. Authorities exist to rule on the admissibility of arguments, as well as the acceptability of candidates for tenure, promotion and office. They decide who shall be certified, who shall receive grants, who shall referee papers and so on. They are also, says Allen, responsible for disseminating and protecting reigning orthodoxies, not simply through argument and criticism, but through administrative controls such as those just listed. The protection of orthodoxies, while it may extend to the regulation of specific arguments, will ideally only amount to the maintenance of general theories, interpretations or paradigms, until such time as the accumulation of evidence against them, along with the emergence of a superior alternative, requires they be abandoned or modified.

In addition, Allen insists there is far too much knowledge, of such great complexity, that it is unrealistic to think any one person could know enough to avoid epistemic dependence.

Whatever may have been the case in the past, it is definitely impossible for anyone today to be a polymath and to know everything about everything. Each academic discipline becomes ever more divided and each expert is tied to an ever denser yet narrower field. And so, even they, for what lies beyond their fields, have to rely on the authority of other experts in those other fields.⁶⁰

According to this view, there is a division of cognitive labour that functions in a disciplinary network of competence, one sub-field dependent on another, yet informing it as well. Experts within one field are in a relation of epistemic dependence to experts in other fields that make up their discipline. Polanyi calls this phenomenon of mutual reliance “overlapping control”.⁶¹ This sort of dependence is not only restricted to the relations among experts, but exists in more pronounced forms among those, like schoolteachers, who, more often than not, are inexpert in the forms of knowledge they are called upon to transmit. In Allen’s view Peters is mistaken to say the directive authority of teachers derives primarily from their cognitive authority, since, as a group, teachers are not cognitive authorities in anything but a restricted sense, relative

to the ignorance of their students. They are only *de facto* cognitive authorities, not legitimate cognitive authorities.⁶² Teachers are legitimate directive authorities nonetheless. Hirst and Peters state that the authority of cognitive authorities within educational institutions “derives from their special training and mastery of the relevant sphere of knowledge, on their success in getting things right in spheres where what is right or true does not depend on the pronouncements of any individual, but on reasons and evidence that anyone can, in principle, grasp.”⁶³ In Allen’s opinion this view is obviously wrong with respect to teachers, though less obviously wrong in the case of professors (for reasons given above). In any event the matter is an empirical one. It is ironic that Peters, who is well known for chiding educationists for making unsubstantiated empirical claims, would himself be guilty of this same mistake in connection with the expertise of teachers. If teachers do indeed know the reasons and evidence which justify knowledge claims it is puzzling that they routinely fail to communicate these reasons to their students. The more plausible explanation for their neglect of epistemic justifications is that, like most people, they simply don’t know them.⁶⁴ As far as Allen is concerned whatever cognitive authority teachers do enjoy derives from their reliance on authorities whose knowledge, while more complete, is still dependent upon the testimony of others. Allen also disputes Hirst and Peters’ claim that cognitive authority rests upon reasons and evidence that *any* rational man would assent to. Rather it is the case that satisfactory explanations in mathematics and physics increasingly adduce evidence and grounds that non-specialists, teachers included, would not be able to understand. Further Allen reminds us of the element of ‘tacit knowledge’ in competent performance that is not readily communicable, at least not in terms of evidence, reasons, etc. As Polanyi has illustrated, the master, in many cases, will be unable to provide detailed reasons for acting one way rather than another. The apprentice can do no more than “surrender himself...uncritically to the imitation of another.”⁶⁵ Until rather late in their training apprentices must accept the judgments and pronouncements of their teachers though they do not know the evidence that would justify them.⁶⁶

So, on Allen’s view, Hirst and Peters have overlooked obvious facts about the world of knowledge when they claim that teachers ought to teach in such a way that their students will one day become epistemically independent. Such independence is unattainable, and would be

undesirable in any event. Thus reliance on authorities is unavoidable; first because it is rational to be epistemically dependent, second because schools and universities wisely acknowledge this fact in their practices. On Allen's view, then, one of the primary benefits of an education is that education inducts students into the practices of deference to cognitive authorities. Education simply *is* an induction into the acceptance of epistemic authority.

From Allen's perspective Hirst and Peters fail to acknowledge the *full* range of circumstances in which it is rationally acceptable to hold one's beliefs on the basis of authority. Hirst and Peters would likely agree with the most basic and uncontroversial version of the principle of testimony:

If *A* has good reason to believe that *B* has good reasons to believe *p*, then *A* has good reasons to believe *p*.

But Allen and others are claiming more than *A* has good reasons to believe *B* (where these reasons, presumably, have to do with an assessment of *B*'s reliability as an authority, and not with an assessment of *p* directly). They are claiming that *A* knows that *p* on the word of *B*. *A* may not possess the reasons necessary to justify *p* and *A*'s belief that *p*, but nevertheless *A* knows *p*. To defend this counter-intuitive claim John Hardwig⁶⁷ points out that to deny it would force us to maintain:

- 1) that there can no longer be knowledge in many scientific disciplines where the complexity of available evidence rules out epistemic independence.
- 2) that one can know *p* only by ignoring most of the best evidence for *p*.⁶⁸

Knowledge can be vicarious, says Hardwig, and a community can know something that no one individual knows. In this view Hardwig has considerable company among contemporary philosophers who have abandoned internalist conceptions of epistemic justification. For example, the work of D. M. Armstrong⁶⁹, Goldman⁷⁰, Stich⁷¹, and others⁷² looks at actual epistemic practices and concludes that deference to authorities outside one's limited expertise is rational, perhaps even maximally rational, given the epistemic situation most of us find ourselves in most of the time. Epistemic independence, on this view, is simply foolish.

Stich and Nisbett forcefully express this viewpoint as follows:

Deference to authority is not merely the habitual practice of educated people, it is, generally, the right thing to do, from a normative viewpoint. The man who persists in believing that his theorem is valid, despite the dissent of leading mathematicians, is a fool. The man who acts on his belief that a treatment, disparaged by medical experts, will cure his child's leukemia, is worse than a fool.⁷³

Stich and Nisbett further claim, as Allen does, that "one of the principal effects of education is to socialize people to defer to cognitive authorities".⁷⁴ Like Allen they see this state of affairs as salutary.

The view taken by Hardwig and others argues that in science epistemic trust is the touchstone of rational belief. "Modern knowers cannot be independent and self-reliant, not even in their own fields of specialization. In most disciplines, those who do not trust cannot know; *those who do not trust cannot have the best evidence for their beliefs.*"⁷⁵ [emphasis added] Here, Hardwig is not simply making the uncontroversial claim that belief on testimony is rational under certain restricted conditions. He is suggesting that the standard view—that knowledge rests on evidence—is simply mistaken. Knowledge rests on a trust of epistemic authorities. It is not that appeals to authority are only sometimes justified on grounds of expedience, rather it is that the ideal of epistemic individualism that pervades epistemology is a romantic illusion that fails to capture the character of successful inquiry. Epistemic dependence is the rule, not the exception. Hardwig's view has been seconded by Webb who claims that in restricting his analysis largely to science Hardwig fails to take his argument far enough.

Trust is necessary if one wishes to have knowledge of anything interesting beyond one's own immediate experience....It is not only the progress of science that depends on this kind of interdependence, this division of labour. It is only because we divide up the epistemic work in this way that we can come to know anything from maps, clocks, thermometers, newspapers, telephone directories, and so on. It is a commonplace that we cannot know very much about history without relying on the testimony of those who were closer to the events than we are; what is overlooked is that we also cannot know a great deal about the here and now without similar reliance on our contemporaries. How would I find out about Pluto, Antarctica, quarks and differential equations (not to mention such trivia as how to get to the grocery store, or when to expect my paycheck), if not from other people, whom I trust in these matters?⁷⁶

A similar position, but of more consequence for teachers, is the Wittgensteinian view of knowledge transmission taken by Welbourne. Welbourne argues that the key to understanding knowledge and how it is transmitted is not to be found in scrutinizing sentences in which 'know'

and its cognates are used, but rather in attending to our knowledge-seeking and knowledge-communicating practices. If we do this we will find that knowledge is most often transmitted by mere say-so, where what is transmitted is accepted on trust. The important distinction here is between the language game of transmitting knowledge and that of arguing for a view. In the former you accept my pronouncements because I have made them, *and* because you lack any reason to doubt my truthfulness. In the latter I am successful when I get you to see things my way because of cogent arguments and compelling claims. It is sufficient for the transmission of my knowledge to you that you believe me. By contrast, your simply taking my word for it is not sufficient if I am arguing for a view.

Believing someone is par excellence the appropriate response when, and only when, the 'game' is the transmission of knowledge. That is why one can be confident that it is sufficient for the transmission of your knowledge to me that I believe you, and why my believing you when you have asserted that *p* even falsely warrants my saying 'I know'. For me to believe you *is* for me to suppose that I have learnt (come to know) that *p* from you. In this game believing the speaker is the 'uptake' condition. In a perfectly simple case, where all goes smoothly, you speaking from knowledge assert that *p*; I believe you and thus begin to know that *p* myself.⁷⁷

In the game of knowledge transmission the skepticism that demands proof and argument is out of place. If there *is* some reason to be skeptical, the game changes from one of transmitting knowledge to arguing a point. Such transformations are relatively rare, however, since, as any analysis of these practices will reveal, relations of trust are implicit in the circumstances under which questions are asked. To express doubt or demand justification under such circumstances would strike one's interlocutor as odd or mildly insulting.⁷⁸

Welbourne's discussion raises the possibility that Scheffler, Green et al. are led to their view by virtue of a category mistake. They have confused one language game for another. In order for students to acquire genuine knowledge it is not necessary that they possess the relevant evidentiary arguments, only that they believe their teachers. Welbourne concludes that "our ability to engage in the game of transmitting knowledge, whether as transmitter or receiver, requires no further intellectual capacity beyond what is implied in having a reasonable command of language, sufficient to understand the import of questioning and answering. It involves no special ability to weigh evidence justly or spot inconsistencies."⁷⁹

Welbourne, predictably, disagrees with Locke's position that belief on testimony is not true knowledge, but mere belief, taken on trust. According to Welbourne, Locke does not understand that to believe someone *means* to regard that person as a source of knowledge. Locke mistakenly believes that knowledge is distinguished from belief by the quality of the reasoning that leads to it, such that a speaker can *know* on the basis of her reasons, while a hearer can only *believe*. In Welbourne's view Locke's mistake is one of misrepresenting the grounds of belief on testimony. He supposes (wrongly) that when we believe on testimony we use the testimony as evidence or warrant for our belief.⁸⁰ He then concludes (rightly) that testimony is poor evidence. The problem, for Welbourne, with this line of reasoning is that "to receive testimony *as evidence* is precisely not to receive it *as testimony*."⁸¹ Welbourne's view, you will recall, is that belief on testimony is based on a trust *of the speaker*, not on an appraisal of evidence. Belief of the speaker is the uptake a speaker hopes for when transmitting knowledge, while truthfulness and epistemic responsibility are the features of a speaker expected by those who receive. The assumptions that unite both are assumptions of trust.

[Locke] credits the hearer with the kind of uptake which, other things being unequal, *would* effect a transmission of knowledge. If, hearing you assert that *p*, I *take it on trust* from you that *p*, I do not treat your assertion as evidence. I take it that you were speaking from knowledge and that I now know that *p* myself through your say-so....But Locke thinks that the hearer may end up with (mere) belief, and *will* if he lacks factual understanding. This is not a possible outcome. *All* the conditions for transmission are satisfied and the knowledge is not denatured.⁸²

If Locke is to be interpreted literally there can never be any transmission of knowledge between one person and the next. The pursuit of knowledge must be, perforce, a solitary endeavor. Yet, clearly it is not. Welbourne argues that the pursuit of knowledge is typically carried out within a community, a complex web of epistemic dependence relations that makes the transmission of knowledge possible. On this point there is considerable agreement among social epistemologists, who as a group emphasize the benefits of a cognitive division of labour, marked out by expertise.

EXTERNALIST THEORIES OF JUSTIFICATION

As we have seen, a venerable tradition in philosophy maintains that rational agents hold

their beliefs on the basis of reasons and evidence, the epistemic force of which they understand and appreciate. Typically what is to count as evidence or a good reason does not include appeals to authority.⁸³ When warrant is seen to amount to nothing more than arguments from authority, the received view has been that the justification is at best weak, at worst, no justification at all. This is because, on most accounts, what justifies an agent's belief must be available to the agent in such a way that the agent's autonomy is preserved. The stress on evidence or reasons *available to the agent* is what identifies this position as *internalist*.⁸⁴ Over the last few years, however, internalism has been losing adherents due to the trenchant criticism of those who favour externalist theories of knowledge and justification. Reduced to its essentials the externalist position states that a cognitive agent can know that *p* and be justified in believing that *p* without knowing what justifies the belief that *p*. This thesis allows that one who has no knowledge of the ground for her belief that *p* still knows that *p* nonetheless, provided the proper relation exists between the belief and the world. We can characterize two sorts of relations with respect to epistemic justification: a causal relation between, let us say, Susan and her environment, and a psychological relation of understanding and appreciating between Susan, her belief and its warrant. The former relation is epistemically external; for it to contribute to Susan's justification, it is not necessary that she think it does. This is so because there can be something true of the person (that she has grounds) without that person knowing those grounds. Oddly enough, writers in *educational* philosophy, even critics of internalist intuitions, do not seem to have taken note of externalist theories of justification and knowledge. This is both surprising and unfortunate since externalism, as a doctrine, has the potential to ground arguments that would strip educationists of much of the justification they claim for wanting to revise teaching practice in light of the demands of reason.

INTERNALIST AND DEONTIC CONCEPTIONS OF JUSTIFICATION

There is, as well, a deontological cast to internalism, namely that cognitive agents choose what to believe, and are therefore responsible for the choices they make. Insofar as our beliefs result from acts of judgment, ethical predicates apply to matters of beliefs. So it is legitimate, on this view, to conceive of the cognitive agent as being subject to an ethics of belief. Agents, if they

are to be rational, have epistemic obligations that require them to form or revise their opinions on the basis of reasons and evidence. Steup's sentiments here stress the link between being rational and choosing one's beliefs:

No matter how grim the circumstances are, if an agent holds a belief contrary to evidence, it is within his power, given that he is a *rational* agent, to *reflect* upon his belief and thereby find out that he had better withhold, or even assent to its negation. Being a rational agent, I would say, involves the capacity to find out, with respect to any belief, whether or not it is being held on good grounds.⁸⁵

In these remarks Steup echoes Clifford's classic expression of Victorian epistemic deontology: "It is wrong everywhere and for anyone to believe anything on insufficient evidence."⁸⁶ Clifford's view, which combines a rigorous evidentialism with an unequivocal commitment to the ethics of belief, exists among today's internalists in a muted form. Latter day deontologists prefer to talk in terms of epistemic responsibility and obligation, but the moral tenor is still unmistakably present, as in BonJour's remarks:

We cannot, in most cases at least, bring it about directly that our beliefs are true, but we can presumably bring it about directly (though perhaps only in the long run) that they are epistemically justified. It follows that one's cognitive endeavors are epistemically justified only if and to the extent that they are aimed at this goal, which means very roughly that one accepts all and only those beliefs which one has good reasons to think are true. To accept a belief in the absence of such a reason...is to neglect the pursuit of truth; such acceptance is, one might say, epistemically irresponsible. My contention here is that the idea of avoiding such irresponsibility, of being epistemically responsible in one's believings, is the core of the notion of epistemic justification.⁸⁷

Internalism in itself does not rule out belief on testimony, providing the agent makes some rational assessment of the authority's reliability. Internalism requires therefore a *discriminating* deference to epistemic authorities. In this respect it differs from externalism. On the externalist account the reliability of testimony derives from the relation between the testimony and states of affairs which are testified to. It is not derived in any way from the subject's knowledge of that relation or her assessment of reliability. Thus internalism has utility as a normative view of epistemic justification that externalism does not.

THE EXTERNALIST CRITIQUE OF INTERNALIST JUSTIFICATION

We have seen that internalists stress the cognitive agent's active role in deciding what to

believe. Indeed the distinguishing feature of the rational person is not so much what she believes as the manner in which she acquired her beliefs. Bertrand Russell claimed, in terms nearly identical to those used by Green subsequently, that “it is not *what* the man of science believes that distinguishes him, but *how* and *why* he believes it. His beliefs are tentative, not dogmatic; they are based on evidence, not on authority or intuition.”⁸⁸ (original emphasis) The externalist has no such doxastic requirement for a person to be justified. Others, such as authorities, may know what evidence or reasons justifies a belief, or perhaps no one person knows. Beliefs needn’t be justified *by* the agent to be justified *for* the agent.

Justification is also a matter of choice for most internalists. Cognitive agents are seen to have some degree of control over what they come to believe. Beliefs are not simply caused. It is not clear, however, that what one believes is a matter of choice.⁸⁹ Despite the intimations of freedom and responsibility provided by ordinary language in such expressions as—“You shouldn’t jump to conclusions”, or “I had every right to think she was honest”—many beliefs, upon examination, do not appear to be the sort of thing about which we have a choice. Alston, for example, argues that in all but a very few cases we cannot believe at will.⁹⁰ This is obviously true in the case of perceptual beliefs, but just as true, he says, with ordinary beliefs formed by introspection, memory, or uncontroversial inferences. If only uncertain beliefs leave room for choice, and these are comparatively small in number, we cannot, on this view, rightly favour a deontological conception of justification. And since ought implies can there should be no normative requirement in places where voluntary control is absent. Given that externalism does not require that what we believe is a voluntary matter, at least with respect to states of affairs, the ethics of belief play little or no part in their account of epistemic justification.

Internalism is seen to be flawed at an even more fundamental level, however. Alston argues that the internalist view is fundamentally incoherent since it attempts to unite the notion that justification is necessary and nearly sufficient for knowledge with the additional notion that justification is a matter of doing one’s duty. “I may have done what could reasonably be expected of me in the management and cultivation of my doxastic life, and still hold a belief on outrageously inadequate grounds.”⁹¹ What exactly is the position of externalists and their critique

of internalism? Bonjour characterizes the externalist position as follows:

Though there must in a sense be a reason why a basic belief is likely to be true, the person for whom such a belief is basic need not have any cognitive grasp of this reason. On this view, the epistemic justification or reasonableness of a basic belief depends on the obtaining of an appropriate relation, generally causal or nomological in character, between the believer and the world. This relation...is such as to make it either nomologically certain or else highly probable that the belief is true. It would thus provide *for anyone who knew about it*, an undeniably excellent reason for accepting such a belief.... The person for whom the belief is basic need not (and in general will not) have any cognitive grasp of any kind of this reason or of the relation that is the basis for it in order for this basic belief to be justified; all these matters may be entirely *external* to the person's subjective conceptions of the situation.⁹²

Armstrong claims that for a belief to be justified there must be a law-like connection between two states of affairs: *a*'s believing that *p* on the one hand [*Bap*] and the state of affairs which makes *p* true. In short, "given *Bap* it must be the case that *p*."⁹³ Armstrong calls this the thermometer model of non-inferential knowledge because in the same way that the readings of a reliable thermometer reflect the temperature so too do one's beliefs reflect the states of affairs that makes them true. On this view, a person whose beliefs are true is a "reliable cognitive instrument." It is in virtue of this reliability that this person's beliefs are justified.

Epistemology has traditionally had two principal preoccupations. On the one hand there has been an effort to sketch out a sound theoretical account of knowledge and show how knowledge is possible. On the other hand epistemologists have sought to identify the criteria or rules by which individuals might decide what to believe. Both enterprises have been motivated by a desire to find answers to the questions posed by Socrates: What can I know? How can I be confident my beliefs are justified? How can I improve on the beliefs which I now hold? Thus the theoretical enterprise is meant to inform the normative one.

The normative enterprise, unlike the theoretical one, has deontological presuppositions built into it. Ought implies can, in other words. This view—that cognitive agents decide what to believe and thus need guidance in belief formation—goes by various names, depending on whether it is the aspect of choice being emphasized (*doxastic voluntarism*)⁹⁴ or the obligations and responsibilities that attend the freedom to choose our beliefs (*deontological justification*)⁹⁵ The fixing of belief can, in principle, be free, insofar as an epistemic agent decides whether or not

to believe a given proposition at a given time. Where our choices are rational, they are guided by the right epistemic principles. Where they are irrational they are epistemically irresponsible and open to criticism. It is Goldman's claim that internalists have assumed that the terms which are sought for a theoretically sound analysis of knowledge are the same terms that can serve the regulative function of helping the epistemic agent decide what to believe. Put simply, epistemologists have taken the necessary and sufficient conditions of knowledge to be the same conditions that agents themselves need to satisfy consciously and deliberately in order to be justified. Goldman thinks this is a mistake, brought on by conflating an interest in spelling out the necessary and sufficient conditions of knowledge with an interest in identifying epistemic principles that are useful guides in deciding what to believe. In *Conditions of Knowledge* Scheffler does precisely this. He moves from an analysis of knowledge as justified true belief to an internalist conception of justification whose regulative function he makes explicit in his defense of evidentially held belief, and in his ruling out authority as a suitable ground for one's beliefs. Such a move is mistaken, says Goldman, the result of a mistaken picture of what it is to be justified. In place of internalism Goldman proposes a causal account of justification which he terms "historical reliabilism". According to this view, "a belief is justified just in case its causal ancestry consists of reliable belief-forming processes, i.e., processes that generally lead to truth."⁹⁶

This account has two features that set it apart from internalist accounts. First, as an externalist account of justification, it makes no reference to the deliberations of agents. The agent may or may not know the causal ancestry of her belief. She may also be unaware of the reliability of whatever processes led to the belief. Second, as such, it cannot offer any rules or prescriptions for choosing beliefs. It considers an already formed belief and identifies which features are necessary and sufficient for that belief to be justified.

Why favour externalism over internalism? The answer given by Goldman is that internalism is either fundamentally confused or unattainable. Distinctive of internalism is the requirement that justification be carried out by the agent before accepting a belief. Therefore, a fundamental concern of internalists is to identify the rule or set of rules by which an agent could determine the justifiedness of a belief. Goldman's strategy is to consider what conditions

determine the right principles. The conditions appropriate for externalism, he says, can be expressed as follows:

- 1) Rule of justification *X* is right if and only if: *X* is actually optimal in avoiding error and producing true beliefs.

This is insufficient for the internalist since it does not require that the agent in some sense know and utilize *X* in order to arrive at a justified belief. The conditions that appear to Goldman to be appropriate for internalism are:

- 2) Rule of justification *X* is right if and only if: we are justified in believing that *X* is optimal in avoiding error and producing true beliefs.
- 3) Rule of justification *X* is right if and only if: we *believe* that *X* is optimal.
- 4) Rule of justification *X* is right if and only if: (A) we believe that *X* is optimal, and (B) this belief was caused by reliable cognitive processes.

The fatal difficulty with 2 is that it is circular. Our motivation in seeking a regulative theory of justification is to provide rules that do not presuppose the prior existence of such rules, and 2 fails in this regard. 3 fails because it accomplishes too little. It is possible under 3 that an agent believes *X* is optimal for foolish reasons. 4 fails because it is no longer internalist, given that the causes of our beliefs and the reliability of our cognitive processes are not generally available to us. Internalism requires that they be available. Goldman's opposition to internalism provides the basis for his defense of epistemic paternalism. If he is correct the implication for teaching that has traditionally been derived from internalism must give way. It may be salutary after all that education socializes students into deference to epistemic authorities.

EPISTEMIC PATERNALISM

Among the evidentialist principles upon which internalists rely the "requirement of total evidence principle" is especially important. This principle (RTE) states that the agent, to be rational, must base her beliefs on the available evidence and not neglect any evidence that bears crucially on the beliefs in question. In light of this principle, those who have some control over evidence relevant to another's rational decision ought to accept the following corollary of RTE: (C-RTE).

If agent X is going to make a doxastic decision concerning question Q , and agent Y has control over the evidence that is provided to X , then, from a purely epistemic point of view, Y should make available to X all of the evidence relevant to Q which is (at negligible cost) within Y 's control.⁹⁷

In terms relevant to teaching children, teachers should, on epistemic grounds, make available all evidence relevant to the particular claims they wish their students to adopt. You might say the point of this thesis is to have educators see the wisdom of RTE and its corollary in order that these two principles might transform the way teachers teach. The RTE principle is seen to be epistemically useful because those who follow it are in the best position to acquire true beliefs and avoid false ones. Its corollary is epistemically useful for much the same reason. Goldman wants C-RTE rejected as a universal principle, and epistemic paternalism acknowledged as a legitimate stance to take toward the epistemically dependent. He argues these points in terms of the veritistic benefits paternalistic treatment confers on the dependent. Despite volumes of philosophical writing that claim otherwise, C-RTE does not, he says, maximize the chances that the epistemically dependent will have more true beliefs and fewer false beliefs. To see this one need only examine the rules that govern the admissibility of evidence in courtrooms, or the Federal Trade Commission's regulations with respect to false or deceptive advertising, or the considerations that justify excluding certain points of view from school curricula. Evidence that may reduce the chances of a juror, consumer, or student arriving at the truth or avoiding error ought to be restricted by the relevant authorities, and this restriction, says Goldman, violates both RTE and C-RTE.

The requirement of total evidence and the doctrine of epistemic individualism are part of the Millian legacy that Goldman thinks we would do well to reconsider. He doubts the "collision of adverse opinion" will *directly* bring about the "clearer perception and livelier impression of the truth" as Mill claimed it would. Rather a clearer perception of the truth, if it comes about via the clash between opinions, does so *indirectly* because more true beliefs and fewer erroneous beliefs have emerged. The fundamental principle, then, is to maximize the availability of true beliefs and minimize the number of false ones. Epistemic paternalism is a sensible and therefore justifiable strategy for doing just that.

INTERNALISM AND THE PROBLEM OF INFINITE REGRESS

Hetherington has noted additional problems for internalism.⁹⁸ Internalists insist that justification is based on reasons or evidence that are somehow available to the agent. More precisely the evidence must be held and *appreciated* as evidence. Not only must the evidence be within an agent's grasp, it must be *epistemically within* her grasp. I may have a piece of evidence but not see its significance. Such a piece of evidence is internal, but not, on Hetherington's account, epistemically internal.⁹⁹ For evidence to be epistemically internal, then, a person must not only have the evidence, she must *appreciate* it as her justification. This feature of internalism is also explicitly invoked by Scheffler in his analogy with detective novels. The fatal difficulty with this distinction is that it leads to an infinite regress. The problem is this:

Suppose W1 (a piece of evidence) is epistemically within a person *S*: e.g., *S* not only has the belief, but appreciates it as his or her justification. However, since appreciation is a doxastic attitude of a kind with belief, it too must be epistemically within *S*. For this doxastic attitude to also be epistemically within *S* it is necessary that *S* appreciate her appreciating. This appreciating in turn must be epistemically internal, and so on.

Hetherington states that for W1 to be internal to *S* there must be a chain looking something like this: From W1 there must follow:

the appreciating of W1 as epistemically internal to *S*, the appreciating of that first appreciating as epistemically internal to *S*, the appreciating of that second appreciating as epistemically internal to *S*...¹⁰⁰

For each member of the sequence to be epistemically internal the next member of the sequence must also be epistemically internal. Thus we have an infinite regress. So internalism leads to skepticism in two ways. Either it collapses under the weight of an infinite regress or it fails to square with what is commonly taken to be knowledge. If the externalist position is correct it will no longer be possible to argue for the educational importance of evidential styles of belief solely on the basis of an analysis of knowledge and rational belief. Such is the radical nature of externalism that it runs counter to the long-standing normative requirement that cognitive agents adopt the epistemic point of view, and base their beliefs on evidence they themselves possess and

understand. It therefore lends support to those who think education is best conceived in terms quite unlike those commonly expressed in educational philosophy.

¹Iris Murdoch, *The Sovereignty of the Good* (London: Fontana, 1979).

²R. F. Dearden, "Autonomy and Education," in *Education and the Development of Reason*, ed. R. F. Dearden, Paul Hirst and R. S. Peters (London: Routledge and Kegan Paul, 1972), 461; "Autonomy as an Educational Ideal," in *Philosophers Discuss Education*, ed. S. C. Brown (London: Routledge and Kegan Paul, 1975), 18.

³S. I. Benn, "Freedom, Autonomy and the Concept of a Person," *Proceedings of the Aristotelian Society* 1975–1976, 130.

⁴Elizabeth Telfer, "Autonomy as an Educational Ideal" in S. C. Brown ed. *Philosophers Discuss Education* (London: Macmillan, 1975), 19–28.

⁵Gerald Dworkin, *The Theory and Practice of Autonomy* (Cambridge: Cambridge University Press, 1988).

⁶*Ibid.*, 12.

⁷Brian Crittenden, "Autonomy as an Aim of Education," in *Ethics and Educational Policy*, ed. Kenneth Strike and Kieran Egan (London: Routledge and Kegan Paul, 1978), 107.

⁸*Ibid.*, 117.

⁹Immanuel Kant, *Groundwork of the Metaphysic of Morals*, trans. by H. J. Paton (New York: Harper and Row, 1964), 98.

¹⁰Isaiah Berlin, *Four Essays on Liberty* (London: Oxford University Press, 1969), 152–153.

¹¹Kurt Baier, "Moral Autonomy as Aim of Moral Education," in *New Essays in the Philosophy of Education*, ed. Glenn Langford and D. J. O'Connor (London: Routledge and Kegan Paul, 1973), 102.

¹²Dworkin, 21.

¹³*Ibid.*, 20.

¹⁴*Ibid.*, 23.

¹⁵This is not to suggest that those who advocate intellectual autonomy have internalist theories of justification in mind, or even that they are aware of these theories. It is to suggest, rather, that various forms of evidentialism, some of which date back to Plato, are in the end internalist in their basic commitments.

¹⁶Kenneth A. Strike, *Educational Policy and the Just Society* (Urbana, IL: University of Illinois Press, 1982).

¹⁷John Stuart Mill, *On Liberty* (New York: The Liberal Arts Press, 1956), 43.

¹⁸Thomas Green, "A Topology of the Teaching Concept," in *Concepts of Teaching: Philosophical Essays*, ed. C. J. B. MacMillan and Thomas W. Nelson (Chicago: Rand McNally, 1968).

¹⁹J. L. Austin, "Other Minds," *Philosophical Papers* (Oxford: Oxford University Press, 1961), 53.

²⁰John O. Urmson, "Parenthetical Verbs," in *Essays in Conceptual Analysis*, ed. Antony Flew (London: MacMillan and Company, 1956), 198–199.

²¹Israel Scheffler, *Conditions of Knowledge; The Language of Education* (Springfield, IL: Charles Thomas Publishers, 1960); Paul H. Hirst, *Knowledge and the Curriculum* (London: Routledge and Kegan Paul, 1974)

²²For defense of the view that knowledge entails justified true belief see Marshall Swain, *Reasons and Knowledge* (Ithaca: Cornell University Press, 1981); Keith Lehrer, *Theory of Knowledge* (London: Routledge, 1990); Lawrence Bonjour, *The Structure of Empirical Knowledge* (Cambridge, Massachusetts: Harvard University Press, 1985).

²³A. J. Ayer, *The Problem of Knowledge* (Harmondsworth: Pelican Books, 1956), 35.

²⁴Roderick Chisholm, *Perceiving* (Ithaca, NY: Cornell University Press, 1957), 16.

²⁵For the most part epistemologists have continued to favour the tripartite definition, though they no longer think the three conditions are sufficient, only *nearly* sufficient.

²⁶Roderick Chisholm, *Theory of Knowledge* (New York: Prentice Hall, 1989), 90.

²⁷Roderick Firth, "Are Epistemic Concepts Reducible to Ethical Concepts?," in *Values and Morals*, ed. Alvin Goldman and Jaegwon Kim (Dordrecht: D. Reidel Publishing Co., 1978), 219.

²⁸Scheffler makes an important qualification regarding the internal character of justification. In schools the criteria are to be more stringent than in everyday life since the purpose in schools is an educational one. In everyday life where typically expediency is reasonably afforded more weight appeals to authority are justified. In schools they are less justified. For his discussion see *Conditions of Knowledge*, p. 67–68.

²⁹*Ibid.*, 56.

³⁰This aspect of the world of knowledge is central to the conception of liberal education proffered by Paul Hirst, as well as to John McPeck's conception of education for critical thinking. Both argue that a knowledge of epistemic justification across the forms of knowledge is a constitutive feature of rational minds.

³¹Israel Scheffler, "Responses," in *Synthese*, ed. Catherine Z. Elgin, 94, no. 1 (1993): 130.

³²Israel Scheffler, *Reason and Teaching* (Indianapolis: Hackett, 1973), 143.

³³Green, "A Topology of the Teaching Concept," 42.

³⁴*Ibid.*, 43.

³⁵Paul Hirst, "Liberal Education and the Nature of Knowledge," *Knowledge and the Curriculum: A Collection of Philosophical Papers* (London: Routledge and Kegan Paul, 1974), 40.

³⁶This expression is from Wilfred Sellars who claimed that "in characterizing an episode...as that of *knowing*...we are placing it in the logical space of reasons, of justifying and being able to justify what one says." See his *Science, Perception and Reality* (London: Routledge and Kegan Paul, 1963), 169.

³⁷Suzanne deCastell, "Epistemic Authority, Institutional Power, and Curricular Knowledge," *Journal of Educational Thought*. 16, no. 1 (1982): 27.

³⁸Harvey Siegel, *Educating Reason: Rationality, Critical Thinking and Education* (New York: Routledge, 1988), 33.

³⁹*Ibid.*, 54.

⁴⁰John Stuart Mill, *On Liberty*, 16

⁴¹*Ibid.*, 16

⁴²*Ibid.*, 17

⁴³*Ibid.*, 15

⁴⁴*Ibid.*, 16.

⁴⁵Eamonn Callan's paraphrase of Dunlop's argument (from Francis Dunlop, "On the Democratic Organization of Schools," *Cambridge Journal of Education* 9, no. 1 (1979), 43–54) in Eamonn Callan, ed., *Autonomy and Schooling* (Montreal: McGill-Queens University Press, 1988), n. 26, 160–161.

⁴⁶*Ibid.*, 188.

⁴⁷Ibid., 188.

⁴⁸Ibid., 190.

⁴⁹Scheffler, *Conditions of Knowledge; In Praise of the Cognitive Emotions*.

⁵⁰Thomas Green, *The Activities of Teaching*, "A Topology of the Teaching Concept."

⁵¹R. S. Peters, *Authority, Responsibility and Education* (New York: Atherton Press, 1965); *Ethics and Education* (London: Allen and Unwin, 1966); "Reason and Habit: The Paradox of Moral Education," in *Moral Education in a Changing Society*, ed. W. Niblett (London: Faber and Faber, 1963).

⁵²Paul H. Hirst and R. S. Peters, *The Logic of Education* (London: Routledge and Kegan Paul, 1970), 114–123.

⁵³R. F. Dearden, *The Philosophy of Primary Education* (London: Routledge and Kegan Paul, 1968), see esp. ch. 2 and 3.

⁵⁴R. T. Allen, "Because I Say So!: Some Limitations Upon the Rationalisation of Authority," *Journal of Philosophy of Education* 21, no. 1 (1987): 15–24; "I'll Say It Again: A Rejoinder to Jim Mackenzie," *Journal of Philosophy of Education* 22, no. 1 (1988): 113–114.

⁵⁵Francis Dunlop, "On the Democratic Organization of Schools," *Cambridge Journal of Education* 9, no. 1, 1979).

⁵⁶Allen, "I'll Say It Again," 113.

⁵⁷Hirst and Peters, 116.

⁵⁸Paul H. Hirst and R. S. Peters, *The Logic of Education* (London: Routledge and Kegan Paul, 1970), 117.

⁵⁹R. S. Peters, *Ethics and Education* (London: Allen and Unwin, 1966), 265.

⁶⁰Allen, "Because I Say So!, 17.

⁶¹Michael Polanyi, *Knowing and Being* (London: Routledge and Kegan Paul, 1969), 55ff; *Science, Faith and Society* (Chicago: University of Chicago Press, 1964), 48ff.

⁶²I owe this distinction to Richard T. DeGeorge, *The Nature and Limits of Authority* (Lawrence, KN: University of Kansas Press, 1985).

⁶³Hirst and Peters, 116.

⁶⁴It is highly improbable that elementary school teachers would have such depth of understanding since they are called upon to teach a wide range of courses (mathematics, science, history, etc.) where the demand for epistemic justification is appropriate. Little in the formal preparation of these teachers would prepare them to communicate the relevant evidentiary arguments.

⁶⁵Michael Polanyi, *Personal Knowledge* (London: Routledge and Kegan Paul, 1968), 53.

⁶⁶Alasdair MacIntyre makes an identical point in *After Virtue*.

⁶⁷John Hardwig, "Epistemic Dependence," *The Journal of Philosophy* LXXXII, no. 7 (1985): 335–349.

⁶⁸See *Ibid.*, especially pp. 346–349. Hardwig cites the research on charm particles in physics carried out by a team of 99 researchers as an example of what he calls "vicarious knowledge." Vicarious knowledge is knowledge that can be possessed without direct evidence and with only partial or no understanding of its grounds. It can be expressed as follows:

A knows that *m*.

B knows that *n*.

C knows (1) that A knows that *m*, and (2) that if *m*, then *o*.

D knows (1) that B knows that *n* (2) that C knows that *o*, and (3) that if *n* and *o*, then *p*.

E knows that D knows that *p*.

therefore

E knows that *p*.

⁶⁹D. M. Armstrong, *Belief, Truth, Knowledge* (London: Cambridge University Press, 1973).

⁷⁰Alvin I. Goldman, "What is Justified Belief?," in *Justification and Knowledge*, ed. George S. Pappas (Dordrecht, Holland: D. Reidel Publishing Co., 1979), 1–23; "The Internalist Conception of Justification," in *Midwest Studies in Philosophy: Studies in Epistemology, Volume V*, ed. Peter A. French, Theodore E. Uehling, Jr. and Howard K. Wettstein (Minneapolis: University of Minnesota Press, 1980), 27–52; "Epistemic Paternalism," *The Journal of Philosophy*, 88, no. 3, (1991): 111–131.

⁷¹Stephen P. Stich and Richard E. Nisbett, "Justification and the Psychology of Human Reasoning," *Philosophy of Science* 47 (1980): 188–202.

⁷²Frederick F. Schmitt, "Justification, Sociality and Autonomy," *Synthese* 73 (1987): 43–85; W. H. Walsh, "Knowledge in its Social Setting," *Mind* 80, no. 319 (1971): 321–336; Michael Welbourne, "The Community of Knowledge," *Philosophical Quarterly* 29 (1981): 302–314; "The Transmission of Knowledge," *Philosophical Quarterly* (1979): 29, no. 114, 1–9; Hilary Kornblith, "Some Social Features of Cognition," *Synthese* 73 (1987): 27–41.

⁷³Stich and Nisbett, 199.

⁷⁴Ibid., 199.

⁷⁵John Hardwig, "The Role of Trust in Knowledge," *The Journal of Philosophy*. 88, no. 12 (1991): 693–694.

⁷⁶Mark Owen Webb, "Why I Know About As Much As You: A Reply to Hardwig," *The Journal of Philosophy* 7, no. 3 (1993): 260–261.

⁷⁷Michael Welbourne, "The Transmission of Knowledge," *Philosophical Quarterly*. 29, no. 114 (1979): 5.

⁷⁸By way of contrast, it is worth noting that where demands for argument and justification *are* called for, uncritical acceptance is out of place. For example, Welbourne observes that neophyte philosophy students tend to view their lectures as occasions for the dissemination of knowledge. To his dismay they accept what he says without question. Under such circumstances, says Welbourne, "to believe me would be to misunderstand me in a very important way, it would be to misunderstand the game I was playing. Believing me is not the right response in this game." The proper response would be one of assessing the merits of the argument, raising objections, posing questions and counter-examples, or engaging in other, truth testing maneuvers. See Welbourne, 9.

⁷⁹Welbourne, "The Transmission of Knowledge," 9.

⁸⁰In this Locke is not alone. It is commonly asserted that testimony is useful primarily as evidence for one's beliefs. This remark of Price's, for example, is typical: "Each of us would like to know what happened before he was born.... His own first hand observations...will not enable him to answer [this question]. If he cannot *know*...he would still like to be able to hold the most reasonable beliefs that he can, on the best evidence he can get. And very often indeed the only evidence he can get is the evidence of testimony." See H. H. Price, *Belief* (New York: Humanities Press, 1969), 125.

⁸¹Welbourne, "The Community of Knowledge," 312.

⁸²Ibid., 312.

⁸³Walton, for example, states that "generally speaking we only appeal to experts, if in fact, it may be too expensive or otherwise difficult for us to have direct evidence. That is why we may legitimately appeal to experts as a secondary source of subjective knowledge when we have to make a decision." It is not exactly clear what Walton means by subjective knowledge but it is reasonable to suppose that he means to draw a distinction between objective and subjective knowledge where the former is justified on purely epistemic grounds, and the latter on the pragmatic grounds of expedience. See D. Walton, *Informal Fallacies: Toward a Theory of Argument Criticisms* (Amsterdam: J. Benjamins Publishing Company, 1987). For similar views see Trudy Govier, *A Practical Study of Argument* (California: Wadsworth, 1988); Ralph Johnson and T. Blair, *Logical Self-Defense* (Toronto: McGraw-Hill Ryerson, 1983).

⁸⁴Internalist and deontological conceptions of justification are not identical though they both emphasize the agent's active role in weighing reasons and therefore stand together in contrast to externalism.

⁸⁵Mathias Steup, "The Deontic Conception of Epistemic Justification," *Philosophical Studies*, 53, no. 1 (1988): 78.

⁸⁶W. K. Clifford, "The Ethics of Belief," *Lectures and Essays, Volume II* (London: MacMillan, 1879, 186).

⁸⁷Lawrence BonJour, *The Structure of Empirical Knowledge* (Cambridge, MA: Harvard University Press, 1985), 8.

⁸⁸Bertrand Russell, *A History of Western Philosophy* (New York: Simon and Schuster, 1945), 372.

⁸⁹See Bernard Williams, "Deciding to Believe," in *Problems of the Self* (Cambridge: Cambridge University Press, 1972); William P. Alston, "The Deontological Conception of Epistemic Justification," in his *Epistemic Justification: Essays in the Theory of Knowledge* (Ithaca, NY: Cornell University Press, 1989), 115–152.

⁹⁰Alston, "The Deontological Conception of Epistemic Justification".

⁹¹William Alston, "Concepts of Epistemic Justification," *Epistemic Justification: Essays in the Theory of Knowledge* (Ithaca, NY: Cornell University Press, 1989), 67.

⁹²Lawrence BonJour, "Externalist Theories of Empirical Knowledge," *Midwest Studies in Philosophy*, 5, 1980), 56.

⁹³D. M. Armstrong, *Belief, Truth and Knowledge* (London: Cambridge University Press, 1973), 166.

⁹⁴Alvin I. Goldman, "Epistemic Paternalism," *The Journal of Philosophy*. 88, no. 3 (1991): 113–131.

⁹⁵Alston, "The Deontological Conception of Epistemic Justification".

⁹⁶Alvin I. Goldman, "The Internalist Conception of Justification," in *Midwest Studies in Philosophy: Studies in Epistemology, Volume V*, ed. Peter A. French, Theodore E. Uehling, Jr. and Howard K. Wettstein (Minneapolis: University of Minnesota Press, 1980), 28.

⁹⁷Alvin I. Goldman, "Epistemic Paternalism," 114.

⁹⁸Stephen Cade Hetherington, "On Being Epistemically Internal," *Philosophy and Phenomenological Research* 51, no. 4 (1991): 855–871.

⁹⁹The first sense of internal given here is the sense in which externalists view evidence as internal, and this is all they require.

¹⁰⁰Hetherington, "On Being Epistemically Internal," 860.

CHAPTER FOUR

THE CASE AGAINST EXTERNALIST THEORIES OF KNOWLEDGE AND JUSTIFICATION

We have to this point considered a variety of positions regarding epistemic justification. The most familiar present a particular picture of justification, where the solitary agent deliberates about what to believe on the basis of the available evidence and then, on this basis, determines whether to accept a proposition, reject it, or suspend belief. It was demonstrated in the last chapter how this picture has been sharply challenged by those who doubt justification is typically a matter of individual deliberation, or deny that agents have much choice in the beliefs they come to adopt. The most decisive objection has come from those who insist the traditional picture of justification sets an unrealistically high standard. For some of these critics being justified does not depend on epistemically responsible deliberation about what to believe. There may be occasions where deliberation is called for, but since there are many where it is not, the insistence that an internalist condition is necessary for knowledge and justification is too strong. For other critics, being justified is more a matter of believing what you are told than it is a matter of weighing evidence and assessing the reliability of claims. If *this* picture is correct then it is not on the basis of a need to be justified that one can demand, as I have, that teachers foster evidential styles of belief in school children.

Externalism and its supplementary arguments for epistemic paternalism thus pose a formidable challenge to my thesis. In essence, externalism denies that knowledge and justification are best understood by reference to the cognitive agent's deliberations about what to believe. It denies that an appraisal of evidence is a necessary feature of knowing, or even more fundamentally that in the majority of cases we can choose what to believe. The argument of externalists relies heavily on a critique of internalism, which by their lights collapses under the weight of an infinite regress, or sets such stringent conditions on knowing that skepticism is the result. The regress problem bears on the internalist claim that in order to know one must appreciate the force of one's evidence, for there will always be some further act of appreciating required of the cognitive agent before she can be said to know. Perceptual beliefs pose a more

serious problem for a deontic conception of justification since it is obviously not the case that cognitive agents follow an evidential argument, weigh the evidence or assess the adequacy and relevance of reasons before they determine it is indeed a hand they see before them.¹

The externalists' reliance on the twin epistemic goals of acquiring true beliefs and avoiding false ones helps to sustain counter-intuitive conclusions regarding epistemic paternalism and appeals to authority. If we are to allow that one can know without possessing and evaluating the grounds for belief then the sheer efficiency of trusting epistemic authorities is hard to deny. Moreover if we do deny the rationality of believing what we are told what shall be made of the ubiquity of belief on testimony in courts, schools, in life generally. Internalists appear to have ignored Wittgenstein's injunction to think less and observe more.² They have, on this account, been held captive by a faulty picture of knowledge and justification that has blinded them to what human beings actually do in connection with belief.

What are we to make of the externalist challenge? Some of the issue between externalists and internalists can be set aside since not every aspect of the debate bears on the thesis under discussion. Even if we assume that externalism is the best account of justified belief we can still make a case for partial autonomy in terms of the development of expertise. This is a move that ought to be attractive to educators since it is consistent with much current thinking concerning the instrumental purpose of education. In the course of the last quarter century a human capital view of education's purpose has become firmly entrenched in policy. On this view, education ought to prepare students for their future occupational roles within a modern diversified economy characterized by an division of skilled labour. The development of expertise is therefore one of the legitimate goals of education.

The limitation of this view is that it casts a rather narrow net, since it fails to take into account the variety of other educational goals that might require a degree of intellectual autonomy. Nonetheless the educational implications of the view that epistemic virtue is necessary to expertise are worth pursuing, for even in cases where agents possess reliable testimony they frequently fail to utilize it sensibly. There are as well other valuable attainments, such as the ability to think, that have a point beyond satisfying the requirements of specific occupations. Kornblith,

for example, has argued that intellectual autonomy is an attribute of the epistemically responsible agent, so we might explore the ways in which epistemic virtue guards against error.³

There are numerous examples of widespread epistemic irresponsibility upon which to make a case for epistemic virtue.⁴ Let us consider three common sorts of error that have been identified in the empirical study of human inference by Nisbett and Ross.⁵ The first is due to the influence of “vividness”. Information is vivid, and therefore likely to attract and hold our attention, if it is especially interesting, concrete or proximate in either a sensory, temporal or spatial way. Numerous empirical studies have revealed that for the majority of people vivid data have more impact and influence on belief formation, independent of their objective relevance or reliability, than data which are not vivid.

Nisbett et al. offer this illustration of the undue influence of vividness. Suppose you intend to buy a new car, but have not yet decided between a Volvo and a Saab. You consult an issue of *Consumer Reports* from which you learn the consensus of expert opinion is that the Volvo is mechanically superior to the Saab. From a reader’s poll of Volvo owners you learn that the Volvo has a superior repair record. On the basis of this information you resolve to buy a Volvo. But before you can make your purchase you meet an acquaintance who upon hearing of your intention reacts with disbelief and alarm. He relates that his brother-in-law bought a Volvo and had nothing but trouble with it. The electronic fuel injection failed, then the brakes. He had trouble with the rear end, then the transmission went. In frustration he sold the car for junk after three years. The tale of woe was so dramatic, and came in familiar surroundings from someone less distant than the editors of *Consumer Reports*, so you change your mind. According to Nisbett et al. most people would attach such disproportionate weight to this sort of testimony from an acquaintance:

The logical status of this information is that the N of several hundred Volvo-owning *Consumer Reports* readers has been increased by one, and the mean frequency of repair record shifted by an iota on three or four dimensions. However anyone who maintains that he would reduce the encounter to such a net informational effect is either disingenuous or lacking in the most elemental self-knowledge.⁶

A second tendency that interferes with the acquisition of true belief is the propensity of agents to ignore base rate information. In one study⁷ subjects claimed that the personality characteristics of individuals are poor predictors of the academic field graduate students will

ultimately choose. These same subjects were then asked to predict the field of study for an individual on the basis of various sorts of information. Included in this information was base rate information on the percentage of graduate student selecting various fields, as well as information on the personality characteristics of the individuals in question. Despite having claimed that information on personality was a poor predictor for such purposes, subjects based their predictions entirely on personality characteristics and ignored the base rate information on the popularity of selected fields.

The third example concerns people's intuitions about random sampling. It is widely appreciated that the larger the sample drawn from a population the more likely that sample is to reflect the characteristics of the population as a whole. Yet people who would readily assent to this principle of inductive inference draw their own inferences from remarkably small samples. The tendency to over generalize on the basis of limited data is ubiquitous.

What unites these examples is a particular type of irrationality. In each case people should know better than to make the mistakes they do. Their errors are not errors of ignorance, but failures of critical reflectiveness that an education aimed at fostering epistemic virtue would do much to prevent.

Epistemic virtue is also necessary to offset the influence of non-epistemic reasons for the acceptance of belief. While there are doubtless many non-epistemic, though justified, reasons for accepting or rejecting the testimony of others (e.g., simplicity, fertility, problem solving capacity) some influential sorts of reasons are clearly without much relevance. In particular there is considerable evidence to indicate that receivers of information trust sources of information to the extent these sources look and sound like them.⁸ This phenomenon is commonplace in secondary schools where young, inexperienced teachers often have more in common with their students than they do with their older, experienced colleagues. This common ground between novice teacher and adolescent frequently simplifies the young teacher's tasks of persuasion, with the consequence that young teachers are both more popular and successful, despite the inevitable blunders that accompany inexperience. Given the prevalence of testimony as the basis for belief in and out of schools this result should not surprise us. When people base their beliefs on testimony the

characteristics of the source must play a larger role than the epistemic merits of an evidential argument. Thus it should be no surprise that epistemically irrelevant features of sources are influential in the formation of belief. Nor should it surprise us that student discussions within classrooms frequently degenerate into ad hominem attacks between participants. When the truth of arguments is so frequently to be determined in light of the characteristics of persons, the temptation must be great to view the perceived fault of positions as being the fault of the person. The prevalence of epistemic dependence in schools makes epistemic virtue all the more necessary.

We can also turn Wittgensteinian arguments against externalists. If we accept that the meaning of a term lies in its use, several of the problems for my thesis posed by externalism appear less menacing. For my purposes knowledge and justification are best understood in contexts relevant to the activities of teaching and learning. Thus we can jettison perceptual knowledge from my account. In the main much of what is to be transmitted in schools by instruction and study is not perceptual knowledge, though clearly students gain what they come to know through their senses. In terms of teaching acts the teacher begins to offer explanations just at that point where there is a need to argue for a view. Following Grice,⁹ Fuller provides a range of thresholds that differentiate between the degrees of epistemic support required for various sorts of claims. Fuller terms these “thresholds of decidability” for a claim. These thresholds represent the amount of information a speaker must provide to her audience in order to enable that audience to make a decision. In effect these thresholds determine how explicit a speaker must be in laying out the grounds for belief.

- 1) The mere assertion of a claim is sufficient for acceptance or rejection. Quintessentially analytic claims are the sort where no more than this first threshold must be passed. Other sorts include self-evident truths and synthetic truisms.
- 2) The assertion must be supplemented with further argument or explication, though the claim could be easily inferred from other claims already held to be true by the audience.
- 3) The assertion must be accompanied by a “loose” statement of evidence. That is, the claim must be supported with evidence, though this evidence may not satisfy the most rigorous sort of standard (i.e., circumstantial evidence, or evidence found in analogous cases).

- 4) The assertion must be supported with a more rigorous statement of evidence that satisfies higher standards. This might include perceptual evidence as well as more technically logical truth preserving steps in argument.
- 5) The assertion must be supported as in #4, but in addition must be shown to be counter-intuitive without that support. That is, without such evidential support the audience would think the claim had the opposite truth value from the one demonstrated.

Here the thresholds of decidability are determined largely but not exclusively by the nature of the claim. Whether a claim is self-evident or easily inferred from other beliefs is a function of the experience of the audience, and so in the case of children there may be a higher threshold of decidability for claims that among adults would need less support. It should be plain that many of the knowledge claims advanced in schools can only be understood (in Austin's sense of the term) when teachers go beyond the lower thresholds of decidability and provide more generous epistemic support. The discussion in chapter 1 makes clear that a great many of claims presented to students are presented *as if* there is no reason to rise above the lowest thresholds. Yet it is equally clear that many claims require more justification than this. In addition if we take one of the goals of education to be introducing children to the range of justificatory practices, there should be some effort to familiarize students with these various justificatory moves, even if, for ordinary purposes, there is little need to be more generous in supplying epistemic support.

The response of internalists has been to insist that externalism fails to square with commonsense intuitions regarding knowledge, or that it sidesteps altogether the important philosophical questions that have driven epistemological inquiry throughout its history. I will turn to a more detailed examination of their views in a moment. But first I wish to make clear that my intention is not to refute externalism. It isn't necessary to resolve this dispute among epistemologists in order to determine whether or not teaching the justificatory arguments that support knowledge claims will help foster the capacity for independent rational thought among children. If internalists are correct in thinking one cannot know without making some subjective appraisal of evidence then I can argue my case as others have in the past. That is, I can argue that if teachers are to transmit knowledge they must transmit as well the evidentiary argument that

provides the warrant for belief. If, however, externalists are correct in supposing justification is external to the agent I needn't abandon my position, so much as modify it. Even among those who think that externalism is substantially correct there are several who say the internalist condition is epistemically worthwhile, though not necessary for knowledge or justification.¹⁰ This concession may provide me sufficient justification for identifying evidentially held belief as an educational goal of fundamental importance. Kornblith and Schmitt, for example, do not believe that internalism offers an adequate account of knowledge, though they both agree that internalist notions of justifications pick out worthwhile cognitive traits and virtues. Schmitt's argument to this effect features the idea of epistemic virtue. Kornblith's suggestion is that the disposition to seek reasons for belief is a constitutive feature of "epistemically responsible agency". Let us first consider the internalist reply to the externalists before turning to the arguments that suggest the value of the internalist condition is best explicated in terms of epistemic virtue.

THE INTERNALIST RESPONSE

The most basic objection against externalism is that it has redefined fundamental epistemic terms in a way that makes them irrelevant to the inquiries concerning the nature of knowledge and justification. Externalism, on this view, does not only fail to square with our intuitions about justification; it bypasses them altogether by substituting non-epistemic concepts for the most fundamental epistemic concepts.¹¹ This strategy, it is said, cannot succeed since the most basic epistemological concepts are *sui generis*, and therefore defy further analysis or reduction. Some epistemic notions—such as the idea of one proposition being more reasonable to believe than another—are simply primitive. As well, for every nomological analysis of epistemological concepts offered by externalists, internalists can demand that externalists give us an account of how they know externalism is the correct view. As Fumerton remarks externalists will not be able to answer without utilizing an internalist framework.

It is the nomological analyses of epistemic concepts that leads us to keep moving up a level to ask the externalist how he knows that he knows, or knows that he knows that he knows. The externalist might be able to give correct answers within the framework of his view, but we, as internalists, will keep asking the questions until his answer invokes a

concept of knowledge or justified belief not captured in terms of nomological connection.¹²

In a similar vein, Chisholm has charged that externalist explications of justification are empty (since they reduce justified belief to true belief) or they are viable only when so supplemented by internalist concepts they cease to be externalist. Externalism is empty because it tells us nothing that would advance our understanding of knowledge and justification. To see how this is so consider the central premise of externalism—that S is justified in believing p on the condition that p is true and S is a thinking subject. Chisholm calls this premise the essential “non-theory” of externalism. If it fails to explain knowledge and justification (as it does) so too must the existing varieties of externalism that take it as their main premise. Since this “non-theory” makes no distinction between the true beliefs of an agent and those beliefs he would be justified in having its contribution to a theory of knowledge is negligible. If the more finely articulated versions of externalism also reduce justification to truth they too are non-theories.

Take Goldman’s reliability theory of justification, for example. It suggests that one is justified if one’s belief was formed by a reliable belief forming process.¹³ If “reliable process” is taken to mean activities that result in one’s acquiring true belief, reliability theory is a non-theory in Chisholm’s sense. On the assumption that some processes are more reliable than others, indeed that some of them are unreliable, there remains the inescapable question of which processes are such that an agent would be justified in believing *them* to be reliable. If we restrict our account of justification to only those processes that yield true beliefs (as externalists do) we have an uninformative non-theory. If we enlarge our account of justification to include an agent’s decisions about which processes are reliable we have introduced internalist notions that suggest agents make a subjective appraisal of reliability based on evidence.

Since externalists have obliterated the distinction between knowledge and mere true belief, externalists must allow then that any true belief counts as knowledge. They thereby turn every lucky guess into knowledge.¹⁴ The conviction that such a view is wrong is precisely what gives the Gettier counterexamples their force.¹⁵ These counterexamples (in which some form of luck plays a part in the cognitive agent’s holding a true belief) spoke to the deep seated conviction among epistemologists that epistemic luck is incompatible with knowledge. That the idea of

epistemic justification has a subjective component can be plainly seen when it is compared to moral justification. There is a clear difference between genuinely moral action and action with a fortuitously moral result. The former is morally justified while the latter is not. Moral luck does not make an action morally justified. The person who sets out to murder another person but bumbles the job in a way that saves that person's life from some other source of harm is hardly acting morally. Vicious and immoral intentions that have been thwarted by circumstances are not thereby redeemed by luck and justified by chance. By analogy epistemic luck does not make an irrational and irresponsible agent epistemically justified.

The internalist argument is an argument for evidentially held belief: without beliefs being held on this basis there can be no genuine knowledge. BonJour, for example, asserts that for beliefs to count as knowledge they must be epistemically, and not just causally justified. That is to say the acceptance of a belief must be epistemically rational, and carried out in an epistemically responsible manner. Rather than concentrating solely on the conditions in light of which a belief is justified, as externalists do, we need instead to consider a variety of epistemic practices in which epistemic agents ordinarily engage. Among these practices are public acts of justification, and demands that such acts be satisfactorily carried out. If we are to *show* a belief is justified, says BonJour, we typically will need to produce "a justificatory argument in which the belief to be justified is shown to follow inferentially from some other belief, which is thus offered as a reason for accepting it."¹⁶ Our practices reveal that our interest in acts of justification is a practical one. We want to be justified in believing what we do, so we engage in justificatory argument to convince ourselves and others that we are correct in believing as we do. Externalism ignores this practical motivation by adopting a God's eye point of view and claiming that being justified is a property of beliefs or persons as seen from that omniscient perspective.

To this basic objection BonJour adds two refinements. First, the distinguishing characteristic of epistemic justification is its "internal relationship to the cognitive goal of truth. A cognitive act is epistemically justified...only if and to the extent that it is aimed at this goal—which means at a minimum that one accepts only beliefs that there is adequate reason to think are true."¹⁷ Second, the notion of epistemic justification is a normative one that suggests

agents have epistemic duties or obligations. One's intellectual duty, therefore, is to accept beliefs that are true and reject beliefs that are false. To do otherwise is to be epistemically irresponsible. It is to this conviction that BonJour appeals in a set of cases that attempt to show that since externalism allows agents to be irrational and epistemically irresponsible its account of justification must be wrong. For, externalists have no way of criticizing the irrationality of an irrational person's belief, save pointing to some sort of dysfunction in the cognitive apparatus. Externalists, on this reading, have no way of denying that a belief may be justified even though the agent either has *no* reason to think it is justified (i.e. reliably formed) or does have reason to think it is *unjustified*. BonJour's strategy is to make a *prima facie* case for internalism by citing examples that violate our internalist intuitions, and thereby shift the burden of proof to externalists.

Each case involves an agent who has clairvoyant powers and who on the basis of these powers correctly believes that the president is in New York. If such powers exist they would satisfy the externalist requirement of a reliable cognitive process. In each case offered by BonJour the agent cannot be said to know or be justified in claiming to know even though his or her belief is true and reliably formed. This is because:

1. The agent has no reason to believe in his or her clairvoyant powers, or has good reason to believe his or her powers are unreliable.
2. The agent disregards the available evidence or has no evidence.

The fact that in four different cases the agent holds a true belief based on a reliable process does little, says BonJour, to dispel the intuition that someone who ignores evidence and lacks any reason to trust in clairvoyance is not justified. Our idea of being justified *simply is* one that requires rational deliberation and epistemically responsible action.

One of the motivations for the internalist response to externalism is the desire to show how knowledge is possible despite the skeptical conclusions forced on us by the infinite regress problem. If there is to be a foundation, and thus no vicious infinite regress, there must be some empirical beliefs that are genuinely justified without being inferentially dependent on any other empirical beliefs. Beliefs such as these are to be the foundations upon which inferential beliefs may

rest. Thus, it is the justification of non-inferential, largely perceptual beliefs that is frequently the focus of externalism. From the perspective of internalists who hold to a coherence theory of knowledge the externalists' tendency to consider justification solely in terms of the justification of non-inferential beliefs is a question-begging strategy. This is so because such a strategy ignores the very thing at issue between foundationalists and non-foundationalists, namely the role of surrounding beliefs in the justification of a single belief. An objection of this sort is prominent in Feldman's discussion of Alvin Plantinga's theory of *proper functionalism*, according to which warranted belief is the result of the proper functioning of the cognitive system. According to Plantinga the crucial problem for internalists, and one they have no answer to, is that cognitive agents could do everything necessary in order to be epistemically responsible and still be badly mistaken. On this view neither having evidence nor assuring oneself of its relevance and adequacy is sufficient for warrant. This is because malfunctioning perceptual faculties might provide subjectively unequivocal evidence for a belief that is objectively false. What is required for warrant, says Plantinga, is proper function, or more precisely, the absence of cognitive pathology. To make this case Plantinga introduces the naturalist's version of Descartes' evil demon: brain disorders that cause the agent to hallucinate. One example concerns the appearance of an alfalfa patch at ten minute intervals that inclines the agent to believe there is alfalfa before him. Feldman's objection is that Plantinga's example omits the sort of background beliefs that when considered would prevent a rational agent from believing that what he saw was really alfalfa and not a hallucination. These background beliefs ordinarily would count as part of the *overall* evidence for a belief so the fact that such beliefs are missing in Plantinga's example counts heavily against his argument. Feldman observes that Plantinga's examples seem to support his position only because they omit the very details that would force an epistemically responsible agent to reconsider beliefs that otherwise seems true and self-evident.

Consider again the alfalfa stand example. It is intended to show that a true belief based on good evidence need not be knowledge.... Now what else are we supposed to think about this case? Here's one way things might go. I'm sitting in my study looking at my computer screen, my keyboard, my notes, and Plantinga's manuscript while I write this paper. Every ten minutes I get a vivid appearance of an alfalfa stand and I find myself inclined to believe that I do indeed see a fine stand of alfalfa. Right. Do I think that it is odd that there's

suddenly an alfalfa stand in my study, or do I think that they sprout up indoors all the time? Do I realize that I didn't think there was one there a moment ago? Do I remember that I did think there was one there ten minutes previously? If my background beliefs and evidence are anything like normal, then it is far from clear that my overall evidence does support the belief that I see an alfalfa field. The mere fact that I have an alfalfa stand appearance and an inclination to believe that I see an alfalfa stand does not guarantee that that belief has evidential support. So, it is far from clear that evidentialism goes wrong here.¹⁸

Feldman claims further that in cases where there is a coincidence between the hallucination and what actually obtains the situation is analogous to Gettier type examples that only show that some further condition is necessary in addition to the traditional three. Plantinga's argument, then, either depends on examples that don't in fact make his case or it depends on Gettier type examples that pose no challenge to the idea that evidence is necessary for justified true belief.

Plantinga's efforts at refuting deontologism fail for the same reasons. His specific target is Chisholm's claim that epistemic justification requires that cognitive agents form and hold their beliefs in accordance with their epistemic duties, especially the obligation to seek true beliefs and shun false ones. Plantinga's strategy is to provide a case where you fulfill your epistemic duties but nonetheless end up holding an outrageously incorrect belief. Due to a brain lesion you are certain you will be the next president of the United States, though you lack any evidence in support of this view. In the absence of any genuine doubt you needn't mull over the possibility that you are mistaken so you accept this belief as true when it is not. You have been epistemically dutiful yet seriously mistaken. Feldman's response to this scenario is that "even if the obviousness of the belief counts in its favor, everything else about the situation counts against it."¹⁹ Other beliefs would alert the epistemically responsible agent that something was amiss. You would know, for example, that you had never run for political office, that you had made no plans to raise the enormous sums necessary for a successful campaign, that this certain feeling of imminent success was not based on anything more than a peculiar and groundless confidence.

The dispute between internalists and externalists is at an impasse since both camps have been able to identify serious difficulties with the opposing theories. Nevertheless, doubts remain among some externalists that internalist intuitions can be abandoned altogether. On this view externalism's value has been to stimulate refinements to the received view.

The Surplus Value of the Internalist Condition

Among externalists there are some, like Schmitt, who accept the idea of an ethics of belief, and do see a limited role for intellectual autonomy.²⁰ According to Schmitt, internalists have been guided by the view that intellectual autonomy does more to ensure the agent will hold true beliefs and avoid error than does a reliance on authorities. In this, says Schmitt, they are mistaken. Not only, he says, do we obtain more true beliefs and fewer erroneous beliefs through the testimony of others, we frequently and rightly do so without evaluating the reliability of the source. Many would dispute this last point, granting only that belief on testimony is rational provided the agent assesses the source's reliability. This was Hume's position. But Schmitt argues that subjects are in no position to make informed judgements regarding a source's reliability, unless they themselves are sufficiently expert. This is the defect of what Schmitt calls Humean testimony. In place of Humean testimony Schmitt argues for *nonHumean testimony* where justification of belief on testimony takes the form of a process that maps the beliefs of a collection of authorities (who are mostly unknown to the subject) onto the beliefs of the epistemically dependent agent.

Since justification on nonHumean testimony evidently requires that the source's belief be justified, and most justification is based on nonHumean testimony, the present view entails a regress of justification: the subject's justification traces to the source's, but the source's must trace to further sources. But on the present view, such a regress is not necessarily harmful and is indeed consistent with a collective empiricism. While an individual's justification regresses, individuals each contribute some observations to the justification. No individual's observations are enough for justification, but the right combination of observations and configuration of processes connecting these observations suffices for justification. Justification is in this sense collective.²¹

What makes nonHumean testimony justified, says Schmitt, is the reliability made possible through the cognitive division of labour. By virtue of its role in the production and dissemination of knowledge this division of labour helps to ensure that those invested with authority are epistemically reliable. In this Schmitt's position is sympathetic to a point argued for by Allen, Hardwig, Welbourne and Webb: there exists a cognitive division of labour that is to everyone's advantage since individually we can acquire very few justified beliefs. Collectively we can acquire many. It is a view that is both descriptive of how we are typically justified in our beliefs, and prescriptive of how we ought to guide our efforts at belief formation. It represents an attempt to

reach some sort of broad reflective equilibrium between our practices and our epistemological theories.²² These theories have led many to suppose that only epistemic independence can serve as the ideal in belief formation, but have left us with the consequence that very few people know anything, and the majority of one's beliefs are without justification. Some reconciliation is necessary therefore between our practices and our theories.

NonHumean testimony is justified in a way analogous to the justification of beliefs from memory. On the strictest empirical grounds it might be tempting to say we lack justification for beliefs based upon anything less than immediate perception or inferences from perception. Dretske and others have noted, however, that memory functions as a carrier or surrogate for the vast array of one's observations that go into one's beliefs being justified.²³ Even though my present observations are not focused on picking up my mail, I distinctly recall picking up my mail earlier this morning, and have no doubt I am justified in believing this. Similarly, Harman's discussion of the principle of clutter avoidance in belief formation also suggests it would be unreasonable to suppose that justified beliefs cease to be justified once we forget the reasons we had for holding the belief in the first place.²⁴ On the account by Dretske, even though we lack direct perceptual access to these observations, we are nonetheless justified in claiming knowledge from memory. This is because memory is a more or less reliable carrier of or surrogate for those observations. On the account by Harmon, forgetting a belief's justification is seldom reason enough to doubt one is justified, again for the reason that the practice of trusting one's memory is generally more reliable than not, while keeping track of one's justifications is simply not feasible. In sum, then, observations and evidentiary arguments that were once available to the agent and which justified belief, have *over time* become inaccessible. Yet justification remains. So too does the justifiability of our relying on memory in this way, despite the fact that our memories are periodically mistaken. By analogy we can view the process of nonHumean testimony as one where many observations or evidentiary arguments, though *never* accessible to us, justify our beliefs nonetheless. This despite the fact that the chain of observation reports may contain errors and falsehoods. Although it is the individual who comes to hold true beliefs, in most cases it is not the individual, but the relevant social group that is "the bearer of epistemic epithets."²⁵ The

observations on which the individual must rely are the observations of the group.

This account will be disconcerting to many, especially among those who conclude from it that the majority of our beliefs must be based on little more than an uncritical aggregation of opinions. This worry overlooks the critical element in the array of epistemically distant observations and reports upon which nonHumean testimony depends. In Schmitt's account this element is present in the role played by *partial autonomy* in the cognitive division of labour; present first, in expertise, and then second, in the indirect assessment of source reliability.

Schmitt insists that in the majority of cases beliefs are justified on nonHumean testimony. Such testimony appears to require no autonomous judgment whatsoever since the subject takes a source's pronouncement on faith (insofar as the subject lacks any observations of her own regarding either the truth of the belief or the reliability of the source). This faith would be misplaced only if the processes that constitute the practice of nonHumean testimony were unreliable. Schmitt, of course, claims these processes are reliable, and depend in some measure on intellectual autonomy. What makes them reliable? In Schmitt's phrase these processes are "underwritten" by the partial autonomy of individual agents.

The essence of Schmitt's position regarding justification is that, *with respect to a given belief*, one can be justified on the testimony of others, even when the reliability of these others is not known. Autonomy, even partial autonomy, is not *generally* necessary for justification. The circumstances under which it is necessary is a contingent matter. In the absence of genuine doubt regarding the truth of a claim or the reliability of a source, simple trust in authority is justified.²⁶ But even in cases where trust is misplaced justification doesn't require that a *given belief* be the product of autonomous deliberation, only that *surrounding beliefs* be, and then only to the extent required by the circumstances.

Though Schmitt dismisses Hume's claim that belief on testimony is justified on the basis of observed regularities between source pronouncements and the truth, he does believe that in some circumstances agents can determine the reliability of sources. The agent is to evaluate only those pronouncements she is qualified to assess by virtue of her own knowledge of surrounding topics. She can thereby seek *topical* justification for beliefs regarding *reliability*, or topical justification

for the original belief. From an assessment of these surrounding beliefs she can infer some degree of source reliability, even though the assessment of surrounding beliefs will likely rely on beliefs based on testimony. The process can be expressed thus: Source S is judged to be reliable with respect to *p* in domain D (or on topic T) because she has been judged to be reliable in domain E (or on topic U) in light of beliefs that may be only testimonially justified.

Empirical evidence suggests this is precisely what people do. Research on persuasion reveals that people are persuaded on the basis of reasons.²⁷ That is, they actively seek reasons and arguments even under circumstances where the proffered basis for belief is testimony. That some individuals are more demanding than others in this regard points not to the requirements of justification, but of epistemic *virtue*. Schmitt distinguishes between the requirements of justification and of virtue in terms of the contribution each makes to the realization of epistemic goals. Being justified on nonHumean testimony adequately serves the epistemic goals of acquiring true beliefs and avoiding erroneous ones. The standard of justification furnishes us with an *adequate* number of true beliefs, while the standard of virtue furnishes us with a *generous* number of such beliefs. Adequate service is a minimal standard, however, since generous service is possible and desirable. The distinction between adequate and generous service of epistemic goals is roughly analogous to the distinction between morally obligatory and supererogatory action: the former is required because the latter is scarce and hard to motivate. Considered within a framework of the cognitive division of labour epistemic virtue exists in degrees and constitutes one of the identifying features of expertise. A doctor may be justified in believing what she does on the testimony of experts (in textbooks or from lectures) though she has no understanding of the non-testimonial warrant. Though justified, she is not, on Schmitt's account, virtuous, since virtue requires much more independent assessment and understanding of the grounds for belief.

A system for the transmission of knowledge will permit significant acquisition of true beliefs only on the condition that sources transmit true information or subjects who receive information can distinguish truths from falsehoods. Unfortunately not all sources are reliable, and subjects often fail to distinguish the true from the false. The extent to which subjects must distinguish true statements from false depends on the reliability of their sources, that varies across

domains of knowledge. In domains characterized by complete agreement, where authorities are equally and highly reliable sources of information there is little or no need for autonomy. But such domains are exceedingly rare. So in domains where experts disagree subjects need a modicum of epistemic acuity. In domains characterized by *some* unreliable sources and controversy subjects need at least partial autonomy since inherited attributions of reliability are always *prima facie* suspect in such cases. Non-experts can evaluate source reliability by relying on:

- 1) inherited topical beliefs from outside the controversy or problematic domain.
- 2) inherited correlations between reliability and evidence of recognition within a field (rate of publication, awards, research grants, etc.)
- 3) inherited attributions of reliability from reliable judges of reliability.

In domains where few sources are reliable or controversy is high subjects need to be able to consider topical evidence for the beliefs under consideration. This will likely require expertise. Expertise is also required in every domain to underwrite the reliability of the cognitive division of labour within that domain. At various points in the chain of observations and inherited beliefs expertise is needed to act as a check on the inherited error from belief on testimony.

So it would appear that epistemic virtue is necessary insofar as a defining feature of the cognitive division of labour is expertise. The non-expert can and does legitimately trust epistemic authorities. What consequences does this view have for my argument and for education? If the teacher's sole goal is to transmit knowledge, then on the externalist view, we can ignore evidential arguments. But if we are interested in developing epistemically virtuous intellectual autonomy, an emphasis on evidential argument is justified.

Acquiring The Concept of Being Justified

One of internalism's most trenchant critics, William Alston, argues that while there are no successful internalist arguments *extant*, some internalist intuitions ought not to be abandoned. The intuition that Alston says cannot be jettisoned in cases like those brought forward by Bonjour and Feldman is the intuition that our grounds for belief must be accessible to us. Inexplicably reliable cognitive processes whose reliability I do not assess when forming my beliefs simply do not satisfy all the requirements of being justified. What is missing, says Alston, is

any basis or ground that S has, or possesses for his belief, anything he can point to or specify as that which gives him something to go on in believing this, any sign or indication that the belief he has is true.²⁸

Alston calls this necessary feature of being justified “the requirement of epistemic accessibility of ground for the belief”. This feature is best understood by reference to the practices of critical reflection that form the background against which the concept of justification has developed. These practices include that of the epistemic assessment of beliefs, the challenging of beliefs, and the response to these challenges. A successful response will, of necessity, specify an adequate ground for belief, one that provides a sufficient indication of the truth of the belief. It is not necessary for justification, of course, that every belief must be put to and survive such a test, only that, in principle, it could.²⁹

An implication of this view is that *being justified* is distinct from *the activity of justifying one’s belief*. On Alston’s view the activity of justifying one’s belief is fundamental to being justified insofar as it is practically and historically prior to the concept of being justified.

Though the activity of responding to challenges is not the whole story, I do believe that in a way it is fundamental to the concept of being justified. Why is it that we have this concept of *being justified in holding a belief* and why is it important to us? I suggest that the concept was developed and got its hold on us, because of the practice of critical reflection on our beliefs, of challenging their credentials and responding to such challenges—in short the practice of attempting to *justify* beliefs. Suppose there were no such practice; suppose that no one ever challenges the credentials of anyone’s beliefs; suppose that no one ever critically reflects on the grounds or basis of one’s own beliefs. In that case would we be interested in determining whether one or another belief *is* justified? I think not. It is only because we participate in such activities, only because we are alive to their importance, that the question of whether someone is in a state of *being justified* in holding a belief is of live interest to us.³⁰

It does not follow from this that being justified is a matter of engaging in activities of justification. Nor does it follow that one must be successful in these activities before one can be said to be justified in holding a belief. The fact of being justified is not dependent on any particular activity of justifying since there are many justified beliefs a person might hold without ever having had the opportunity or inclination to justify them to anyone.

It is Alston’s contention that the development of the concept of being justified has been strongly influenced by our social practices of justification. What has emerged from the history of

this development is a sense of what would have to be specified in order to succeed in justifying a belief, in meeting challenges, etc.. In other words our sense of what would serve as an adequate ground for belief has emerged from these practices of justification. So it is understandable that the *concept* of being justified would historically have contained the internalist requirement that what justifies be accessible to the subject. The point where Alston departs from internalists is their claim that the accessibility of the ground must be available to the agent in consciousness. His preference is to say that the ground must be the *sort of thing* that is typically accessible to normal human beings. "To be a justifier an item must be the sort of thing that, in general, the subject can explicitly note the presence of just by sufficient reflection on his situation."³¹ This view is to be preferred because it avoids the too stringent requirement that agents can only be justified when they do, in fact, offer a justification that succeeds. By "sufficient reflection" Alston means something more than immediately obvious and something less than that which entails lengthy research or experimentation.

Alston's externalism is to be found in his discussion of the *adequacy* of grounds. That the grounds must be accessible is an internalist condition. That the *adequacy* of the grounds need not be accessible to the agent allows Alston to term his position "an internalist externalism." There are good reasons for not insisting that the adequacy of the grounds be appreciated by the agent:

- 1) the infinite regress problem that leads to skepticism
- 2) the skeptical consequence of denying that one can know on the basis of authority
- 3) the skeptical consequence of denying that one can know without being able to show that one's grounds are adequate

So on this view the grounds need only be adequate, viz. they need only be indicative of the truth. If one *does* see how the grounds are indicative of the truth of one's belief, so much the better. But it is not necessary for justification that a cognitive agent see this truth indicative relationship between ground and belief.

In order for my belief that *p* which is based on ground *G*, to be justified, it is quite sufficient as well as necessary, that *G* be sufficiently indicative of the truth of *p*. It is no way required that I know anything, or be justified in believing anything, about this relationship. No doubt, we sometimes do have justified beliefs about the adequacy of our grounds, and that is certainly a good thing. But that is icing on the cake.³²

This position then acknowledges the contribution of internalist intuitions to our sense of being justified, but it does not view any internalist condition as necessary or sufficient for justification. It is the *practice* of attempting to justify beliefs that gives children the *concept* of being justified in holding a belief. Learning this concept deserves to be an integral part of the education of children, for reasons that I will now make plain.

The Virtues of Evidentially-Held Belief

We have seen that the internalist perspective is the perspective of the epistemically responsible agent. Internalism may not be satisfactory as an account of knowledge or justification, but it serves a useful purpose in laying down criteria for rational and responsible belief formation. In a phrase the epistemically responsible agent is guided by the maxim that “an agent should arrive at his beliefs, internally viewed, in whatever manner would result from his beliefs being regulated by a desire for true belief.”³³ Beliefs may be regulated in two ways:

- 1) the desire for true belief may inhibit other desires from playing a deleterious role in belief acquisition and retention.
- 2) the desire for true beliefs may serve to regulate the agent’s action.

Consider these cases of epistemic irresponsibility where the agent is motivated by some desire other than the desire for true beliefs. One’s wish to be admired may be so strong that it comes to interfere with the acquisition of true beliefs about oneself and others. Or one’s wish that the future will be bright may lead you to ignore indications that prospects for the future are not good. In either case the agent’s beliefs are not being regulated by the desire for true beliefs. On this view the beliefs we come to possess cannot be a matter of our direct voluntary control, we can, however, control the *actions* we undertake in pursuit of justified belief, given, that is, we have the desire to do so. We can, for example, seek and gather evidence responsibly and thereby put ourselves in a position to acquire true beliefs. Or, motivated by our desire for true beliefs, we can resist the tendency to follow habitual and unreliable practices in the acquisition of belief. These include those mentioned above: attaching great importance to vivid information, though this information runs counter to reliable information; holding contradictory views; and drawing inductive inferences from extremely small samples.³⁴ This view of epistemic responsibility meets

the externalist objection that beliefs are more upshots than choices. Justification here is tied to the idea of *action*, and responsibility for that action. So questions regarding whether an individual is justified in belief are asking whether she has done all she should have in order to acquire true beliefs. Questions of justification are still linked to an ethics of belief, but not to an ethics based on *rules of acceptance*, as several internalists have insisted. Instead what is being proposed is an ethics of belief based on *rules of conduct*. On the view being advanced here the manner in which one goes about gathering evidence is relevant to the justificatory status of one's beliefs.

The notion of desire is central to this account because, unlike justification, desire can only be construed as internal to agent. Clearly there is a change internal to the agent when her desires change. Thus the desire for true beliefs is something internal to the agent, as are the regulatory effects generated by this desire. The epistemically responsible agent's perspective is thereby internally generated and rightly termed internalist.

This account's restriction to the desire for true belief may seem to be uninformative, showing only how epistemically responsible action is internal, for it appears to give little practical guidance in how one might obtain true beliefs. Other candidates for the touchstone of epistemic responsibility—the desire for coherent belief, for example, or freedom from doubt—at least have the virtue of being informative. But ultimately if alternative views are to avoid being compatible with error they must first be grounded in a desire for true beliefs. In sum the desire for true beliefs must do more than simply inhibit wishful thinking, it must affect the actions of the agent which pertain to forming and retaining true beliefs. Among these actions are seeking and gathering evidence, as well as actions that modify or regulate the way we conduct our search for, and use of evidence.

In addition to the benefits associated with epistemically responsible action a knowledge of justifications carries several other benefits. Moore, for example, has argued that the surplus value of knowledge over mere true belief is not simply the truth conducive character of justifications suggested by internalist accounts.³⁵ Truth, he claims, is only one of the important epistemic goals served by justification, others include what he calls the *extra-verific utilities of justification*. It seems to Moore that while epistemologists have devoted enormous amounts of energy to

determining the nature of knowledge they have not thought very deeply about why knowledge is important or why we should engage in epistemic endeavors. He notes in passing how odd this lacuna appears, given that the absence of a satisfactory answer to these questions leaves us either without a justification for education, or with a justification that is seriously weakened in light of the central place knowledge is usually accorded among educational goals. Most epistemologists who have bothered to consider the practical value of knowledge have emphasized the indispensability of truth in human affairs. For this reason Moore terms the standard, exalted view of knowledge *vericentrism*. Vericentrism is the view that holds that all epistemic or cognitive endeavors have true belief as their only goal. Several leading epistemologists appear to subscribe to vericentrism, though they do not so much argue for this position as assert it without argument. For example, Goldman claims that the principal utility of our cognitive faculties is the promotion of true belief.³⁶ Alston considers the basic aim of cognition to be one of believing truths and avoiding falsehoods.³⁷ Bonjour claims that it is only as a means to the truth that justification is necessary, for if the truth were transparent justification would be beside the point.³⁸

Moore contends that there is more utility to justification and knowledge than as a means to truth. Put simply the surplus value of knowledge lies in the *extra-verific utility of justification*. Moore distinguishes five extra-verific benefits of justification, internally conceived:

- 1) Since justification provides the agent with the reassurance that his belief is true justification decreases the probability he will disregard or abandon justified beliefs.
- 2) Justification for a belief can make the agent aware of certain methods for acquiring justified beliefs. Such an awareness is beneficial because it enables the agent to acquire additional justified beliefs in the future.
- 3) Justification increases the “infectiousness” of the belief. That is, because the justification provides a compelling argument in support of a belief it increases the agent’s ability to disseminate the belief to others. Infectiousness of this sort is beneficial in three inter-related ways. i) It is beneficial to the community since the belief will spread more easily throughout the community if reasons can be offered in support of it. ii) It gives the agent greater power to selectively influence the beliefs of others. And finally, iii) the infectiousness of a belief will tend

to increase unanimity of opinion within the community.³⁹

Obviously, these benefits are not a part of the externalist picture since, on the externalist account, justification needn't be available to the agent. This, in Moore's view, is a deficiency of externalism, one that leads him to conclude that "because externalism makes knowledge a kind of belief that lacks any significant extra-verific utility, externalist knowledge is not as useful a thing as we might expect knowledge to be."⁴⁰ Knowing the justification for beliefs is useful both for individuals and communities. A knowledge of justification gives the agent power to influence the beliefs of others. It also enhances the ability of a community to engage in and succeed at co-operative ventures by virtue of the fact that practices of justification permit the growth of unanimous correct opinion.

Catherine Elgin offers an ironic view that goes several steps beyond Moore's in claiming that epistemologists of either stripe have attached too much importance to the goals of acquiring true beliefs and avoiding erroneous ones. This is because knowledge (construed internally or externally) is more easily attainable to those who are the least epistemically virtuous. Indeed it is Elgin's contention that those who are stupid are the most epistemically advantaged.⁴¹ Unfortunate though it may be, the sad fact is "that since qualities of mind like sensitivity, breadth, and logical acumen often interfere with the satisfaction of the requirements for knowledge, individuals deficient in such qualities have an epistemic edge."⁴² The more sophisticated and numerous an agent's conceptual schemes the greater are the chances she will err. This is because the employment of crude categories where distinctions are obvious offers a higher probability of acquiring true beliefs than the employment of numerous and subtly differentiated categories. As well, the more searching and responsible an agent the more likely she is to be distracted by nuances. Those who are most epistemically responsible will tend to suspend belief more often, and for longer periods of time since the number and complexity of their discriminations introduces an debilitating level of uncertainty. In the meanwhile the credulous and obtuse, less troubled by competing hypotheses, will obtain more true beliefs. Oddly enough, "stupidity can enhance, and intelligence diminish, one's prospects for knowledge."⁴³ The upshot of her argument is that knowledge is not a particularly valuable cognitive achievement. We would do well, she says, to

attach more importance to other sorts of cognitive excellence, since those who know more are not for that reason cognitively better off. Among those excellences worth pursuing are logical acumen, breadth and depth of understanding, conceptual sophistication and the capacity to distinguish important from trivial truths.

The Prevalence of Unreliable Testimony

A problem for Elgin's argument is the challenge to epistemic independence offered by Stich, Allen et al. On their view, which depends on minimalist conceptions of knowledge and justification, cognitive excellence of this sort has little point. If one will acquire more true beliefs by deferring to cognitive authorities, it would be inefficient and irrational to think for oneself. This view seems hard to credit. Let us consider why. The arguments from Stich et al. succeed as much as they do on the basis of a limited range of examples taken from academic and professional life. The reliability of beliefs on testimony comes from institutional and legal sanctions against deception and error. In universities and laboratories the claims of our colleagues will tend to be trustworthy because there are mechanisms to ensure erroneous beliefs are detected or prevented from reaching their intended audience. Newspapers and magazines have fact checking departments, academic journals have blind reviews of submitted manuscripts, witnesses in court are cross-examined, office-holders must possess the relevant credentials. These mechanisms are said to guard against incompetence as well as deception. The sanctions against lying, in courts as well as in professional life, are sufficiently severe, one would suppose, to deter deception and ensure an acceptable level of trustworthiness in the testimony of others. And yet it is obvious that a great deal of the information made available to us is false or misleading. Bookshelves sag under the weight of patently unreliable books authored by quacks, New Age mystics, and ideologues of various sorts. Faith-healing television evangelists purport to heal afflictions ranging from arthritis to AIDS. Holocaust deniers have today an avid readership.⁴⁴ Newspapers and the television news media mislead the public either by failing to offer comprehensive accounts of the events they cover, or by ignoring some events altogether.⁴⁵ The tabloid presses routinely print outlandish stories regarding supernatural phenomena and the sighting of celebrities who by all accounts have been dead for years.⁴⁶ One might reply to these examples that few people are persuaded by these

sources since the bulk of our sources *are* reliable and thus fail to square with those marginal accounts that form the minority. In the main those who do read the *National Inquirer* do so to be amused, not to be informed. But this reply concedes that individuals do more than trust what they read and hear. It also concedes that some indefinite number of people are credulous in the extreme. That tabloid accounts are more often the objects of scorn and derision attests to the epistemic independence of readers, not simply their conformity to majority opinion.

But it might be argued that examples of superstition and foolish belief make my case too easy. Let us, then, take the preferred domain of Stich, Nisbett, Polanyi and Allan: that of science. On their view the cognitive division of labour is so finely articulated that a great deal of scientific research must be based on trust in the findings of one's colleagues. The reliability of scientific research comes from the institutional mechanisms discussed above, and the shared norms of ethical conduct that informally govern the lives of scientists. This sanguine view of the trustworthiness of scientists can be easily challenged. There is, first of all, the probability that research findings will, at times, be compromised by careless or sloppy research practices. Even discounting this possibility, there is growing evidence of fraudulent work within the scientific research community, and evidence that this state of affairs is fully appreciated by scientists.⁴⁷ The bio-medical research community, for example, has witnessed several highly publicized cases of research fraud.⁴⁸ Researchers have been exposed for plagiarizing, and falsifying or fabricating data. That these researchers were caught out is both surprising and revelatory of the fragile basis of trust. Much of this trust is based on faith in the efficacy of peer review and replication to root out flawed research. But neither of these mechanisms is as reliable as supposed.⁴⁹ Several factors are likely to make effective peer review and replication rare:

- 1) There is a shortage of qualified referees in relation to the enormous number of articles submitted for publication.
- 2) The complexity and multiplicity of research techniques further limits the availability of qualified or sufficiently zealous referees.
- 3) Internally consistent and plausible falsification cannot be detected by referees since a) they do not examine the original data, and b) they do not witness the gathering of that data.

- 4) There are few incentives for replicating others' work since a) funding is seldom available for replicative studies, and b) academic credit tends to be awarded only for original research. Even in cases where attempts are made to replicate others' work anomalous results are seldom interpreted as evidence of fraud or incompetence.

One might expect reliability in co-operative research ventures to be maintained by the various members of the team, each eager to protect themselves from a reputation for sloppy or fraudulent work. Yet the reason for co-operation—the cognitive division of labour among experts—is the very thing that prevents team members from being able to detect errors in each others' work. As well, collaborators historically have not been held responsible for the errors of their partners, so there is no strong prudential reason to be vigilant. In any event, many scientists do not believe serious consequences would attend revelations of fraud in their work.⁵⁰ Indeed there are several prudential reasons *for being lax* in reporting colleagues for misconduct.

- 1) The confidentiality of informants is difficult to ensure since charges of scientific fraud will in all likelihood lead to an investigation requiring their testimony.
- 2) When scientific misconduct is found within a research facility or university the institution's reputation suffers, along with the prestige of the scientists working at that institution. These consequences may in turn lead to a diminution of funding for future research at that institution, or, in extreme cases, a crisis in public confidence regarding the entire field which leads to an overall reduction in funding.

Whistleblowing is not likely to be worth the trouble. One may wonder therefore whether this discussion shows we rightly tolerate a significant level of unreliability in information we have little choice but to accept, or whether the standards on which we accept information as reliable are intolerably low. Hardwig's answer is neither of these, but rather that knowledge must very often be based on trust in the character of others. One effect of this view is to turn on its head the philosophical orthodoxy that epistemology is more basic than ethics, that ethics must first meet epistemological tests to be credible. Yet if significant categories of scientific knowledge depend on the moral character of individual scientists working together, then in these categories a necessary condition for knowledge is morality. In short, if epistemic claims are to qualify as

knowledge they must meet ethical standards as well as epistemic ones. Experts must not only be epistemically virtuous, but morally virtuous as well. Indeed the two types of virtue appear to converge.

Commitment to Belief

It is not clear that Hardwig's insisting on the moral basis of knowledge claims adds sufficient reliability to these claims to make blind trust in cognitive authorities rational. It does, however, undercut the claims of those who insist that institutional checks and balances render belief on testimony reliable. It may well be that for many or most of the knowledge claims we encounter, but for which we have *nothing* more than testimonial support, the appropriate course of action is the suspension of belief. Another possibility is that when the testimony is plausible, that is, when it coheres with our other beliefs, what is called for is something less than belief, but more than its suspension. Richard Foley calls this intermediate ground "commitment to belief."⁵¹ There are various ways, says Foley, of committing yourself to a belief. You can presuppose it, postulate or hypothesize it. You can assume it. Each of these is a doxastic attitude distinct from belief. They are also distinct from merely acting as if one believes. This latter possibility is one we have reason to suspect characterizes the doxastic attitude of students in school. Such an attitude is not a matter of intellectual commitment to the belief so much as it is a matter of public display. Of significance to my thesis is the fact that acting *as if* one believes does share some features of commitment. Both are context dependent in a way that genuine belief is not. When you commit yourself to a proposition, as when you merely act as if it true, you ordinarily do so only in a narrow range of contexts. A scientist may commit herself to a hypothesis for the purpose of seeing where this commitment might take her in an experiment. Her reason for acting *as if* the belief is true is a non-epistemic practical one. If asked outside the lab whether she believed this hypothesis to be true, she could say without fear of self-contradiction that she did not. Similarly a student could act *as if* she believed that leaden balls of different weights would fall at the same rate because she has a practical reason to do so (such as maintaining her grade point average). She might act this way even though outside the context of a test that counted for grades, she might state that the heavier of the two balls would fall at a faster rate. Thus we can understand

this example from chapter 2 as an illustration of the non-portability across contexts of “beliefs” based on non-epistemic considerations. For educators this lack of portability ought to be seen as a serious deficiency. “Beliefs” grounded in practical considerations may cease to have force outside an unduly narrow range of situations. Genuine beliefs are different. Beliefs aren’t held relative to context, so they carry across contexts. You believe them or you don’t. It follows that belief is neither necessary nor sufficient for commitment. I would submit that a great deal of what is taken to be evidence of students’ beliefs in school, may be evidence only of their commitments. It may well be that, on account of common teaching practices, students are not only barred access to knowledge, but to belief as well. This distinction also lends credence to Mill’s claim that “beliefs not grounded on conviction are apt to give way before the slightest semblance of an argument”, for the simple reason that with non-epistemic reasons there is so very little to give way.⁵²

If we are to view a significant category of student “beliefs” as commitments, then it would be appropriate to clarify for students the epistemological status of their commitments. It is a feature of commitments like hypotheses that agents hold them for the purpose of acquiring true beliefs by means of further inquiry. But if the proper status of these commitments is not made plain there is less motivation to carry out further inquiry, or for that matter to keep an open mind, be alert to disconfirming data and so on. The most straightforward way to apprise students of the epistemological status of beliefs they may hold tentatively is to introduce them to the strengths and weaknesses of evidential arguments in their favour, to the arguments and counter-arguments that bear on the question of their being justified. The question isn’t whether it is permissible to have students hold commitments rather than beliefs since from an educational standpoint both are acceptable. The point is that regardless of whether or not students genuinely believe gases expand when heated, teachers have an obligation to make clear what sort of epistemic entity they have put in the way of their students. Students ought to understand what grounds there are for beliefs they are expected to adopt in school, and have some sense of the strength of these grounds. Such arguments, counter-arguments and problematical situations that would convey a sense of these grounds and their strength are to be found in what Popper referred to as the third world of knowledge. In selected circumstances it seems perfectly reasonable to introduce students to this

world to a much greater degree than is done at present.

¹Oddly enough, this externalist objection is in keeping with Wittgenstein's reminder to Moore that knowledge as a term picks out that class of beliefs for which it is necessary to offer some argument. One's perceptions are not ordinarily in need of justification since they are not the sort of thing about which one has any choice but to believe. This is not to suggest, of course, that Wittgenstein would endorse externalism.

²Ludwig Wittgenstein, *Philosophical Investigations* (Oxford: Basil Blackwell, 1986).

³Hilary Kornblith, "Some Social Features of Cognition," *Synthese*, 73 (1987): 27–41.

⁴These examples are drawn from Kornblith's discussion of epistemic responsibility. Kornblith does not take these examples to be indications of epistemic irresponsibility so much as evidence of the restrictions under which cognitive agents must operate. They are for all these limitations still rational, though their reasoning at times falls far short of ideal reasoning. This is not my view, for agents do have other choices than to jump to conclusions on the basis of limited data, or let themselves be swayed by vivid examples when less dramatic information amply supports a contrary view.

⁵Richard Nisbett and Lee Ross, *Human Inference: Strategies and Shortcomings of Social Judgment* (New York: Prentice-Hall, 1980).

⁶Richard Nisbett et al. "Popular Induction: Information is Not Necessarily Informative," in *Judgment Under Uncertainty: Heuristics and Biases*, ed. Daniel Kahneman, C. Slovik, and Amos Tversky (Cambridge: Cambridge University Press, 1982), 112–113.

⁷Daniel Kahneman and Amos Tversky, "On the Psychology of Prediction," in *Judgment Under Uncertainty: Heuristics and Biases*, ed. Daniel Kahneman, Slovik, and Amos Tversky (Cambridge: Cambridge University Press, 1982).

⁸M. I. Alpert and W. T. Anderson, "Optimal Heterophily and Communication Effectiveness—Some Empirical Findings," *Journal of Communication* 23 (1973): 328–343; E. W. Rogers, *Diffusion of Innovation* (New York: Free Press, 1983).

⁹Paul Grice, "Logic and Conversation," in *Syntax and Semantics, vol. 3: Speech Acts*, ed. P. Cole and J. L. Morgan (New York: Academic Press, 1975).

¹⁰William P. Alston, "An Internalist Externalism," *Synthese*, 74 (1988): 269; Frederick F. Schmitt, "Justification, Sociality and Autonomy," *Synthese* 73 (1987): 43–85;

¹¹Richard Fumerton, "The Internalism/Externalism Controversy," *Philosophical Perspectives: Epistemology*, 2 (1988), 455.

¹²*Ibid.*, 454.

¹³In "The Internalist Conception of Justification," Goldman states that "beliefs are justified if and only if they are produced by (relatively) reliable belief-forming processes," 47.

¹⁴BonJour, 57.

¹⁵Edmund Gettier, "Is Knowledge Justified Belief?," *Analysis* 23 (1963): 121–123.

¹⁶Lawrence BonJour, "Externalist Conceptions of Justification,"

¹⁷BonJour, 57.

¹⁸Richard Feldman, "Book Symposium: *Proper Functionalism*," *Nous*. 27, no. 1 (1993): 35–36.

¹⁹Ibid., 36.

²⁰Frederick F. Schmitt, "Justification, Sociality and Autonomy," *Synthese* 73 (1987): 43–85.

²¹Ibid., 60.

²²Stich and Nisbett are not in this company, since they expressly repudiate what they call a Davidsonian belief in our epistemic practices. On their view the empirical evidence regarding the irrationality of common practice disallows such optimism. Most of their pessimism rests on research which shows the majority of people fail to appreciate what is fallacious in the gambler's fallacy.

²³Fred Dretske, "A Cognitive Cul-de-Sac" *Mind* 91 (1982): 109–111..

²⁴Gilbert Harman, *Change in View: Principles of Reasoning* (Cambridge, MA: MIT Press, 1986).

²⁵Schmitt, 62.

²⁶In stressing genuine doubt I mean to distinguish between it and philosophical doubt. The sentiment here is best expressed in Wittgenstein's remark that we are not in doubt simply because it is possible for us to imagine a doubt. See *Philosophical Investigations*, paragraph 84.

²⁷J. Saltiel and J. Woelfel, "Inertia in Cognitive Processes: The Role of Accumulated Information in Attitude Change," *Human Communication Research* 1 (1975): 333–344; B. J. Calder, C. A. Insko and B. Yandell, "The Relation of Cognitive and Memorial Processes to Persuasion in a Simulated Jury Trial," *Journal of Applied Social Psychology* 4 (1974): 62–93; J. E. Danes, J. Hunter and J. Woelfel, "Mass Communication and Belief Change: A Test of Three Mathematical Models," *Human Communication Research*. 4 (1978): 242–253; W. B. Lashbrook, W. B. Snavely and D. L. Sullivan, "The Effects of Source Credibility and Message Information Quality onto the Attitude Change of Apathetics," *Communication Monographs* 44 (1977): 242–262.

²⁸William P. Alston, "Internalism and Externalism in Epistemology," in *Epistemic Justification: Essays in the Theory of Knowledge* (Ithaca, NY: Cornell University Press, 1989), 224.

²⁹That we see no point in asking if a dog is justified in thinking that his master is at the door lends indirect support to this view. Beings that are incapable of critical reflection, that cannot cite reasons which might reassure us that the belief in question was true are not the sort of beings for which the question of their being justified arises. Philosophers might wonder if dogs have beliefs which are justified, but they do not, so far as I know, actually ask dogs to justify their beliefs, then go about determining the adequacy of the proffered justification. This is so, despite the fact that dogs have the cognitive apparatus that enables them to have true beliefs. They may be "reliable cognitive instruments," as Armstrong puts it, but they are not part of the community of those who give and demand reasons.

³⁰William P. Alston, "An Internalist Externalism," in *Epistemic Justification: Essays in the Theory of Knowledge* (Ithaca, NY: Cornell University Press, 1989), 227–245.

³¹*Ibid.*, 238.

³²*Ibid.*, 243–244.

³³Hilary Kornblith, "Naturalizing Rationality," 126.

³⁴I should point out that Kornblith's own view is that one can over generalize on the basis of limited data and still be epistemically responsible since it is a fact of life that we are in no position to compare limited samples from a population with the population as a whole. The same general point holds for all our reasoning. We needn't satisfy standards of ideal reasoning in order to be epistemically responsible. We need only do the best we can with the equipment we have. "On my account, having justified beliefs is simply doing the best one can in light of the innate endowment one starts from, however reliable or unreliable it may be.... Justified belief is belief which is the product of epistemically responsible action; epistemically responsible action is action guided by a desire to have true beliefs," (pp. 46–47).

³⁵James A. Moore, "Knowledge, Society, Power, and the Promise of Epistemological Externalism," *Synthese*, 88 (1991): 379–398.

³⁶Alvin I. Goldman, *Epistemology and Cognition* (Cambridge, MA: Harvard University Press, 1986), 138–139.

³⁷William Alston, "An Internalist Externalism," 269.

³⁸Lawrence BonJour, *The Structure of Empirical Knowledge* (Cambridge, MA: Harvard University Press, 1985), 7.

³⁹Moore, "Knowledge, Society, Power, and the Promise of Epistemological Externalism,"

⁴⁰Ibid., 395.

⁴¹Catherine Z. Elgin, "The Epistemic Efficacy of Stupidity," *Synthese*, 74 (1988): 296–310

⁴²Ibid., 297.

⁴³Ibid., 297.

⁴⁴See Deborah Lipstadt, *Denying the Holocaust: The Growing Assault on Truth and Memory* (New York: Free Press, 1993).

⁴⁵Edward S. Herman, and Noam Chomsky, *The Manufacture of Consent* (New York: Pantheon, 1988); Noam Chomsky, *Necessary Illusions* (Boston: South End Press, 1989); Ian Mitroff and Warren Bennis, *The Unreality Industry: The Deliberate Manufacturing of Falsehood and What It is Doing to Our Lives* (New York: Oxford University Press, 1993); Ben H. Bagdikian, *The Media Monopoly* (New York: Beacon Press, 1993).

⁴⁶*Harper's* magazine reports that 30% of Americans believe Elvis Presley is alive. See *Harper's*, March (1992): 13.

⁴⁷See John Hardwig, "The Role of Trust in Knowledge," *The Journal of Philosophy* 88, no. 12 (1991): 693–708. Hardwig cites a survey of scientists in physics, chemistry, biology, economics, psychology and sociology which reveals that 1/4 of the respondents knew someone who had falsified data. An additional 2/5 believed their own work had been plagiarized.

⁴⁸See M. Davis, *The Perceived Seriousness and Incidence of Ethical Misconduct in Academic Science* (Columbus: Ohio State University Press, 1989).

⁴⁹For a discussion of the lack of independent quality control in scientific research see J. Tangney, "Fraud Will Out—Or Will It?," *New Scientist* 115 (1987): 62–63, and J. Relman, "Lessons from the Darsee Affair," *New England Journal of Medicine* 308, no. 23 (1983): 1415–1417.

⁵⁰See Tangney, "Fraud Will Out—Or Will It?"

⁵¹Richard Foley, "Rationality Belief and Commitment," *Synthese* 89 (1991): 365–392.

⁵²I should emphasize that some non-epistemic reasons do rightfully play a significant role in grounding belief. Several, such as simplicity, fertility, and problem solving capacity have already been referred to. My point here is simply that, when teachers fail to provide evidential argument, the sort of non-epistemic reason which frequently motivates student belief may only motivate students to act *as if* they believe what they have told.

CHAPTER FIVE

AUTONOMY IN JUSTIFICATION DEFENDED

The case against intellectual autonomy can be reduced to several key objections. First, the value of autonomy is said to be greatly over-rated. Any trait that so conflicts with objectivity, rationality, or loyalty does not deserve to be called the *summum bonum*, as it is in many accounts. Second, it is said that a commitment to the value of intellectual autonomy has led us to underestimate the rationality of epistemic dependence. Any strong thesis that denies that one can know on the testimony of others, or be justified on that testimony must lead to skepticism. Third, it is said that granting autonomy to children is ill-advised because children are too ignorant or immature to exercise the necessary judgment or restraint. That so many have been tempted to grant autonomy to children has been due to their confusing the conditions necessary for the *exercise* of intellectual autonomy among rational adults with the conditions necessary for *developing* intellectual autonomy in the young. In this chapter I intend to reveal the limitations of these objections, and carve out a more respectable place for intellectual autonomy in schools.

Many who criticize the idea of autonomy object to the notion that in order to be autonomous individuals must legislate for themselves what they will believe and do, regardless of what may be dictated by others or by reason itself. They are pushed to object because it is hard to see how one can be autonomous if governed by anything other than one's preferences. Dworkin, you will recall, got round this difficulty by emptying autonomy of any substantive content. A person could be autonomous in the sense intended by Dworkin, and still lead a completely subservient life. So long as one construes 'autonomy' as Dworkin does—consistency between higher order and lower order desires—a person can desire to be a slave, and be autonomous still so long as she, upon reflection, approves of her desire to be a slave. This is a radically counter-intuitive result. Dworkin must have taken a wrong turn somewhere. Much of Dworkin's unease (or perhaps just my unease with Dworkin's account) can be relieved if we consider the distinctions introduced by Benn. We may grant that the person who decides to be unfree in the manner described by Dworkin is still free from external interference and thus satisfies the one condition Benn terms freedom of action. But to intentionally will oneself into a state of heterarchy

is to fail to satisfy the remaining two conditions of freedom. To make oneself unfree in this way violates the very ideal of autonomy. Moreover it requires that one be an anomic person in the first place. Though anomic persons have the capacity to conceive of a more considered way of living they do not value that which is available to those who choose to live by reason. Such persons are not autonomous in the first place, and so *contra* Dworkin cannot be autonomous after choosing to abide thereafter by the decisions of others.

A related objection concerns the epistemic status of belief on testimony, especially the testimony of cognitive authorities. The tensions generated by this objection can be eased somewhat, and autonomy made to appear more widely useful if we rely on a more modest conception of autonomy such as that provided by John Benson.¹ Benson's position is that autonomy is best viewed as a type of golden mean between two sorts of deficiency: heteronomy on the one hand, solipsism on the other. Each extreme has its characteristic vices. The heteronomous individual may be credulous, gullible, compliant, submissive, over-dependent, servile, etc., while the solipsist may be viewed as arrogantly self-sufficient and pigheaded. Both extremes are instances of folly. "To be deficient in autonomy is to be too dependent on the support, prompting and advice of others. The opposite extreme is to rely on oneself when it would be more judicious to accept the counsel or testimony of others."² This view of Benson's has the virtue of allowing that the counsel and testimony of others has its place in our deliberations, without denying that there are cases in which the independent assessment of reasons and arguments is necessary. Autonomy is thinking for oneself, to be sure. It is not simply thinking *by* oneself.

Thus one can be autonomous and still be guided by public standards of rationality, still be bound by promises; one can believe in God, obey commands, and conform to the law. The autonomous man is not to be contrasted simply with the person who accepts the testimony of others, but rather with the person who accepts another's testimony without any reason, without any assessment of the reliability of that testimony. A feature of autonomy, then, is "correctness in the avoidance *and* acceptance of the testimony and guidance of others." [emphasis added] It is compatible with the acceptance of testimony, but requires that testimony be accepted only when

one has good reason to believe that “its author has access to the truth, either through more testimony, or through his own direct knowledge.... To be autonomous in this sphere is to put oneself in the best position to answer for the reliability of one’s beliefs. It is to be in charge of one’s epistemic life.”³ The autonomous person then will make intelligent use of testimony, but will also demand justifications or carry out first-hand investigations when required. Kant’s characterization of the intellectually immature as those who accept the word of their doctors and pastors can now be seen as too strong, or insufficiently detailed. There is an important difference between epistemic dependence and acute epistemic dependence. In the former agents make some assessment of reliability, and so can justify their acceptance of testimony. The latter is little more than blind faith in the testimony of institutional authorities. Stich, Hardwig and others who insist that simple trust in authorities is a normal and acceptable state of affairs are similarly guilty of exaggeration. Any rejection of intellectual autonomy based on *this* view of epistemic dependence is guilty of confusing intellectual autonomy with a commitment to first hand investigation, or of supposing that acute epistemic dependence is an acceptable standard in all contexts. To be autonomous requires the ability to judge when someone else knows better than oneself *and* to have some sense why this person is in an epistemically more advantaged position. In school this ability cannot be developed without teachers communicating something of the grounds we have for thinking authorities correct, including the reasons these authorities have for thinking they themselves are correct. Let’s first consider the issue of how to assess the reliability of cognitive authorities, then turn to the ideal circumstances in which to determine the validity of claims and arguments.

BELIEF ON TESTIMONY

Though philosophers have commonly granted that “because *X* says so” is a satisfactory warrant for belief in some circumstances, most have insisted on the derivative status of such appeals. A true belief is not true simply by virtue of someone saying it is true. This principle has been expressed in the following manner: “The reason why *p* is true is not because *X* enunciates *p*; and though *Y* believes *p* because *X* enunciates *p*, if *Y* thinks *Y*’s belief is justified, *Y* also believes that *p* is true independently of *X*’s having said *p*.”⁴ Therefore to be ideally rational the agent must

have the reasons for p 's being true that are independent of X 's having said so. This point of view is expressed most strongly by Locke. Where other philosophers deny *knowledge* on testimony, Locke appears to deny even the *reasonableness* of belief on testimony:

We may as rationally hope to see with other men's eyes as to know by other men's understanding.... The floating of other men's opinions in our brains, makes us not one jot the more knowing, though they happen to be true. What in them was science, is in us opiniatrety.... In the sciences, every one has so much as he really knows and comprehends. What he believes only, and takes upon trust, are but shreds; which, however well in the whole piece, make no considerable addition to his stock who gathers them. Such borrowed wealth, like fairy money, though it were gold in the hand from which he received it, will be but leaves and dust when it comes to use.⁵

Cut off from the source's reason for belief, the epistemically dependent agent, says Locke, cannot truly understand what he believes, and, therefore, cannot reliably make use of his beliefs. The obvious difficulty with Locke's position regarding the reasonableness of belief on testimony is that it is too stringent. On both epistemological and practical grounds it ought to be and has been rejected. The prevailing view is that belief on testimony is epistemically acceptable providing some rational assessment of source reliability has been made. Nonetheless, in many camps, appeals to authority are seen to be far from epistemically ideal, and are allowable only on pragmatic rather than epistemic grounds.⁶

Hume too viewed epistemic dependence with alarm, not because he thought such dependence was unreasonable in itself, but because he thought human beings too often lacked the necessary skepticism and restraint. There is, he said, "no weakness of human nature...more universal and conspicuous than what we commonly call CREDULITY, or a too easy faith in the testimony of others."⁷ In this Hume underlines the practical relevance of internalist and deontological views which as normative theories of justification enjoin the cognitive agent to be epistemically responsible and attend to the variety of side constraints governing the acceptance of belief on testimony.

Rational Constraints on Accepting Testimony

In cases where X knows more than Y in realm R , it is sensible for Y to hold true whatever X holds true in R , *unless and until* Y has a reason to doubt or give up what X holds as true.⁸

There is, however, one important further qualification to this principle. DeGeorge distinguishes between first and second order epistemic authorities. First order authorities are distinguished from second order authorities by the degree of epistemic dependence in either case. For X to be a first order epistemic authority to Y , Y must be sufficiently knowledgeable in the relevant field to make an informed judgment regarding the extent of X 's knowledge relative to his own. That is, "for X to be a legitimate first order epistemic authority for Y , Y must already know enough about R [the relevant realm of knowledge] to know that X knows more about R than Y does."⁹ If Y knows nothing about R (as when a student starts the study of a new subject), then the ground for X 's epistemic authority in R is most frequently that X has been acknowledged as an authority by someone else or by others who Y believes is trustworthy and knowledgeable in R so that they can testify to X 's knowledge. In this case, however, Y simply takes it on the authority of someone else that he (Y) should accept X as an authority; and the acceptance of this claim made by someone else requires justification, just as accepting X 's word does."¹⁰ Thus a teacher's replying 'because I say so' to a demand for justification will not be adequate unless Y has it on *good* authority that the teacher knows what he is talking about.

This qualified defense of belief on testimony can be spelled out in terms of four criteria of justification for deference to an authority in a given case: the *knowledge criterion*, the *inductive criterion*, the *relevance criterion*, and the *trustworthiness criterion*. It is important to note these criteria since they emphasize that belief on the testimony of authorities can, at times, be unreasonable. The knowledge criterion states simply that in order for X to be an authority in realm R , X must be knowledgeable in R . Y must also have good reason to believe that X is knowledgeable in R (the inductive criterion). Those propositions which Y believes on account of X must fall within R or be suitably related to R before Y can be justified in holding these beliefs (the relevance criterion). Y must also have good reason to believe that X would not deceive anyone with respect to p (the trustworthiness criterion). As a general rule, Y 's believing X to be a legitimate epistemic authority is not justified by the mere fact that X has the relevant credentials or is the holder of an office relevant to the truth of p . In a given case it may be reasonable to believe Y on these grounds, but as a general rule it will not do since Y must have some assurance (that

goes beyond those given by certification and rank) that X is not mistaken or dishonest with respect to p . Accepting someone as a legitimate epistemic authority is an act of judgment for which those who would make themselves subject to this authority are solely responsible.

Given that the four criteria listed above can be used to distinguish between legitimate and illegitimate epistemic authority, what are the principal ways in which de facto authorities may, on closer scrutiny, turn out to be illegitimate? There are three, of which two pertain more to the bearer of epistemic authority than those subject to it:

- 1) Y accords X epistemic authority without having good reasons to do so.
- 2) X deceives Y .
- 3) X attempts to impose belief on Y .

That cases of deception invalidate the authority of those in authority is so obvious that no further comment is required. The first and third cases deserve elaboration. In the first case, where the fault lies more with Y than with X (because Y ignores the relevant side constraints on acceptance listed above), rational acceptance of the authority of X hinges on whether X 's testimony passes certain tests. Among these tests are the following: First, in order to accord someone the status of an epistemic authority in realm R there must genuinely be knowledge in R . For, "knowledge of how the stars determine individual destinies is simply not available if the stars do not determine individual destinies."¹¹ The next basic test available to anyone is the test of coherence. Does a field that purports to be a field of knowledge rest on assumptions that simply fail to square with the common experience and judgment of Y ? If so then Y has *prima facie* grounds for refusing to recognize the epistemic authority of anyone speaking on behalf of that field. *Prima facie* grounds are not conclusive grounds, however, so they only permit questioning authority rather than rejecting it outright. Any claim by X that contradicts Y 's experience should not be accepted without question. Since it is conceivable that X is mistaken, Y is entitled to question X in an attempt to reconcile the conflict between the set of his beliefs and the belief he is being asked to adopt. Since it is also conceivable that some of Y 's beliefs are mistaken this lack of coherence invites further discussion, but not rejection of X 's proposed belief. Once Y has been given an explanation that settles the issue Y no longer has this reason to withhold assent. Even

though there will be occasions where *Y* will remain unpersuaded such circumstances do not render this particular test pointless. It is necessary to establish the expectation among students that when they find themselves in cognitively dissonant circumstances they have an epistemic obligation to ask questions or raise objections. Likewise teachers must come to realize they have an obligation to encourage and support student inquiry of this sort. As things currently stand there is considerable evidence to suggest teachers do not encourage students to challenge claims that fail to square with their beliefs and experience. As a consequence children are not learning an important epistemic rule governing the rational acceptance of testimony, at least not in school. Though this simple test of coherence can never yield conclusive answers, it is helpful in determining whether it would be irrational to accept claims merely on authority. The young people in the PEEL study who dutifully accepted the idea that soil evaporates failed to employ this test.

Similarly, *Y* should neither accept on authority any argument that violates rules of valid reasoning that *Y* already possesses. For example, so basic is the principle of non-contradiction that most children should be able to detect when teachers or texts offer contradictory or inconsistent explanations. Until recently it was not uncommon to see children's history texts depicting Columbus' "discovery" of America with illustrations that included scenes of Caribs welcoming the Spaniards to their homeland. The fact that generations of North Americans continued into adulthood speaking of Columbus as the discoverer of America suggests that the full implications of such a contradictory image was not explored in class.

If some statements from *X* fail to be authoritative on *Y*'s experience, *X*'s epistemic authority in general is cast in doubt. There is likely no algorithm to determine at what precise point the authority of *X* ought to be rejected altogether. Rather, as the strength with which one holds a belief may vary, *Y*'s belief in the authority of *X* may rationally be held more or less tenaciously. This is as true where *X* is a group (of economists, for example), as it is where *X* is an individual. The greater the number of independently verified statements that *X* utters in *R*, the more reasonable it is to expect future statements with respect to *R* will be true. By induction, then, *Y* can reduce the chances of trusting in an *X* who is unknowledgeable. If *Y* fails to assess *X*'s

testimony along these lines *Y*'s acceptance of *X* as an authority cannot be fully justified, even if, as it turns out, the testimony proves to be correct. Second, in fields where authorities conflict *Y* is justified in suspending belief where this is an option, or in seeking an explanation, demonstration or proof, providing *Y* is capable of following and understanding explanations or proofs. Cognitive agents need also to consider whether an authority is engaging in the authoritarian protection of belief. Epistemically dependent individuals are, by definition, unable to assess the claims of experts, but they can observe the extent to which individuals stifle debate, and attack opponents on logically irrelevant grounds, provided that they have been taught which rhetorical moves are irrelevant and fallacious. In view of such moves the agent may rightfully suspend belief.

In the second case the fault lies more with the epistemic authority, though, if there are good reasons to doubt *X*'s veracity that *Y* has overlooked, the fault is shared. In the last case *X* fails to respect the rationality of *Y*, and acts as if epistemic authority is a form of executive authority. Executive authority involves the right to command, while epistemic authority does not. Executive authority is vested authority, justified by reference to office and rank. Epistemic authority is pragmatically justified by reference to what an authority knows that others do not. But it is justified by the benefits it offers to those who are subject to it, not by the benefits that fall to bearers of authority. Those who are subject to authority need never give up their right to believe what they wish, even though by comparison they are less well informed than the bearers of epistemic authority. And since this right conflicts with any right to be believed that might be claimed by authorities the right to be believed must give way. While it may be foolish or imprudent not to believe what an epistemic authority says, it is a commonplace that belief cannot be forced. So whether there be a right or not, as a practical matter the right to be believed cannot be sensibly granted. The issue is not only practical however, it is also one of respecting the autonomy of the person.

A claim that *X* has a right to be believed seems to imply an obligation on the part of *Y* to believe *p* simply because *X* states it, an obligation that...is not rationally founded.... The conditions under which it is reasonable for *Y* to believe *X* do not include *Y*'s knowing that *X* knows *p*, but they do include *Y*'s having reason to believe that *X* does. If *X* had some right to be believed because *X* knew *p*, *Y* could not know that *X* had that right. *Y* would still rationally have to operate as if *X* had no such right. From a practical point of view the

claim to a right to be believed would therefore be vacuous.... Since the acceptance of *p* on the basis of authority is often reasonable, this fact—and not any supposed special right of *X*—is the legitimate and rationally defensible basis for *Y*'s acknowledging *X* as an epistemic authority. *X* can never legitimately command *Y* to believe *X* simply on the basis of *X*'s knowledge, because it is always appropriate for *Y* to maintain a critical attitude towards what any *X* says, and it is always appropriate to give greater credence to demonstration and logical reasoning when these conflict with what is presented simply on the basis of authority.¹²

Thus we have the standard view of the epistemic status of belief on expert testimony. Appeals to authority are pragmatically rather than epistemically justified. The cognitive agent has an epistemic obligation to guard against his own credulity by seeking to assess the reliability of the authority via a range of tests. The implications for teachers seem clear. They need to introduce students to these tests and encourage them in their use. Specifically, teachers need to encourage students to evaluate knowledge claims in light of their own beliefs. They need to familiarize students with the range of fallacies whose appearance in argument casts doubt on the veracity of authorities. And they need to give some sense of the controversies that prevail in fields of study so students do not take as authoritative the pronouncements from fields riven with disagreement among authorities.

It is important to note that the intelligent use of evidence, testimonial or otherwise, is determined by the context, and one's purposes. In the context of schooling teachers have many aims, but without doubt prominent among these ought to be developing rational attitudes and abilities. So the case of schooling is a special case, quite different from the case of the person on the street who lacks the time, given his purposes, to investigate an issue every time he has some reason to doubt the veracity of his sources. In his discussion of the evidence condition, Scheffler concedes that outside of schools a loose interpretation of knowing will suffice. Inside schools where educational purposes prevail a strong sense of the term is required if students are to be considered educated within the various disciplines of study. This view of Scheffler's looks very much like a *contextualist* view of justification. Let us consider whether contextualism can support the argument that insists some sort of epistemic independence is necessary for learning propositional knowledge.

According to contextualist theories of justification whether some person is justified in

believing that p is a relative matter that can only be determined within an “issue-context”. Beliefs are not simply justified or unjustified, they are justified relative to a context and set of purposes. For example, two friends, Huey and Dewey, want to know from a third friend, Louis, what causes polio. Louis’s answer, that polio is caused by a virus, is met with skepticism. Huey and Dewey then ask Louis how he knows, to which he replies that he saw on a television program a representative from Atlanta’s Center for Disease Control state that a virus causes polio. Consider what we would think of the same justification being offered by a medical student in an epidemiology examination. In the former case we may say that Louis is justified in his belief, whereas in the latter we would be less inclined to say so. This is because the requirements of the latter case are epistemically more demanding. According to Annis “when asking whether some person S is justified in believing h , we must consider this relative to some specific issue-context that determines the level of understanding and knowledge required.”¹³ Not only does the issue-context determine the level of understanding and knowledge required, it specifies what Annis calls the “appropriate objector-group”. In the example of the medical student the objector group would likely be comprised of qualified medical examiners, who we may expect would have more demanding questions and more sophisticated objections than Huey and Dewey. Thus to be justified one must be able to meet the objections of the relevant objector-group, assuming this objector group is motivated by a concern for the truth. This condition on justification brings the consequence that the beliefs and theories of others play an important role in justification: they determine what objections will be raised, how a person will respond to them and what responses the objector will accept.¹⁴ What is distinctive of this approach to justification is that it changes the terms of reference by which we consider justification from the *state* of being justified to the *activity* of justifying beliefs. The topic of epistemic justification, on the latter view, is confined to a consideration of how one ought to carry out the activity of justifying a belief. How can you show your belief is something you are entitled to believe? How can you establish the credentials for your belief, or defend it against challenges? These are the questions that guide pragmatically-minded contextualists like Pierce and Dewey. Alston has argued that contextualism will not do as a theory of epistemic justification because there are more questions than these to be answered by

epistemology. What, for example, justifies beliefs from memory and introspection? What justifies perceptual beliefs? But my concern here is not to settle on the most comprehensive theory of knowledge and justification, so contextualism and its concern for the activities of justification will do nicely.

A feature of the issue-context of schools is often the requirement that students demonstrate that they know something. Ordinarily, and especially for externalists, to be justified is a separate matter from showing that one is justified. Though the requirement that one must justify one's beliefs is much more stringent than merely being justified in one's belief, it is required by the context. Further the standards to which one is subject arise from the objector-group, in this case the teacher and one's fellow students, whose objections are the product of genuine doubt or puzzlement. To be justified requires that our claims pass the test of criticism. It has been argued, however, that schoolchildren lack the maturity necessary for intelligent criticism. Let us now turn to a discussion of these views.

Epistemic Paternalism

Much of the justification for epistemic paternalism in schools hinges on the assumption that children are often too immature or ignorant to be reasoned with. On this view it would be foolish to insist children accept only those claims for which, by their lights, they have good reasons to accept. For this reason it makes little sense to give children the freedom to disagree with epistemic or institutional authorities. Mill is notorious for denying such liberty to children and barbarians on the ground they lack the maturity to benefit from rational discussion. Unfortunately the boundary between the immature and the mature is not so tidy as Mill would have it. His carelessness in this regard may be attributable to the fact that making distinctions concerning maturity was not the point of *On Liberty*. Even so, we recognize immediately the injustice Mill does to "barbarians" and the casualness with which he decides "there is nothing for them but implicit obedience to an authority."¹⁵ May he not be making a similar mistake with children? For clearly it is not the case that children, even very young children, are so incapable of benefiting from rational persuasion that institutional arrangements in school must resemble the despotism Mill recommends for "barbarians". Mill does qualify his view, however. Without some

reasonable expectation that the means employed will be efficacious, the intention of improving the lives of “barbarians” is not a sufficient justification for paternalistic treatment. With reference to teachers in classrooms, Mill’s qualification amounts to an insistence that paternalistic treatment take a particular form, namely treatment that promises to lead the immature to a state of maturity. Moreover, once individuals are capable of benefiting from rational discussion, “compulsion, either in direct form or in that of pains and penalties for non-compliance, is no longer admissible as a means to their own good.”¹⁶ Recent investigations of children’s ability to benefit from rational discussion suggest that the time-honoured justifications for paternalism in education need to be re-examined.

Historically there have been three sorts of grounds offered in support of the categorical exclusion of children from liberties available to adults: irrationality, immaturity and expediency.¹⁷ The argument from irrationality hinges on the requirement that liberty must be granted only to those who possess *substantive* rationality. Substantive rationality differs from *formal* rationality in that the former is defined in terms of the reasonableness of actions and beliefs in light of accepted standards or norms. Formal rationality requires only that an agent have a reason (any reason) for acting or believing, and clearly children, as intentional beings, have reasons for what they do or believe. Children’s putative irrationality, then, must consist in a failure to meet fundamental standards of reasoning. These standards may be solely concerned with what Habermas and others have termed “instrumental rationality”, the intelligent selection of means in the pursuit of ends, or they may also include a consideration of the desires, interests and wants that are the motivations for action. The frequently expressed concern over the role played in practical reason by children’s uninformed wants points to this broader specification of rationality as the most suitable in discussions of paternalism. So at the heart of arguments that seek to justify paternalistic restrictions on children’s liberty must lie a consideration of the reasonableness of children’s motives. Following Barry, the reasonableness or rationality of wants can be construed in two ways: as a function of *ideal regarding interests* or of *want regarding interests*.¹⁸ Ideal regarding interests are those which are based on objectively worthy ideals (knowledge, virtue, etc.). Want regarding interests are those which are based on an individual’s wants, considered as a whole.

Want regarding rationality is exemplified by consistency between an agent's particular want and the sum of her other wants. Rationality in the ideal regarding sense is exemplified by consistency between an agent's immediate wants and the objectively reasonable ideals that ought to determine her immediate wants. This latter sort of maximal rationality is obviously too stringent a criterion for the right to liberty. Since many adults fail to instantiate such a high standard of rationality this criterion would yield the unsatisfactory result that only maximally rational persons have a right to freedom from interference. Minimal rationality in the sense of consistency between one's choices and the sum of one's wants is a more suitable criterion, and one which many children satisfy, *and many more could*. At issue here is whether to identify the criterion with the *capacity* to be rational, or with the *disposition* to be rational. The latter, of course, is a more stringent requirement, but one which would also fail to square with our practice of granting liberty to adults whose *behavior* is inconsistent with professed commitments. A minimal construal of rationality in terms of a capacity to choose or act in ways consistent with one's wants sets the limit for paternalistic treatment beyond adults to include children. It would seem then that the attempt to categorically exclude children from the right to liberty on the basis of their irrationality cannot succeed without simultaneously excluding adults. This is a paradoxical consequence since attempts to justify paternalism with respect to children depend on the validity of distinguishing between children and adults.

The second justification for paternalism appeals to the immaturity of children. Though the majority of arguments are, in the end, appeals to the irrationality of children, there are a few distinct arguments that suggest that since children have either not yet attained full personhood or have yet not settled on the convictions and dispositions that will define them as mature adults, they have less of a right to freedom from paternalistic interference. Pinning down the nature of personhood with enough precision to settle practical problems has notoriously proven to be difficult. Even among those, like Dennett, who claim to have identified the necessary and sufficient conditions of personhood it is admitted that because each of these conditions admits of degrees there is no non-arbitrary way of deciding whether or not an individual is a person.¹⁹

Three more types of argument are suggested by Case:²⁰ first, children are "weak willed"

and therefore need protection from the effects of peer or social pressure. Since they lack strength of will they are uniquely vulnerable. Second, children are “blind-willed”—so impulsive they are driven by whatever current desire is strongest. Third, children’s wills lack stability; they are “impermanently willed”. As they grow to maturity their aims and desires will doubtless change significantly. As with the arguments from irrationality these too are based on a caricature of children’s capacities relative to those of adults. Many children are strong willed, more strong willed in fact than some adults. Moreover, adults smoke cigarettes, over-eat, drink and drive, gamble compulsively, engage in high risk sexual activity—symptoms of not only a weak will, but of a blind will, ruled by appetites and compulsions. Weakness of will in any form may be grounds for *conditional* interference, but it cannot be the basis of a *categorical* exclusion of children from the right to non-interference.

The final defect of children’s wills—their impermanence—is the easiest charge to counter. Even if children’s aspirations are less permanent than adults, and it is not perfectly obvious that they are, what relevance does children’s alleged fickleness have to the question of children enjoying a right to pursue their interests? Even if paternalistic interference could be guaranteed to yield a set of motivations for which the child would be grateful as an adult, which of course it cannot, childhood is a period of one’s life having characteristic interests, different from those of early adulthood, middle age, or advanced old age, but no less intrinsically worthwhile to the person who possesses them. The old may come to regret the settled convictions of their middle age, and recognize in the whimsy of childhood an authentic voice that should not have been ignored, much less stifled. The final argument for the categorical exclusion of children from the right to liberty invokes an appeal to expediency. Typically such appeals stress the practical difficulties in identifying from a large group those individuals who need to be protected from themselves. The expedient way to protect some is to place the entire group under paternalistic protection. While this argument is useful in cases where those who would intervene are unable to assess the competence of group members it does not hold for cases of interpersonal or parental paternalism where the intervener is not likely to be unaware of the agent’s competence. Hence in the case of teachers and schools the argument for *categorical* exclusion of children has little force.

Indeed given that teachers are in a position to have detailed knowledge of the children in their charge the argument for the categorical exclusion of even some children depends on showing that a child is wholly incompetent, an unlikely circumstance in most cases. Whatever limitations are set on children's liberty must be conditional, and tied to a demonstrated lack of competence in a given area. The burden of proof ought to rest with intervenors; it is their duty to show children are incompetent, not children's to justify their right to freedom from paternalistic interference.

There is another justification for paternalism whose relevance is not restricted to children, but to contexts in which anyone, child or adult, is inexperienced. Peters, you will recall, believes that up to a certain point in the child's development she lacks the criteria by which to test her teacher's claims. The inability to evaluate her teachers claims is to be understood by reference to a form of life, such as science, that has its own distinctive concepts and standards of appraisal. "All forms of thought and awareness," says Peters, "have their own internal standards of appraisal. To be on the inside of them is both to understand and to care."²¹ From this it might seem that a teacher's reliance on appeals to authority is quite unproblematic so long as her pupils are immature in this sense. Indeed most will be, along with many university students and other adults. The danger here is that the presumption in favour of authority will bar pupils access to the inside of the practice, particularly when the practice is of the sort that requires one to think for oneself, and hold beliefs on the independent basis of evidence and good reasons. Educational philosophers who hold to Peters' defense of authority are aware, of course, that appeals to reason are preferable to those based on authority. Indeed much of what is most valuable in educational philosophy are the many arguments that insist on the need to appeal to the student's capacity to reason. In a much cited passage Israel Scheffler insists that "to teach is thus, in the standard use of the term, to acknowledge the 'reason' of the pupil, i.e., his demand for and judgment of reasons." But there is an inconsistency, or at the least an unresolved tension between the imperative that teachers' accounts must initially be taken on trust, and the injunction that teachers must appeal to the independent judgment of the student. There is little discussion of the inevitable problem that arises when the independent judgment of the student is sharply at odds with the judgment of the teacher. What discussion there is often supposes the case is one where the teacher is unequivocally

correct. But as Scheffler points out in several places, the teacher who tries to get the student to accept that such and such is the case tries “to get [the student] to believe it for reasons that, within the limits of his capacity to grasp, are *our* reasons.” By *our* reasons Scheffler means the reasons held by the community of those who can rationally justify the belief in question. So the correctness of the teacher’s position is a function of its conformity with the beliefs of some idealized community of rational inquirers. As we shall see the arguments and argumentative moves that would be acceptable to a community of inquirers sets limits on the extent to which paternalism is acceptable in the communication of belief.

Interesting and important though this paternalistic argument is it exaggerates the extent to which intellectual practices are beyond the experience of the child. The teacher’s authority need not be the only warrant for a child’s belief. It was Peters who said that for a man to understand science he must appreciate that evidence ought to be adduced in support of assumptions, and that relevance, consistency and coherence are defining features of a sound scientific argument. Well, indeed they are, but so too are they defining features of *any* good argument, even those that might arise on the playground between pre-schoolers, who despite their immaturity, have in some studies shown a basic understanding of argumentation by the age of three.²² The practices of epistemic justification are not found simply in schools and academies; they are instead a part of our way of life, and that of children’s as well. So Dunlop’s uncharitable view of children’s limited intellectual capacities that justifies the teacher’s “downward regard” for his pupils is in need of some modification. Peters’ view of the world divided into “insiders” and “outsiders” is too simplistic, and fails to do justice to those who, while they may be largely outside the practice of science, are not wholly outside the practices of critical reflection. The practices of criticism are not so hermetically sealed off from one another that the uninitiated in one practice can gain no foothold in another but that of faith. Nor are the practices of criticism discontinuous with everyday conversation.

James Tully makes an identical point in his Wittgensteinian treatment of Habermas’ theory of communicative discourse.²³ At issue is Habermas’ claim that his validation form of critical reflection is an activity or a “discourse”, qualitatively different and superior to the conventional

practices of the everyday “lifeworld”. Habermas insists that “the communicative practice of everyday life is immersed in a sea of cultural “taken for grantedness.” For Habermas our customary agreements are rational only insofar as the parties to these agreements can give reasons that justify them. Typically, says Habermas, they cannot. Habermas’s suggestion is that agents need to disengage themselves from the “taken for granted horizons of the lifeworld,” suspend their assent, and attempt to reach an agreement that is based not on custom, but on the force of the better argument. This form of agreement or understanding is to be distinguished from the unreflective form of agreement in the lifeworld that is based on either a de facto acceptance of habitual practice, or is regulated by the brute force of material necessity (i.e. the market). The basic objection to Habermas’ account of critical reflection is that it equates reasonableness with giving reasons, and requires that we extend the chain of reasons beyond the point where it is customary for the chain to end. On a Wittgensteinian view of justification the requirement that we extend the chain of reasoning is sensible only insofar as further thought is necessary “to remove or to avert a misunderstanding.” Beyond this there is no reason to reflect further, indeed no possibility of reasoning further since the reasons have run out. Justifications must end somewhere. One of Wittgenstein’s most significant insights was to demonstrate that where justifications end is a matter of customary practice, that is beyond reason. “If I have exhausted the justifications I have reached bedrock, and my spade is turned. Then I am inclined to say: This is simply what I do.”²⁴ Habermas appears to have overlooked the fact that whether we are engaged in a justification of scientific beliefs, historical beliefs, or beliefs of a more mundane nature our justifications end on a conventional and unreflective note. They also begin on a conventional note. For the activity of reaching an agreement to get underway some things must be taken for granted, and what these might be is also determined by our practices. At both their beginning and end our language games of justification are grounded in conventional and customary uses of words that are not called into question in the course of our asking and answering questions, offering reasons, accepting some and rejecting others. Our arguments take place within a tacitly agreed upon system of rules for the use of words. It is by means of our unreflective use of words that we understand one another. The point of this Wittgensteinian discussion is that it is a mistake to draw

too sharp a line between everyday reasoning and more specialized practices of reasoning, such as reasoning within a discipline, especially when everyday reasoning is characterized as fundamentally unreflective and therefore inferior. It would likewise be a mistake, though a more obvious one, to assimilate specialized reasoning to the everyday variety. Nonetheless, even if students are outside the practice of an academic discipline, insofar as they are minimally competent language users, they cannot be wholly outside the language games of justification. Peters' binary characterization of learners as being inside or outside a practice fails to acknowledge that learners are more appropriately viewed as resting between two endpoints in a continuum. In Tully's words, "between the Charybdis of autonomous reflection and the Scylla of the dead weight of custom lies the vast, Aristotelian landscape where our critically reflective games of freedom have their home."²⁵ Even small children occupy a space in this vast Aristotelian landscape. Their place in it provides these children and their teachers with a foothold, an opportunity, in Mill's words, to profit from "free and equal discussion."

MacIntyre's emphasis on the need for intellectual humility in light of the obscure nature of internal goods also sets the competent too far apart from those who are not yet competent. Though perhaps it is not his intent, MacIntyre's argument runs the risk of privileging expertise, and in the educational context, of placing the contents of mandated curricula beyond the reach of criticism. Any such immunity from criticism is purchased at the expense of ignoring the fallibilist strain in post-Popperian epistemology that calls into question exalted views of expertise.²⁶ Habermasian educational philosophers such as Young, for example, take fallibilist epistemology to provide a reason for abandoning or severely restricting teaching that fails to treat knowledge claims in ways that makes them open to the rational assessment of students. His argument, in its essentials, goes as follows:

- 1) Fallibilist and historicist conceptions of knowledge have rendered the absolute acceptance of any view unlikely. Therefore all views ought to be held tentatively since they are potentially falsifiable.²⁷
- 2) Historians and sociologists of science reveal the extent to which the self-interest of individuals and groups blinds them to what others have no trouble seeing as the truth of the matter. This

blindness represents a barrier to the rational assessment of knowledge claims.²⁸

From #1 and #2 above Young draws the conclusion that “the best available criteria for the rational assessment of views are to be found in the standards of reasoning of the widest possible network of interlocutors.”²⁹ The wider the network the greater the chance that people with differing biases and interests will see what others may have missed. On the fallibilist view an important criterion of rationality is the “openness to rational assessment” of one’s own views and those of others. This openness can be specified in terms of the characteristics of persons, but it can also be characterized procedurally, as a feature of pedagogy and classroom climate. With respect to a variety of classroom procedures and materials the criterion of openness can be applied to textbooks, and other expository instructional materials, as well as social interaction in schools with their climate of rewards, constraints and punishments that may create incentives to avoid questioning of what is taught. In schools and universities ‘external’ openness concerns access of students to the ‘actual international network of critical interlocutors,’ while ‘internal’ openness concerns students’ opportunities to present their own views and criticize the views of others. As a feature of persons this openness is closely allied with rationality itself. Strike characterizes rational persons as “those who are able and willing to change their belief structures when the evidence warrants.”³⁰ The ability and disposition to change one’s beliefs are necessary conditions of rationality, conditions Strike terms the *skill condition* and the *mental health condition*. Since facts do not “wear their implications on their sleeve”, students must be taught in a way that enables them to apply the appropriate standards of judgment to evidential arguments. (*A fortiori* students must first be exposed to these evidential arguments). Without a knowledge of such standards students must lack the skills necessary for the evaluation of evidence. The mental health condition is necessary because those who cannot change their minds on the basis of evidence are frequently incapacitated by a dogmatic commitment to cherished ideas. It should be obvious that teaching that does little to alert students to the evidence for their beliefs fails to foster either of these conditions.

External openness requires that students have access to divergent points of view outside those found in class. There is support for the idea of external openness in Kant’s notion of

Aufklärung, or Enlightenment. Kant's motto for the Enlightenment was '*sapere aude*': Dare to know! The enlightened maturity of the intellectually autonomous person was, for Kant, a product on the one hand of a *collective* process of argumentation and on the other hand a personal act of courage. The demand for internal as well as external openness brings these two aspects of enlightenment together. The autonomous individual possesses the necessary dispositions to engage profitably in the process of argumentation with others. Kant's twentieth century successor Adorno would have his own term for intellectual autonomy: *mundigkeit*—the capability and courage of each individual to follow his or her own understanding.³¹ *Mundigkeit* is a term from legal theory that refers to the capacity and right of people "to speak up and take responsibility for the witness they bear, to represent their own interests, but also to be held accountable for the claims they make."³² Adorno's view of *mundigkeit* is still highly individualistic, however. If one were to add a Kantian emphasis to the epistemic individualism implied by *mundigkeit* the result would be to situate autonomy within a social context, a community of inquiry, and to offer procedural guidelines for that inquiry. Educational philosophers influenced by speech act theory and Habermasian analyses of communicative ethics have done just that, and have tended to define rational belief formation less strictly in terms of the epistemic independence of individuals and more in terms of communication "structures" that allow for free and open discussion. Mollenhauer's sentiments are representative:

The goal of [education] lies in the establishment of a communication structure [in the classroom] which makes the acquisition of a capacity for free and open discussion possible.³³

Young's second claim regarding blinkered self-interest, if true, undermines the cognitive authoritarianism that lies at the heart of arguments defending epistemic dependence on authorities. There is a rich and growing body of empirical research by sociologists of science and feminist critics of traditional philosophy of science that documents just this sort of blindness.³⁴ In the field of biology for example, feminist critics of masculinist bias in research have amassed a significant record of the error attributable to this bias.³⁵ That science makes the progress it does is attributed to the nature of social correction embodied in the public aspects of scientific investigation. Public criticism of scientific research is, of course, largely restricted to the actual community of

scientists, but the principle of inter-subjective correction is what needs stressing here. One must grant that elementary school children are not likely to understand a great deal of the criticism generated by any international network of critics. In the case of secondary students, however, the grounds for denying access to criticism are less strong. The question I will consider in the next chapter is whether this principle of social correction can reasonably be extended beyond the relevant community of experts to a larger public that might include school aged children and adolescents.

Indoctrination

Whether a conscious strategy or not, when teachers teach *as if* they are presenting the final word on a given subject, they are teaching as if belief revision in the future is not a live possibility. On the fallibilist view such a possibility cannot be discounted. Where classroom knowledge is defined in fallibilist terms all views will be seen as potentially falsifiable and therefore ought to be held with varying degrees of confidence. Teachers who teach as if their views are ‘the final word’ convey a set of epistemological commitments that are, at best, dubious. Indeed in the context of teaching the absence of this criterion of openness is often taken to be a hallmark of indoctrination.³⁶ There is little agreement among educational philosophers over the criteria by means of which we could recognize instances of indoctrination. Some hold that indoctrination is identified by the *intention* to ensure that students come to believe certain things.³⁷ Some stress *methods* of indoctrination as the identifying feature.³⁸ Others insist that the distinguishing feature of indoctrination is the practice of presenting controversial *material* or *content* as if it were uncontroversial.³⁹ Still, others argue that indoctrination is a matter of *outcome*: when students hold beliefs such that these beliefs are not open to rational assessment these students are said to have been indoctrinated.⁴⁰ This construal of indoctrination is the position I favour. Indoctrinatory teaching has the peculiar outcome that student beliefs are held in a way that makes them no longer open to full rational assessment. There is more to the method of indoctrination than the failure to provide students with reasons for belief, however. Many of the beliefs held by any person will have been acquired unreflectively, and thus will lack the support of reasons. Those who have insisted that indoctrination is the result of being subjected to

indoctrinatory methods are correct in this respect.⁴¹ Every outcome is the result of some process, in this case some act of teaching that was indoctrinatory because it yields an indoctrinated person. Such a person, says Kleinig, when confronted with opposing views, “falls back on implausible claims to self-evidence, continually engages in distortion, resorts to question-begging devices, professes to find reasonably clear objections unintelligible, or becomes chronically unable to feel their weight against his/her position.”⁴² This is exactly the sort of person who confronted the teacher who was hired to replace James Keegstra, perhaps the best known indoctrinatory teacher in Canadian educational history. Keegstra is a holocaust denier who taught his students that the standard account of the Nazi extermination of European Jews was a hoax foisted on a gullible public by members of the international Zionist conspiracy. To the alarm of Keegstra’s replacement the students who had been taught this revisionist account were unable to accept the standard account, and remained completely unmoved by the evidence and arguments that were provided in support of the standard view. The interesting feature of this case is that Keegstra did give his students reasons to believe his account was the true one. This in itself made Keegstra rather unusual, and earned him a reputation as a good teacher among his students. What Keegstra did not do was present views from a representatively broad range of historians. It was not simply that Keegstra had the intention to fix a body of doctrine in the minds of his students that makes him an indoctrinator, nor was it that Keegstra failed to provide reasons and evidence for his preferred view. It is not the fact that his account is false that makes him an indoctrinator, but rather that his students were unable to hold their beliefs in a way open to rational assessment since they had no sense of the limitations of their preferred view. The central issue is that students should not hold false beliefs unquestioningly, nor should they have an unquestioning attitude toward those ideas we ordinarily take to be true. From this we needn’t conclude that students must examine the grounds for *every* belief put before them so long as their beliefs are held in a way that leaves them open to rational assessment, and sensitive to the grounds that would expose their beliefs as false.⁴³

We want students to acquire true beliefs, and develop a capacity to think critically about the knowledge claims they will encounter in the future, since many claims will prove to be false. In Quinton’s view because much of what teachers teach may be “infected with error”, teachers

have a special responsibility to “attach a critical question mark to the primary propositions they affirm, and equip their pupils with the capacity to answer the critical questions thus posed for themselves.”⁴⁴ This capacity includes a number of dispositional attitudes, termed “intellectual virtues” by Quinton. These are intellectual temperance, courage, and justice. Since Aristotle, virtues are seen to fall into one of two categories: the first, qualities of good judgment that are conducive to a moral or happy life; the second, those qualities of character that are conducive to finding the truth and avoiding error. The latter group are most often termed epistemic virtues. The sense of virtue intended by Quinton seems very close to the Aristotelian view advocated by Wallace: “Virtues involve being able to do difficult things, but the difficulties involved are due to contrary inclinations.”⁴⁵ Virtues simply are the antidotes to these contrary inclinations that would interfere with our efforts to acquire true, or at least, more reasonable beliefs. Intellectual temperance is an antidote to credulousness, either with respect to the beliefs of others or with respect to one’s own beliefs. The root cause of intellectual *intemperance*, at least on Quinton’s account, is not a naive and trusting character, but the sort of laziness that prefers settled opinions to doubt, regardless of whether doubt is called for in a given case. I would add to Quinton’s discussion of intellectual virtues the virtue of humility. The absence of the disposition to be critical of one’s own views cannot in every case be attributed to mental laziness, of course. The tendency to fail in applying the same critical scrutiny to one’s own views is frequently due to an unjustified confidence in one’s own point of view. The second virtue in Quinton’s list is intellectual courage that guards against the inclination to accept or retain beliefs on the sole ground that such beliefs will not incur the disagreement or disapproval of others. Intellectual justice, or more simply, fairness, is a sort of “open-minded readiness to consider beliefs that are inconsistent with or count against one’s own.”⁴⁶ Intellectual fairness is not virtuous simply because of the respect it shows for others; it would not then, strictly speaking, be an *intellectual* virtue. What makes intellectual fairness a virtue of this sort is that it increases the likelihood that the intellectually virtuous will acquire more reasonable beliefs and discard those found to be unreasonable.⁴⁷

The task of teachers, says Quinton, is to teach “non-dogmatically”. But what does non-dogmatic teaching look like? Quinton does not say, beyond his emphasizing that teachers must

communicate a sense of the evidential basis for knowledge claims. Teachers do not, for the most part, communicate the results of their own research. Rather they are, in Quinton words, “channels through which the content of textbooks and other sources of information are conveyed to students.”⁴⁸ Insofar as they are channels of this sort, teachers need to be channels with a critical filter. Quinton does not make clear just how teachers are in a position to raise critical questions. For much of what teachers convey to students they convey from a position of epistemic dependence, that may be nearly as great as that of their students, at least with respect to the evidential bases for the claims they advance.⁴⁹ Nor does Quinton make clear why it is the teacher, and not students as well who must attach critical question marks to the claims found in textbooks. Presumably the reason for his silence on this point is that he expects students will more often than teachers have little clue as to the acceptability of specific knowledge claims. This view of the epistemically superior position of teachers can be contested, I think, enough to make a case for the critical autonomy of students. I see little reason why on the majority of occasions the task of noting problems, raising objections, suggesting counter-examples, etc. should fall exclusively to the teacher. While it may be true that the teacher is more likely to detect difficulties in the claims and arguments she is expected to communicate, there is a significant difference between the teacher’s being critical just to avert the uncritical acceptance of claims, and the intention to train students in the critical examination of claims. In the former case there is no intention to release students from their intellectual dependence on teachers (except in the sense contained in the writings of the London school of educational philosophers). In the latter case the intention is to solicit the critical intuitions of the students, rather than furnish them exclusively with the critical judgments of the teacher.

¹John Benson, “Who is the Autonomous Man?,” *Philosophy* 58 (1983): 5–17.

²*Ibid.*, 6.

³*Ibid.*, 8.

⁴Richard T. DeGeorge, *The Nature and Limits of Authority*. 36.

⁵John Locke, *An Essay Concerning Human Understanding* (Oxford: Clarendon Press, 1979), 24.

⁶One must wonder then what the pragmatic grounds are for the prevalence of belief on testimony in schools. Several seem possible. The breadth of the curriculum might militate against devoting time to a consideration of warrant. The education of teachers may not have furnished them with the necessary evidentiary arguments, for it is not only in lower education that the warrants for belief have been ignored. But neither of these seems a particularly apt defense of the role authority has played in the fixing of belief, especially when the epistemic goals of education are considered and weighed in the balance. Against the concern that time does not permit our luxuriating in discussions of warrant one may reasonably ask what is accomplished by sacrificing depth for breadth. It is reported that students of all ages quickly forget the facts that are imparted to them, while dispositions, habits, propensities and the like are more enduring. It is the latter, especially those associated with an evidential style of belief, which contribute more to the development of rational capacities. It is these which can be fostered by an intelligent consideration of warrant. That teachers might not know the evidential arguments for the knowledge claims they wish students to adopt is a more serious practical obstacle. It does seem however that some part of this deficiency in their education can be traced to the attitude that belief on testimony is a perfectly adequate basis on which to pursue the education of the young. My position is that it is not.

⁷David Hume, *A Treatise of Human Nature*, ed. L. A. Selby-Bigge (Oxford, 1978), 112.

⁸This qualification is usually credited to H. H. Price, whose maxim in these cases is as follows: "Accept what you are told by others unless or until you have specific reasons for doubting it." See his *Belief* (New York: Humanities Press, 1969), 129.

⁹DeGeorge, 38.

¹⁰*Ibid.*, 38.

¹¹*Ibid.*, 47.

¹²*Ibid.*, 60.

¹³David B. Annis, "A Contextualist Theory of Epistemic Justification," *American Philosophical Quarterly*, 15, no. 3 (1978): 215.

¹⁴*Ibid.* 215.

¹⁵John Stuart Mill, *On Liberty* (New York: The Liberal Arts Press, 1956), 15.

¹⁶*Ibid.*, 16

¹⁷I owe this categorization to Roland Case, "Pulling the Plug on Appeals to Irrationality, Immaturity and Expedience," in *Philosophy of Education 1985*, ed. David Nyberg (Normal, Illinois: Philosophy of Education Society, 1985), 445–454.

¹⁸Brian Barry, *Political Argument* (London: Routledge and Kegan Paul, 1970), 173–186.

¹⁹Daniel Dennett, "Conditions of Personhood," in *The Identity of Persons*, ed. Amelie Rorty (Los Angeles: University of California Press, 1976).

²⁰Case, "Pulling the Plug on Appeals to Irrationality, Immaturity and Expediency".

²¹R. S. Peters, *Ethics and Education* (London: Allen and Unwin, 1966), 15.

²²See reference in Robert E. Young, *A Critical Theory of Education: Habermas and Our Children's Future* (New York: Teachers College Press, 1990).

²³James Tully, "Wittgenstein and Political Philosophy: Understanding Practices of Critical Reflection," *Political Theory*. 17, no. 2 (1989): 172–204.

²⁴Ludwig Wittgenstein, *Philosophical Investigations*, 3d ed., trans. G.E.M. Anscombe. (Oxford: Basil Blackwell, 1984), sec. 217.

²⁵Tully, 183.

²⁶Karl Popper, *Objective Knowledge* (London: Oxford University Press, 1972); Imre Lakatos, "Falsification and the Methodology of Scientific Research Programs," in *Criticism and the Growth of Knowledge*, ed. I. Lakatos and A. Musgrave (London: Cambridge University Press, 1970).

²⁷In the vast philosophical literature which casts doubt on absolutist conceptions of knowledge a few are canonical: Thomas Kuhn's *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1966); Imre Lakatos, "Falsification and the Methodology of Scientific Research Programmes," in *Criticism and the Growth of Knowledge*, ed. Imre Lakatos and Alan Musgrave (London: Cambridge University Press, 1970); Karl Popper, *Objective Knowledge* (London: Oxford University Press, 1972); Paul Feyerabend, *Against Method* (London: New Left Books, 1975).

²⁸Sociological criticism of absolutist conceptions of knowledge have tended to have a radically skeptical and relativist character. For an early summary of this perspective see G. Radnitsky, *Contemporary Schools of Meta-Science* (Stockholm: Scandinavian University Books, 1969). See also Barry Barnes and David Bloor "Relativism, Rationalism and the Sociology of Knowledge," in *Rationality and Relativism* ed. Martin Hollis and Steven Lukes (Cambridge, MA: MIT Press, 1982); David Bloor, "Durkheim and Mauss Revisited: Classification and the Sociology of Knowledge," *Studies in History and Philosophy of Science*. 13 (1982): 267–297; Barry Barnes and David Edge eds., *Science in Context* (Cambridge, MA: MIT Press, 1982). The record of achievement in the sociology of science is a mixed one however. Beginning perhaps

with Mannheim and extending up to the “strong programme,” in the sociology of science represented by the Edinburgh school, critics have shown that several of the interpretations of scientific research practices are not entitled to the radically skeptical conclusions that are typically drawn. (See Harold Brown, *The Rational and the Social* for criticism of claims of the strong programme in the sociology of science.) What is interesting and important, however, is the record of scientists’ simple error which appears to be best explained in terms of blinkered self-interest or male bias. For representative work in the historical sociology of science see Paul Forman, “Weimar Culture, Causality and Quantum Theory, 1918–1927: Adaptation by German Physicists and Mathematicians to a Hostile Intellectual Environment,” in *Historical Studies in the Physical Sciences* 3, ed. R. McCormmach (Philadelphia: University of Pennsylvania Press, 1971); J. Farley and C. Geison, “Science, Politics and Spontaneous Generation in Nineteenth-Century France: The Pasteur-Pouchet Debate,” *Bulletin of the History of Medicine*. 48 (1974): 161–198; S. Shapin, “The Politics of Observation: Cerebral Anatomy and Social Interests in the Edinburgh Phrenology Disputes,” in *On the Margins of Science: The Social Constructions of Rejected Knowledge*, ed. Roy Wallis (Keele: Sociological Review Monographs 27, 1979), 139–178; Sharon Traweek, *Beamtimes and Lifetimes* (Cambridge, MA: Harvard University Press, 1988) and Peter Galison, *How Experiments End* (Chicago: University of Chicago Press, 1987).

²⁹Robert E. Young, “Teaching Equals Indoctrination: The Dominant Epistemic Practices of Our Schools,” *British Journal of Educational Studies*. 32, no. 3 (1984): 221.

³⁰Kenneth A. Strike, *Educational Policy and the Just Society* (Urbana: University of Illinois Press, 1982), 23.

³¹Theodor Adorno, *Erziehung zur Mündigkeit* (Frankfurt: Suhrkamp, 1971).

³²Young, *A Critical Theory of Education*, 60.

³³Klaus Mollenhauer, *Erziehung und Emanzipation* (München: Juventa), 22.

³⁴Thomas Kuhn, *The Structure of Scientific Revolutions* (Chicago: The University of Chicago Press, 1966).

³⁵For feminist criticism of scientific practice see Sandra Harding, *The Science Question in Feminism* (Ithaca, NY: Cornell University Press, 1986); Donna Haraway, "In the Beginning was the Word: The Genesis of Biological Theory," *Signs: Journal of Women in Culture and Society*, 6, no. 3, 469–482. Helen E. Longino, "Essential Tensions: Phase Two: Feminist, Philosophical, and Social Studies of Science," in *The Social Dimensions of Science*, ed. Ernan McMullin (Notre Dame, IN: University of Notre Dame Press, 1992); Helen Longino, *Science as Social Knowledge* (Princeton, NJ: Princeton University Press; Sandra Harding, "The Norms of Inquiry and Masculine Experience," in *Philosophy of Science Association 1980*, ed. Peter Asquith and Ronald Giere (East Lansing, MI: Philosophy of Science Association, 1980), 2, 305–324; Ruth Hubbard, Mary Sue Henifin, and Barbara Fried, eds., *Women Looking at Biology Looking at Women* (Cambridge, MA: Schenkman Publishing Co., 1979); Evelyn Fox Keller, *Reflections on Gender and Science* (New Haven, CT: Yale University Press, 1985); Ruth Hubbard and Marion Lowe, eds. *Gender and Genes II* (New York: Gordian Press, 1979).

³⁶John Kleinig, *Philosophical Issues in Education* (London: Croom Helm, 1982), 62.

³⁷Ivan A. Snook, *Indoctrination and Education* (London: Routledge and Kegan Paul, 1972).

³⁸P. Sheehan, "Education and Indoctrination: Some Notes," *Dialogue*, 4, no. 1 (1970): 60; D. E. Cooper, "Intentions and Indoctrination," *Educational Philosophy and Theory*, 5, no. 1, 1973; T. L. Benson, "The Forms of Indoctrinatory Method," in *Philosophy of Education 1977*, ed. I. S. Sternberg (Urbana, IL: University of Illinois Press, 1977), 333–344.

³⁹R. S. Peters, *Ethics and Education* (London: Allen and Unwin, 1966); J. Gribble, "Education or Indoctrination," *Dialogue* 3, no. 2 (1969).

⁴⁰Green, *The Activities of Teaching*, John Kleinig, *Philosophical Issues in Education* (London: Croom Helm, 1982).

⁴¹Ivan A. Snook, *Indoctrination and Education* (London: Routledge and Kegan Paul, 1972).

⁴²Kleinig, *Philosophical Issues in Education*, 62–63.

⁴³Ibid.

⁴⁴Anthony Quinton, "On the Ethics of Belief," in *Education and Values: The Richard Peters Lectures*, ed. Graham Haydon. (London: University of London, Institute of Education, 1987).

⁴⁵James Wallace, "Excellences and Merit," *Philosophical Review*, 87 (1974): 187.

⁴⁶Quinton, "On the Ethics of Belief," 51.

⁴⁷In certain respects I am splitting hairs when I distinguish intellectual virtues from moral virtues since moral virtues are clearly bound up with thoughtful deliberation. Intellectual virtues themselves have a moral purpose too, as do all efforts at truth-seeking, since the beliefs we hold tend to be those we communicate to others. The beliefs we hold and share with others affect the conduct and therefore the welfare of others. Hence there needs be an ethics of belief.

⁴⁸Quinton, "On the Ethics of Belief," 43

⁴⁹By "epistemically dependent," I merely mean lacking an understanding of the grounds for belief more sophisticated than those based on appeals to authority.

CHAPTER SIX

CLASSROOM DISCOURSE AND THE PUBLIC USE OF REASON

We have to this point considered a variety of positions regarding epistemic justification. The most familiar present a particular picture of justification, where the solitary agent deliberates about what to believe on the basis of the available evidence and then, on this basis, determines whether to accept a proposition, reject it, or suspend belief. It was demonstrated in chapter three how this picture has been sharply challenged by those who doubt justification is typically a matter of individual deliberation, or deny that agents have much choice in the beliefs they come to adopt. The most decisive objection has come from those who insist the traditional picture of justification sets an unrealistically high standard. For some of these critics being justified does not depend on epistemically responsible deliberation about what to believe. There may be occasions where deliberation is called for, but since there are many where it is not, the insistence that an internalist condition is necessary for knowledge and justification is too strong. For other critics, being justified is more a matter of believing what you are told than it is a matter of weighing evidence and assessing the reliability of claims. To the extent this picture is correct, then, it is not on the basis of a need to be justified that one can demand that teachers foster evidential styles of belief in school children. For justification to be present it is neither necessary nor sufficient that one be able to justify one's beliefs. Therefore, one must argue, as I have, that an evidential style of belief is a requirement of epistemic virtue, that in itself is a worthwhile educational goal. The case for epistemic independence needn't stop there, however, since there are reasons to doubt belief on testimony is as rational as Hardwig et al. have suggested.

I have been arguing that there must be more to epistemic life in schools than socializing students to defer to cognitive authorities, but I have not said as much as I need to regarding the nature of classrooms dedicated to fostering intellectual autonomy. What *does* responsible critical discussion of reasons and evidence consist in, and what reasons do we have for thinking it desirable to foster such discussion in the classroom? In the pages to follow I would like to outline an answer to this question, while at the same time raising doubts about the objectivity said to be ensured by the cognitive division of labour. On the basis of these doubts I think it is possible to

make an even stronger case for expanding the role of critical discussion in schools and in society generally.

THE RATIONALITY OF BELIEF ON TESTIMONY RECONSIDERED

The rationality of belief on testimony can be questioned, and autonomy in justification justified on a variety of closely related grounds, most of which stem from misgivings over the authoritarian protection of belief associated with an uncritical reliance on de facto cognitive authorities. The problem takes both a general and specific form. The general problem is that we appear to have no way of telling whether our society's reliance on expert testimony furnishes us with knowledge or something considerably less—a rough consensus determined more by social relations of power than by any objective mapping of the world. At a more specific level the problem can be articulated in terms of the following three theses.

- 1) There is a difference between the empirical and analytical senses of expertise. For reasons having to do with the interest relativity of knowledge and expertise, what is recognized as expertise is often less reliable than it appears to be.
- 2) Individuals and the communities of which they are a part are susceptible to self interested bias. Unrestricted criticism can overcome this bias and ensure a degree of objectivity that would otherwise be unattainable.
- 3) The vindication of reason requires autonomy in justification.

Let's consider the general problem first. Philosophers, historians and sociologists of science share a common interest in understanding how the activities of scientists account for conceptual change within science. The activities of scientists relevant to understanding conceptual change in science can be divided into two broad categories: scientists' encounters with nature, and conversations with peers.¹ Radically skeptical sociologists and historians of science emphasize the latter category. According to extreme versions of sociological skepticism a consideration of the natural world and its impact on scientists is largely irrelevant to our understanding how conceptual change takes place in science, since it is the influence of social relations, rather than observed phenomena in nature, that gives rise to the generation and acceptance of scientific hypotheses. The transition from one scientific orthodoxy to the next is

said to be independent of the causal interactions between scientists and nature.² At the other extreme, it is claimed that scientists' encounters with nature alone drive scientific change. While it is granted that social influences no doubt exist, their influence on the acceptance of hypotheses is seen to be negligible.³ The issue of which of these two influences is the more potent relates directly to the question of whether deference to authorities in science is as unproblematic as Stich and others suggest. The problem is that expert authority is an ambiguous hybrid that rests on both epistemic claims and institutional authority.⁴ "Experts", says Esquith, "...enjoy authority by virtue of the knowledge they have *and* the positions they hold.... It is not always clear [however] whether the expert is issuing expert advice or giving an executive order."⁵ This same point can be applied to the early education of scientists, and of everyone else for that matter. What one comes to believe, at least initially, is more a matter of trusting what you have been told than thinking for oneself. So, for example, every scientist's intellectual development began as a child in a condition of the most acute epistemic dependence. And by the time of entry to the scientific community novice scientists have been led to endorse a community-wide conception of legitimate epistemic authority. For the novice there is little question that certain people are to be trusted, and whatever agreements these authorities reach are to be accepted. The challenge that defenders of science must meet is the need to provide a non-circular vindication of the objectivity of science. In order to show that scientific knowledge is more than *mere* agreement among scientists, defenders of science's objectivity must demonstrate the correctness of scientific claims without relying heavily on the authority of those who have preceded the current generation of scientists.

Kitcher puts the point this way:

If we believe that we believe in [scientific claims] because we have seen [the objects to which they refer] (or had access to them through extensions of our senses, or manipulated them, or inferred to their existence through excellent arguments), then the sociologist will remind us of how we have been *led* to see them. From birth on, we have been acquainted with ways of responding to the "bloomin' buzzin' confusion" of sensory experience, and our divisions of the flux into objects, kinds, categories, depends on that initial deference to the authorities in our traditions. This can be readily appreciated by understanding how children and fledgling scientists are taught to perceive and talk about the world, as well as by noting the differences in conceptualizations achieved by different traditions. How, then, can one show that one particular tradition (Western science) is privileged, that the objects its members discuss are constituents of an independent nature?⁶

It might appear that we could find propositions that can be accepted without any dependence on authorities, or socially independent methods of reasoning by means of which we could vindicate our ontology. But this project stands no greater chance of success against sociological skeptics than Descartes' did against perceptual skeptics. The reason for the failure of Cartesian epistemology to secure a foundation for knowledge is the same reason we can't escape our reliance on authority. As Descartes could not escape the need to depend on sense experience to vindicate our faith in sense experience, we cannot escape our reliance on authorities. The categories we might employ in response to the sociological skeptic are those we must draw from our Western tradition, and this is the very thing whose reliability is in question. Thus it appears that the true nature of the world is unavailable to us. Our experience is structured by the categories of a tradition in such a way it is not possible to isolate the influence of authorities upon that tradition. There is no way, says Kitcher, to find "a tradition-free standpoint from which to validate the deference to authorities that permeates our cognitive life."⁷ The sociological skeptic, then, may be right. Kitcher's response to this difficulty is to suggest that even if the sociological skeptic is correct it doesn't follow we can't improve our epistemic prospects. We can still attempt to identify the conditions under which perception is reliable. Simultaneously, we can examine the effects of deference to authorities, and seek to discover the ways in which deference to authority advances or retards our efforts to understand the world. All our efforts ought to be informed, however, by a humble admission that fallibilism is the proper epistemic stance to take toward this project. By the same token, it seems reasonable to suggest fallibilism might inform our efforts to educate the young to a greater degree than we have at present. Let's consider some of the implications of adopting a fallibilist epistemology in education.

Public Reason in the Classroom Context

The pragmatist variant of fallibilism associated with Peirce treats the openness of discussion as a vital procedural feature governing the pursuit of knowledge. According to Putnam, this sort of fallibilism rejects "the idea of a statement whose complete and final warrant is wholly available to the speaker himself **no matter what happens** or of a speaker who neither needs nor can benefit from the data of others."⁸ On this view the very idea of a *statement* being

true presupposes a community of critics who judge and proclaim the statement true, now and in the future. That is, the idea of a warranted or justified statement involves an implicit reference to a community whose members, if they are to advance truth claims, can only do so according to certain procedural constraints. Putnam puts the matter in this way:

A community which is competent to determine truth and falsity must be such that... anyone in that community can criticize what is put forward knowing that his criticism will be attended to; if some criticisms are simply not heard, then the possibility of an irrational sort of 'protection of belief' rears its ugly head; we are back at what Peirce called the Method of Authority. Again, not only must it be possible for any member of the community to ask a question or voice a criticism, it must also be possible for any member of a community of ideal inquirers to advance a hypothesis knowing that it will be heard. It must, in short, be a community which respects the principles of intellectual freedom and equality.⁹

So, on this view, the very idea of a fallible community of rational inquirers presupposes certain things that serve to regulate the manner in which rational activity is carried out. The idea of a fully justified statement (a statement which is true humanly speaking) is the idea of a statement that can withstand tests and criticism at any time from a community of potentially infinite size. Among other things this means that those who advance truth claims must allow inquiry to be opened and reopened at any time. This allowance commits rational inquirers to a respect for the principles of intellectual freedom and equality. So when individuals advance truth claims (claims which by definition can withstand rational criticism now and in the future) they implicitly allow or permit those claims to be challenged by those who have an interest in the truth of the matter—the community of rational inquirers.

It should be plain that, on this view at least, teachers who advance truth claims are inviting students to engage in rational inquiry. This means that they are committed to allowing, if not inviting, those claims to be challenged. Students who present objections to the claims advanced by teachers must be confident that their criticism will be heard and attended to.

Habermas: Discourse Ethics

In chapter 1 I outlined teaching practices that constrained genuine communication between teachers and students. In this chapter I want to sketch out a Habermasian account of unconstrained communication in the contexts of teaching and learning. The presuppositions of

any attempt to communicate are the basis for Habermas's idealization of speech situations. Habermas reconstructs these presuppositions to provide us with "the ideal speech situation", that is, a situation constructed from the assumptions of anyone engaged in honest dialogue. From these presuppositions Habermas derives the overarching normative consideration in argumentation, namely that undistorted communication involves the reciprocal recognition between interlocutors of the rights each enjoy regarding the claims they can advance or the demands for justification they may make. The ideal speech situation is defined by the following constitutive rules:

- 1) "Each subject who is capable of speech and action is allowed to participate in discourses."
- 2a) "Each is allowed to call into question any proposal."
- 2b) "Each is allowed to introduce any proposal into the discourse."
- 2c) "Each is allowed to express his attitudes, wishes and needs."
- 3) "No speaker ought to be hindered by compulsion—whether arising from inside the discourse or outside it—from making use of the rights secure under [1 and 2 above]"¹⁰

Speech situations that fail to live up to the ideal are "asymmetrical" insofar as one interlocutor has violated one or more of the norms embodied in the ideal speech situation. It may strike some as odd that rule 3 speaks of the rights secure under 1 and 2. Habermas is far from unique in making a case for language rights; Hobbes, Locke, and especially Mill argued for the right to be heard. More recently Annette Baier has endorsed Locke's argument for language rights in a way quite consistent with the Habermasian position sketched above. Baier argues that

if there is any basic right it is the right to be heard, to participate in normative discussion. One's first claim is the claim to a voice, to one's turn to speak and be listened to. It is to speech itself, and the cooperation needed to learn and use a language, to which we can turn to see where rights or protorights can always be found, and to see why disagreement about rights is normal once we can not only exercise or attempt to exercise our speakers rights but also speak about rights, to turn our discussion on to them. For disagreement is one of the distinctive cultural products that speech makes possible. Without speech there can be and (usually is) conflict, but not disagreement.¹¹

Animals, lacking language, lack any way to make proposals, and therefore cannot agree or disagree. Language makes it possible to be both in harmony and in conflict. "Where there is diction," says Baier, "there will be contradiction." But there will also be the means to resolve

differences so long as the option of communication is kept open. In Locke's *Some Thoughts Concerning Education* Baier sees an emphasis on what Habermas would call the pragmatics of speech. Education, among other things, is to be more an initiation into speech act competence, than an initiation restricted to grammar, vocabulary or composition. Locke, says Baier, is concerned that children learn to play an appropriate role in conversation, neither interrupting or continually contradicting what others are saying. Children should not engage in "loud wrangling," characterized by "positive asserting and the Magisterial Air."¹² Rather they should be taught to be more like

The Indians whom we call Barbarians [who] observe much more Decency and Civility in their Discourse and Conversation, giving one another a fair silent hearing, till they have quite done, and then answering them calmly without Noise or Passion.¹³

Among the uses of speech discussed by Hobbes is the power of signification made possible by language. Language, says Hobbes, makes it possible for us to "signify to one or another what they conceive or think of each matter, and also what they desire or fear, or have any other passion for." Reason, and "Right Reason" as Hobbes puts it is carried out by means of intersubjectively agreed upon "signes", and a shared standard of correct reasoning. Reason enable us to think in truth preserving ways, while right Reason settles disputes concerning what is true. "True and False", claims Hobbes, are attributes of Speech, not of Things. And where Speech is not, there is neither Truth nor Falsehood." What is to be viewed as right reason is up to no single person, "for no one man's Reason, nor the Reason of any one number of them, makes the certaintie." Hobbes drew authoritarian conclusions from the presence of disagreement quite unlike those of Habermas, but nonetheless saw in speech "the most noble and profitable invention...without which there would have been neither Commonwealth, nor Society, nor Contract, nor Peace." From Locke and Hobbes Baier draws the conclusion that "this noble invention" makes every language user a claimant, "one who advances verbal claims, listens to how they are received, defends them, and sometimes corrects, amends or retracts them. As participants in conversation we acquire the protorights to have our say, to affirm or deny what others say, to be heard."¹⁴

Both Baier and Habermas seem to agree that speech is a cooperative practice and as such

is bounded by normative rules which set up rights and obligations. The fulfillment of the conditions of ideal argumentation in Habermas' scheme (rules 1–3 above) requires a communicative context characterized by the autonomy of the participants. It is a particular sort of autonomy Habermas is arguing for: "the autonomy of each as a source of claims which have equal initial plausibility and of demands for justification to which others are obliged to respond."¹⁵ This remark is very close in spirit to Baier's discussion of language rights: "The language of rights is the language of speakers becoming conscious of themselves as individual participants in the cooperative practice of speech and other cooperative practices. Rights claimants are co-operators conscious of themselves as individuals, claiming what they see as their due share of the fruits of cooperation."¹⁶ The ideal speech situation forms the normative core of what Habermas terms communicative action, action that aims at mutual understanding/agreement, though it is derived less from a view of rights as from a view of the logical presuppositions of speech. The difference between Habermas' view and Baier's is, I think, one more of emphasis than kind, since both rest on an analysis of communication. Habermas' view of communication is best explicated in terms of the different intentions that lie behind *communicative action* and *strategic action*. Communicative action aims at reaching an understanding or agreement between interlocutors, while strategic action aims at bringing about some state of affairs other than mutual agreement or understanding. Habermas proposes two constitutive rules for communicative action. The first requires reciprocal openness with respect to the intentions and motives of interlocutors, and equal opportunities to express attitudes, feelings and needs. The second constitutive rule of communicative action ensures that any claim can be called into question. This rule requires equal opportunities "to order and resist orders, to permit and forbid, to make and extract promises, and to be responsible for one's conduct and demand that others are as well."¹⁷ Within the category of strategic action Habermas has marked out the category that is of most concern here, namely the category of 'systematically distorted communication'. The key to understanding systematically distorted communication is to be found in speech act theory.

Habermas employs the view developed by Austin and Searle that utterances are to be

understood as speech *acts* that potentially possess ethical significance.¹⁸ Speech acts have several functions—locutionary, illocutionary, perlocutionary—whose ethical import varies. The locutionary function of speech acts refers to the propositional content of an utterance, its literal meaning in other words, while the illocutionary function refers to the particular “force” of an utterance (e.g. an assertion, a threat, a promise). The perlocutionary function of a speech act is to bring about a consequence in the world; in that sense it is strategic. In the case of a threat by A directed at B, the threat itself has both a locutionary and an illocutionary function. That A’s threat actually frightens B is an effect of the locutionary and illocutionary force of the utterance. B’s feeling threatened is the perlocutionary consequence of the threat. For example, “to plunge into doubt” “to annoy”, “to placate”, “to mislead”, “to humiliate” are all perlocutions. Habermas is interested in perlocutions because they are the speech act which play the largest role in systematically distorted communication. As a rule imperative utterances are taken to epitomize perlocutions. We can distinguish, however, between two types of imperative: one that can be found in communicative action, and one that cannot. Imperatives that appeal to a shared normative context of legitimate authority (type 1) can be criticized by participants in dialogue, while imperatives that appeal to known positive or negative sanctions controlled by the person in power (type 2) typify coercive speech acts, and fall thus into the category of strategic action. Though speech act theory takes imperatives to be the model form of perlocutions, there is another class of perlocutions that are characterized by an intention to deceive or that are based on ulterior motives (type 3). In this type of perlocution a speaker has to succeed in communicating his illocutionary aim without revealing his ulterior motive. This sort of perlocution is an instance of *concealed* strategic action. On Habermas’s view perlocutionary aims of this sort differ from illocutionary aims in one essential respect: perlocutions depend on the hearer to take the act of communication to be solely illocutionary. A strategically acting speaker

has to achieve his illocutionary aim—that the hearer understand what is said and undertake the obligations connected with the acceptance of the offer contained in the speech act—without betraying his perlocutionary aim. This proviso lends to perlocutions the peculiarly asymmetrical character of concealed, strategic action. These are interactions in which at least one of the participants is acting strategically while he deceives other participants regarding the fact that he is not satisfying the conditions under

which illocutionary aims can normally be achieved.

The significance of these distinctions for educational contexts should be clear. When teachers pursue some goal from a position of institutionalized authority and fail to make clear to their students what justification there may be for a course of action they fail to engage the possibilities for coordinated communicative action between themselves and their students. Likewise when teachers pursue the illocutionary aims of reaching an understanding without appealing to the grounds for this understanding they fail as well to engage in communicative action. Teaching methods that involve concealed strategic action cannot help but contribute to the likelihood students will be indoctrinated since such methods provide no access to reasons at all. Habermas notes this feature of concealed strategic action:

When a speaker is pursuing undeclared ends with perlocutionary acts—ends on which the hearer can take no position at all [because they are unknown]—or when a speaker is pursuing illocutionary aims on which hearers cannot take a grounded position—as in relation to imperatives—the potential for the binding (or bonding) force of good reasons remains unexploited.¹⁹

Habermas is in agreement with philosophers as various as Wittgenstein, Austin and Dummett on the nature of understanding an utterance. “Speakers and hearers understand the meaning of a sentence when they know under what conditions it is true.”²⁰ But when the sole warrant for claims, offered or implied, is the authority of teachers and texts student understanding must perforce be more limited than it would be if a satisfactory evidential argument accompanied the claim. Students as well have little choice but to place these claims on the same epistemic footing, regardless of whether a particular claim is, as a matter of fact, well or feebly supported in the world of discourse. This puts students in an ethically as well as epistemically difficult position. To believe something carries ethical consequences since the beliefs we hold tend to be the beliefs we communicate to others. Given that false beliefs are more likely to lead to harm than true beliefs, we have, as Clifford argued, an ethical responsibility to believe only those things for which we have sufficient evidence. It is not simply prudent to be reflectively skeptical, it is ethical. Thus Clifford would insist, as we have seen, that “it is wrong everywhere and for anyone, to believe anything on insufficient evidence.”²¹ In this spirit Price observed that “the degree of our assent to a proposition ought to be proportioned to the strength

of the evidence for that proposition,” and yet frequently students have at best only testimonial evidence on which to base their beliefs. The situation may actually be much worse, for the testimonial basis for claims advanced in classrooms is more often implied than stated explicitly. So the idea that claims require support or that epistemically responsible agents strive to apportion their assent according to the strength of evidence remains out of view. Habermas terms such learning “non-reflexive learning” by which he means learning “which takes place in action contexts in which implicitly raised theoretical and practical validity claims are naively taken for granted and accepted or rejected without discursive consideration.”²² Communication strategies that rule out or minimize the opportunity for “reflexive” learning are fundamentally indoctrinatory, on this Habermasian account. So the general concern raised at the outset of this chapter is that skeptical worries related to the influence of authorities cast doubt on the faith some philosophers have in the rationality of belief on testimony and the reliability of cognitive authorities. My response has been to use these worries to provide something of a justification for initiating students into the practices of argumentation. There remain three specific problems with respect to cognitive authorities, the first of which concerns the interest relativity of knowledge and expertise.

THE INTEREST RELATIVITY OF KNOWLEDGE

A worrisome aspect of externalist accounts of justification is that they make plausible what has been termed “the authoritarian theory of knowledge”.²³ Of the arguments surveyed thus far, Allen’s is the purest example of cognitive authoritarianism. According to Allen, an authority’s say-so is one of the best reasons for believing anything. Hardwig as well lends what is likely unwitting support to an authoritarian theory of knowledge by making the following case:

- 1) Laypersons hold more beliefs than they can be expected to have evidence for.
- 2) Laypersons realize that there are others, experts, who possess the evidence required for holding a belief rationally.

These two considerations force one of two conclusions: either most of the beliefs held by laypersons are irrationally held, or laypersons are justified in deferring to epistemic authorities. To avoid skepticism we must favour the latter alternative. The upshot is that:

- 3) Laypersons are epistemically dependent for all but the beliefs on which they themselves are expert (i.e., in a position to know).
- 4) In most cases it is less rational to think for oneself than to defer to the relevant cognitive authorities.

Theses #3 and #4 form the foundation of the authoritarian theory of knowledge, according to which it is less rational to think for one p 5Xto which it is less rational to think for on since the cognitive division of labour ensures an adequate level of epistemic reliability in the pronouncements of others. The problem with this view is obvious. There is the distinct danger of placing the views of epistemic authorities beyond criticism, a move that has political and well as epistemological significance. It was part of Kant's intention in *What is Enlightenment?* to show the political dimension of cognitive authoritarianism. Cognitive authoritarianism does not invite us to argue, but to defer. It invokes the authority, not of reason, but of expertise.²⁴ Kant's essay therefore can be viewed an essay in the politics of reason, and a plea for the democratization of discourse through the public use of reason. So perhaps a few words on the politics of reason are called for.

A central thesis in the sociology of knowledge states that since the acceptance of knowledge claims benefits some people more than others, and disadvantages some more than others, we have reason to suspect that the generation and acceptance of knowledge claims will, to some degree, be a function of non-epistemic social relations, especially relations of power. So, for example, to the extent knowledge claims regarding the intelligence of women and non-Europeans have been generated by white males of European descent, we are seen to have reason to demand a higher standard of justification than the say-so of European males.²⁵ The sociology of knowledge, therefore, has traditionally been concerned with the politics of knowledge, the role of ideology in knowledge production and similar matters. It is not so often the case that philosophy of science is concerned with the politics of knowledge. Rather it has been argued that to the extent politics, ideology, or the pursuit of power have influenced scientific inquiry that inquiry fails to be objective.²⁶ We must distinguish between the processes of discovery and those of justification, however, since, on the traditional view, it matters little what sort of influences

motivated inquiry, or generated hypotheses. For example, the fact that Kekule first thought of benzene rings in a dream about snakes seizing their tails is seen in no way to take away from the value of his discovery.²⁷ What made the discovery scientifically important was not its genesis in dreams, but the careful observations and experiments that confirmed the hypothesis concerning the molecular structure of benzene. Social and political interests may determine the selection of research areas or problems, especially in this age of externally funded scientific research, but so long as such values do not influence the acceptance of hypotheses science remains objective. There is, however, a way in which objective science has a political, indeed a democratic dimension. From their European beginnings science and epistemology have been political insofar as they relied on democratic, anti-authoritarian premises. Both science and epistemology emerged as a challenge to the authoritative pronouncements of church leaders, soothsayers and monarchs. Zilsel, for example, argues that the decisive moment in the Scientific Revolution was the shift in the structure of cognitive authority that required the pronouncements of authorities be held accountable to experimental standards. Standards such as these are ineluctably egalitarian for they are tied to publicly observable phenomena that are accessible to people from all walks of life. Seen in this light, much of twentieth century epistemology, from the logical positivists to the naturalist turn, has been a tacit demand for the democratization of knowledge production. In the nineteenth and twentieth century this sentiment has been expressed in a variety of ways by Mill, Peirce, Dewey and Popper. In essence it has been argued that the democratization of access to knowledge production will increase the number and reliability of knowledge claims. Democratization of access ensures an increase in the level of mutual criticism knowledge claims are made subject to. Criticism of this sort serves epistemic goals by increasing the chances that subjective biases will be rooted out, as Mill said, “in the collision of adverse opinion”.²⁸ The commitment to democracy is perhaps most explicit in Popper’s notion of the “open society”.²⁹ Peirce feared that the authoritarian protection of belief would result if claims were not tested by a wide array of interrogators.³⁰ Indeed an infinitely wide and long parade of critics must, in principle, be assured if the truth is to be ascertained. Feyerabend’s emphasis on the “open” aspect of this society,³¹ and Lakatos’ emphasis on “society” itself testify to the social and political

ramifications of their epistemological views.³²

In one sense our accepting the views of experts should not represent any danger whatsoever. After all, experts, by definition, know more than lay persons. But there are other senses beside the analytic in which we can speak of expertise. Fuller claims the persuasiveness of the authoritarian theory of knowledge lies in its conflating the analytic, the empirical and the normative senses of the term.³³ With respect to the first it is part of the meaning of the term “expert” that one defers to her authority. On this reading one who does not defer to authorities simply does not understand the meaning of the term. Skeptics with respect to cognitive authority are irrational, therefore, in the sense they fail to acknowledge the semantic rules.³⁴

On an empirical reading the authoritarian theory of knowledge is an empirical generalization concerning rational belief formation in “knowledge-intensive” societies such as ours. Deference to cognitive authorities is rational because it is efficient. It enables both individuals and society in general to have more true beliefs and fewer erroneous beliefs with a minimum of effort. Individuals are thus able to conserve their knowledge-gathering efforts, while these same individual benefits are aggregated throughout society, thereby adding to the public good. A crucial element of this point, however, is that laypersons, either individually or collectively, have more of their epistemic needs met by adopting a policy of deference to epistemic authorities. Thus the case for cognitive authoritarianism depends on whether, in fact, laypersons have their epistemic needs satisfied by cognitive authorities. Let us consider a variety of ways in which a layperson’s epistemic needs may not be met by adopting a policy of deference to cognitive authorities.

To begin with, some arguments for cognitive authoritarianism beg the question. It is claimed that because expert testimony is reliable it would be foolish to ignore it. But this is not an argument so much as it is an uninformative analytic claim. Expert testimony, if expert, is by definition reliable. The situation facing the epistemically dependent is rarely as straightforward as this. The epistemically dependent do not know whether those who present themselves as authorities, are, in fact, authorities. You will recall from an earlier discussion of this matter that there are several considerations that epistemically dependent individuals need to bear in mind

when deliberating about who to believe. The first consideration concerns the need to determine the extent of one's epistemic dependence, since the degree of dependency will determine the sort of deliberation an agent ought to undertake. The second concerns a consideration of the various criteria relevant to evaluating the reliability of testifiers. DeGeorge distinguished between first and second order cognitive authorities.³⁵ For X to be a first order cognitive authority to Y, Y must be sufficiently knowledgeable in the relevant field to make an informed judgment regarding the extent of X's knowledge relative to his own. In this case it is an assessment of the testifier that is the basis for judging that person to be a first order authority. A reliance on those who testify to the reliability of X is the basis for judging X to be a second order authority. If Y knows little or nothing about R, then the ground for X's cognitive authority will not likely be an appraisal of X, so much as a reliance on others who have in some manner testified to the reliability of X. It needs to be stressed however that in cases where Y takes it on the authority of someone else that he (Y) should accept X as an authority the acceptance of this claim (made by someone else) also requires justification, just as accepting the word of X requires justification. The necessary amount of deliberation will vary case by case. For example, when I visit the doctor's office I have every reason to believe the physician's diploma on the wall is the final product of a set of assessments made by qualified medical authorities. To the extent that I am in no position to assess any of my doctor's claims I must trust the testimony (i.e., the diploma) of those who have judged the doctor competent to practice medicine. The doctor, therefore, is for me a second order authority. If I wonder at all about his reliability I might wonder about the quality of the medical school he attended, the number of years it has been since his competence was attested to, and whether those who certify doctors today would certify this one. My ignorance of the quality of medical training programs is such that much of my deliberation will be speculative. It is, however, the right *sort* of deliberation.

There are other considerations, however, in addition to questions concerning the knowledgeability of testifiers. Testifiers must be trustworthy, and their expertise relevant to the specific case at hand. The importance of these criteria is that they emphasize that belief on the testimony of authorities can be, at times, unreasonable. Not in every case will the reasons for

trusting authorities be as sound as with the example above. In some circumstances the disposition to consider the reliability of testifiers and those who certify them may prove more useful. Take, for example, the certification of teachers. In the first place a teaching certificate does not certify that the teacher is a cognitive authority in the domains she is called upon to teach. Even in cases where prospective teachers take their teacher training after completing a baccalaureate in faculties of arts or science, there will be many topics in the curriculum of which they have scant knowledge. Coursework in education faculties will do little to qualify them as cognitive authorities since the sort of competence attested to by authorities in education is not typically the sort in which we are interested when deliberating about who to believe in school. Moreover, those who train and certify teachers do not attend to the accuracy and reliability of a prospective teachers' knowledge claims so much as they attend to the candidate's skill in classroom management, planning and organization.³⁶

It has been the point of this discussion to show that there is more to the question of who to believe than one's simply resolving to believe cognitive authorities. It is important to teach children what is required for justification under ideal conditions before they can have much sense of the significance of the tradeoffs they may be tempted to countenance. It is also important to apprise teachers of the moral and epistemic significance of their posing as cognitive authorities on those issues where there is little doubt they are not cognitive authorities. The analytic sense of expertise glosses over the fact that not all de facto cognitive authorities are genuine authorities. Thus the analytic sense of expertise does not establish that one must accept the testimony of those who present themselves as authorities.³⁷ Oddly enough, neither does the empirical sense of expertise establish that one should accept the testimony of experts.

Neither the analytic and empirical senses of expertise establish that one must accept the testimony of epistemic authorities. They only establish that if someone possesses and displays the *relevant* expertise, we should defer to his authority. Under what circumstances might expertise be irrelevant to the epistemic needs of laypersons? The answer is to be found in the role played by interests in the determination of satisfactorily justified belief. The dissimilarity of interests between laypersons and experts can be considered in three different ways. On the basis of certain

interests a layperson may have what Fuller calls “a high threshold level for reliable expert testimony”, so high in fact that an expert cannot possibly satisfy it. Secondly the knowledge-interests of practitioners within a discipline are defined within the discipline in ways that don’t always converge with the interests of laypersons who seek expert advice. Let us consider these in turn.

If we note the divergence between the epistemic interests of experts and laypersons we will see that “disciplined” inquiry frequently has its own internal agendas that only periodically intersect with the cognitive interests of laypersons. What counts as knowledge in “disciplined” inquiry will in many cases be determined by reference to the internal agenda of a discipline, and not the epistemic needs of laypersons. The threshold of decidability for the acceptance of knowledge claims may be much lower among experts within a discipline than the threshold demanded by consumers of knowledge. The point of relevance for education is that thresholds of decidability for a particular claim may vary across individuals, and experts are not the only ones who may decide when that threshold has been reached. Laypersons will, therefore, have occasion to demand higher levels of epistemic support than might otherwise be called for by experts. The legitimate variation in epistemic interests between experts and non-experts poses a challenge to cognitive authoritarianism and will form one aspect of the case I will make for the democratization of discourse in classrooms.

Under some circumstances, then, lay criticism of expert opinion is a prerequisite of rational belief formation among laypersons. The argument for this view hinges on the assertion that the acceptability of claims, and the standards of epistemic justification by which these claims are judged will vary according to the interest one has in knowledge.

Let us assume expertise is tied to an established discipline or set of disciplines. It is clear that what constitutes expertise within a discipline is defined in large measure by the discipline itself. By this I don’t mean simply that governing bodies and professional associations confer degrees and licenses. Rather I mean that the discipline itself defines what is to count as knowledge within that discipline, and thereby defines for aspiring experts what must be known. This is not as trivial a claim as it may at first appear. Philosophers of science have noted that a

feature of established disciplines is the right to define certain variables as extraneous in hypothesis testing.³⁸ Established disciplines are able to rule certain variables as falling within the ambit of *ceteris paribus* clauses. Within the discipline at least these variables cannot be introduced to disconfirm a hypothesis. This point needs some elaboration.

Prior to the invention of the virtual vacuum in the seventeenth century the variables relevant to an understanding of classical mechanics were so diverse and complex that progress in mechanics was slow and undisciplined. With the invention of the virtual vacuum, that reduced the complexity of naturally occurring environments, it became possible to demonstrate the regularities between mass and acceleration. Thus the discipline of classical mechanics was born. The vacuum, that reduced the complexity among variables, made disciplined investigation possible. In the laboratory, mechanists could develop generalizations that, *ceteris paribus*, ought to hold true in the world at large.

Ceteris paribus clauses of one sort or another define a portion of the background assumptions that govern inquiry, and to this extent define what will count as necessary for the confirmation of hypotheses. *Ceteris paribus* clauses are prominent in most fields. But in fields such as meteorology and economics the large number of variables covered by *ceteris paribus* clauses highlight the dissimilarity of interests between experts in these fields and laypersons. For example, economists predict that when supply for a product increases and demand decreases the price for that product will fall, other things being equal. In practice this prediction proves wrong in the majority of cases, since among the conditions covered by the *ceteris paribus* clause are factors seldom if ever found in real markets: perfect competition, no government intervention, and ideal utility maximizers. The problem is that the economist is working in a theoretical “closed system” quite unlike the undisciplined environment out of which comes the motivation for the layman’s search for knowledge. I hasten to add it would be wrong to explain this failure of prediction in terms of the empirical falsity of an economic generalization. To do so would be to miss the fundamental difference between the kind of knowledge that interests economists and the kind that interests laypersons seeking useful knowledge. As the practitioner of a discipline, the economist typically relies on simplified models of market behavior and needn’t fear if his

predictions frequently prove incorrect. On the other hand the layperson acting as an economic agent has somewhat different interests that lead him to set a higher standard than that found in economics. The standard of reliability in the domain of economics will not serve equally well in the domain of business investment. Though the economist may know more about the behavior of ideal markets than the economic agent, he may not know enough about real markets to warrant the layperson's risking money simply on his say so. The layperson, therefore, needn't defer to the authority of the economist since this authority doesn't tend to satisfy his goals. Insofar as the problems pursued by researchers and the standards by which success in solving these problems arise within the discipline rather than from outside sources and concerns, it seems unlikely there will be much convergence between the goals of researchers and lay consumers of knowledge.

We have seen that there will be cases where knowledge claims may be justified within a discipline but rightly unjustified for laypersons whose interests demand a more rigorous standard of justification. By the same token there will be occasions when the criteria for determining the truth of statements in a well established discipline will be more exacting than that required by laypersons. The latter view is part of an argument by Hilary Putnam for the interest-relativity of explanation and justification.³⁹ On Putnam's view it is *not* a foolish bit of folk wisdom to insist there really are such things as tables and chairs, or cubes of ice, despite the fact that on a more scientifically rigorous reading tables and chairs or cubes of ice are not accurately described in terms of predicates like hard, cold or brown.

Disciplines have an internal history that makes them insensitive to the interests of those outside the discipline. The result is that in many cases while the discipline is able to make progress in the pursuit of answers to internally generated, 'disciplined' problems, they have few answers to many questions of importance in the 'undisciplined' world of the layperson. This is not simply a familiar point about the difference between pure and applied research, but rather an epistemological point. Much 'disciplined' knowledge fails to provide laypersons with either the explanatory power or predictive control that are the hallmarks of genuine knowledge. This is so because truth claims are not true in any absolute sense, but, as Putnam argues, they are instead true relative to a set of purposes. Putnam gives us examples of the dispute between those who

would insist that a table is not what it appears to the layperson—a solid, brown object with a particular shape—but is rather an entity more accurately described as empty, colourless space. Thus in mathematical physics what is real are not “medium sized material items” like tables and chairs, but congeries of particles—electrons and nuclei—that are separated by immense distances, at least in terms relative to the size of the particles. So much for the solidity of tables. What about colour? The table that appears to be reddish brown is not really reddish brown at all, according to mathematical physics, since secondary or dispositional properties like colour are not real properties at all. Red apples, red stars and water tinted red with food colouring appear red, we are told, for quite different physical reasons. Indeed there may be an infinite number of physical conditions that would explain why objects appear to be red. This degree of variability is too high to be tolerated by mathematical physics. So colours aren’t real. Nor are beliefs and desires. Such things, which come in and out of existence, are merely useful fictions for the scientifically unsophisticated. That so many people continue to speak as if objects are solid (or liquid) and possess a certain colour is due, it is said, to the persistence of a pre-scientific and naive folk wisdom. Our familiar tables and chairs simply don’t exist in the terms commonsense suggests they do. Putnam’s reply to this way of fixing reference is to relativize ontology in light of conceptual criteria whose justification lies in their usefulness. Putnam employs something he calls the ‘Polish logician argument’ to show that “the notions of object and existence have a multitude of different uses, rather than one absolute meaning.”⁴⁰ Consider a world containing only three objects. Depending on the way you fix the meaning of ‘object’ this same world can be counted as having not three objects, but seven.⁴¹ While one might want to insist that three objects can only be described as three objects, the Polish logician is able to insist on the number seven by supposing that for every two objects there is an object that is their sum. Thus on one reading we have three objects (x_1, x_2, x_3). On the other we have seven objects ($x_1, x_2, x_3, x_1+x_2, x_1+x_3, x_2+x_3, x_1+x_2+x_3$). The lesson to be derived from this example is that the same world can be described in one version as consisting of tables and chairs, and cubes of ice, while in another equally valid version as consisting of space-time regions, particles and fields. These two versions are not reducible to a single version that would allow us to ask—“Which are the real

objects?”—for that would be to suppose that we could ask or answer that question independently of our choice of concepts. In this sense James was right—What is true is that which is good in the way of belief. To argue in this way is not to argue that anything goes, but that human interests embodied in ordinary conceptual schemes or the more specialized conceptual schemes of experts yield slightly different conventions for determining what counts as knowledge, and therefore justified belief.

How can it be that interests play a role in fixing the standard of justified belief? Consider a well known example. A pressure cooker explodes because the pressure valve was stuck. Such an explanation may be perfectly acceptable to the layperson but is, from the perspective of some physicists and philosophers of science, nothing but a piece of “semi-magical Stone Age thinking”.⁴² A more scientifically respectable explanation would not invoke a stuck valve as the ‘cause’ of the explosion, but would talk instead in terms of exact laws and numerical coefficients: “The pressure increased in the closed container until a certain co-efficient was exceeded. The material then ruptured.” The commonsense explanation would pick out the sticking valve as the cause, though it was the wall of the cooker that ruptured. The reason for this choice, says Putnam, is that our commonsense notions of causation are bound up with our interests and intentions. The pressure valve was *designed* to release pressure; when it fails to perform the function for which it was designed *it* becomes for us the cause of the failure, while the feature of the cooker wall that ruptured becomes for us a background condition. What distinguished causes from background conditions in this account are the interests we have. Causes are therefore interest relative in commonsense explanation, and no less valid for all that. One can see, I think, that Putnam’s position here is very close to the one argued for by Fuller. Explanations, and therefore, knowledge, are interest-relative, though one can’t conclude from this that anything goes, or that *any* interest is a legitimate basis for accepting explanations.

Another of the specific problems identified at the outset relies on arguments in philosophy of science that offer epistemic and practical grounds for a levelling of the cognitive playing field. In these I again stress the social and fallible nature of knowledge production, and offer in virtue of this fact a view of objectivity that makes a place for epistemic independence. I will elaborate

four criteria of effective criticism that, if satisfied in the course of inquiry, should ensure more fully justified knowledge claims than those capable of being advanced solely from within expert communities of inquiry. It strikes me that these same criteria could serve as guidelines for the conduct of classroom discussion and argumentation.

OBJECTIVITY

The objectivity of science can be understood in two senses: the first pertaining to the character of the *conclusions* derived from scientific inquiry, and the second pertaining to the manner in which that *inquiry* has been carried out. It is Longino's contention that the second sense is primary; the objective nature of inquiry is what underwrites the objectivity of its conclusions.⁴³ The objectivity of inquiry is ensured by means of inter-subjective criticism. Her argument's relevance to this discussion is that she claims that inter-subjective criticism is too frequently restricted to those who already share many of the same background assumptions that have a bearing on inquiry. As a consequence scientific inquiry is less objective than it would be if it engaged the criticism of a broader network of interlocutors than that which is supplied from within a single community of inquiry. This is because a community of inquiry is one which is defined not only by a shared sense of purpose and shared standards of inquiry, but by commonly held and largely unexamined background beliefs as well. Both observation and inference, she says, depend upon background beliefs that by their nature are part of the unexamined background of any community of inquiry. To the extent the work of such a community is spared the criticism of those who do not share all these background assumptions the products of inquiry lack a degree of objectivity.

Longino insists that the history of science clearly reveals science to be value and ideology laden, but for all that capable of generating objective knowledge. The former claim sits well with some feminist scholars as well as some sociologists and historians of science. The latter claim regarding objectivity does not sit quite so well. Sociologists of science, since Kuhn, have claimed that non-rational causes account for the beliefs scientists come to hold. Typically these non-rational causes are social factors, such as the satisfaction of some class or gender interest, that lead scientists to adopt views that are in some way self serving. Forman, for example, argued that

physicists in Weimar Germany adopted a position akin to acausal quantum mechanics not on the basis of evidence (which was not yet available in any case), but on the basis of social pressure to conform to the anti-rational mysticism of the age.⁴⁴ Farley and Geison argue that the Pasteur's position in his dispute with Pouchet over the question of spontaneous generation was motivated by his political and religious views.⁴⁵ Shapin has argued that the debate over the scientific status of phrenology was motivated in the main by class conflicts between the well-educated gentry who scorned phrenology and the emerging middle classes who saw in phrenology a source of justification for their programs of social reform.⁴⁶

The standard position in philosophy of science has been to allow social factors an explanatory role in justification only in cases characterized by the failure of rationality.⁴⁷ Under normal circumstances the beliefs of scientists are to be explained by reference to their observations and inferences, that is by reference to the evidence, and not by reference to epistemically irrelevant social or political factors. Longino's position is that successful scientific inquiry is social, both empirically and conceptually. The empirical claim that inquiry is social is warranted by the fact that scientific inquiry just *is* more a social than an individual enterprise.⁴⁸ Conceptually, the cognitive practices of scientific inquiry are best *understood* as social practices.⁴⁹ Taken together the empirical and conceptual arguments yield a normative conclusion: "if science is to be non-arbitrary and minimize subjectivity, it *must* be a social practice."⁵⁰

The key to understanding this argument is understanding the relation between evidential reasoning and background assumptions. States of affairs in themselves do not carry the status of evidence of their own, they gain this status from beliefs that act as background assumptions in evidential reasoning. Put simply, states of affairs count as evidence by virtue of regularities that are believed or assumed to hold. There is as much variation in evidential relations between states of affairs and hypotheses as there are beliefs about the relations between states of affairs. For this reason hypotheses are always *underdetermined* by the data, which is to say:

- 1) The same state of affairs can be taken as evidence for different (and possibly conflicting) hypotheses.
- 2) Different states of affairs can be taken as evidence for the same hypothesis.

- 3) Different aspects of the same state of affairs can be taken as evidence for the same hypothesis.⁵¹

These three possibilities are available because a state of affairs is taken to be evidence that something else is the case in light of some background belief or assumption that asserts a connection between the two. Therefore the evidential support of a hypothesis is a relative matter. This conclusion seems to support a skeptical and radically relativist view of objectivity. For how is objectivity possible if hypotheses are underdetermined by the data? Must it be the case that radically relativist sociologists and historians of science are correct when they insist objectivity is mythical?

Longino's defense of the objectivity of science rests on her claim that the sociality of science is simultaneously a source of error and objectivity. As noted, evidential adequacy is a social matter insofar as observation and inference rely on background assumptions. In Longino's view, background assumptions are "the vehicles by which social values and ideology are expressed in inquiry and become subtly inscribed in theories, hypotheses, and models defining research programs."⁵² Inquiry is social in more obvious ways as well.⁵³ The fundamental practices of experimental science—observation and inference—are social in ways that carry normative significance. What is to count as an observation or a justified inference is most often a matter of negotiation among scientists. Scientific observations are social in the sense that they must be intersubjectively verifiable. Intersubjective agreement must obtain not only among participants in a particular experiment but among all others who seek to replicate the findings of the original researchers. Attempts at replication often result in a modification of what the observed regularities are taken to be.

To treat experiential information as constituting data or observations is to presuppose successful intersubjective verification or validation, that is, to treat them as the products of social interactions, *whether or not such interactions have actually taken place*. Secondly, observational data...do not consist in reports of any old observations, but in observation reports ordered and organized. This ordering rests on a consensus as to the centrality of certain categories, the boundaries of concepts and classes, the ontological and organizational commitments of a model or theory, etc. These social aspects of observation mean the impossibility of establishing a permanent and immutable (save by expansion) reservoir of data. To say that observational data are the least defeasible bases of hypothesis validation is to assign priority to observation and experience while allowing

that the ordering, organization, and importance of their results—data—can change.⁵⁴

Inference is made a social product through the influence of background assumptions. Inference plays two roles in scientific inquiry: establishing the evidential relevance of data, and evaluating hypotheses in light of data that has been judged relevant. Background assumptions are required on both occasions. Background assumptions that play a role in determining evidential relevance posit a connection between data and states of affairs described by the hypothesis. Assumptions that play a role in the acceptance of hypotheses may be either *substantive* assumptions regarding evidential relevance or *methodological* assumptions regarding the degree of evidential support necessary to justify accepting a particular hypothesis. Whichever assumptions are relied upon will be a function of consensus in the scientific community, and will, to a large extent, be tacitly held by scientists within this community, who as part of their training have come to accept these assumptions, often unwittingly. This is so because practices of observation and inference-making must presuppose some assumptions and their adequacy. In Wittgensteinian parlance these taken for granted assumptions are the “bedrock” foundation of justification and explanation. Their persistence attests to their historical ability to withstand the criticism of past members of the scientific community.

As in the case of observation, engaging in inferences that rely on such background assumptions presupposes their adequacy to the task. This adequacy is not (or not only) ascertained by comparison with observations, for obvious reasons. What demonstrable evidential relevance amounts to in practice is a requirement that background assumptions be successfully defended against various sorts of criticism. We can read consensus in a community as signalling belief that certain fundamental assumptions have endured critical scrutiny.⁵⁵

Even though the background assumptions that help define a community of inquiry are for the most part tacitly held they are in principle capable of being articulated. This in-principle publicity makes them capable of critical examination, modification or abandonment. Be that as it may the fact is such assumptions are less likely to be fully scrutinized by members of the community who hold them tacitly than by those for whom they are less transparent. Those with alternative points of view who do not belong to this epistemic community are more likely to question the assumptions upon which inquiry is based.

The upshot is that critical interchange is a necessary prerequisite of intersubjectively

agreed upon observation statements and inferences. Observation and inference making are in this sense social, and to the extent they are social, they help to eliminate the subjective bias of *individuals*. What is not so readily eliminated is the bias of the *community* embedded in its taken for granted background assumptions. It is a mistake to think that the *individual* is “the sole locus of variation, idiosyncrasy, or subjectivity. Scientific communities are constituted by adherence to certain values and assumptions, that go unexamined by a critical process involving only members of the community so defined.”⁵⁶ Since the unreflective acceptance of background assumptions can come to define what it is to be a member of an epistemic community the nature of these communities increase the chances these assumptions will not receive the critical scrutiny they would receive at the hand of others outside the community. It is for this reason that effective criticism depends on the presence and expression of alternative points of view.

The requirement of *demonstrable evidential relevance* (of data to hypotheses) constitutes a standard of rationality and acceptability independent of and external to any particular research program or scientific theory. The satisfaction of this standard by any program or theory is secured...by intersubjective criticism. The specification of demonstrability, however, will always be within a particular context. Both observational data and their evidential relevance are constituted in a context of background assumptions. This means that the empiricist principle can be applied within a context, but not independently of contextual considerations. While it is not possible to apply the empiricist principle across contexts, the requirement on demonstrability means that we can generate additional criteria for objectivity by reflecting on the conditions which make for appropriate criticism. These criteria operate on communities, hence on contexts.⁵⁷

Effective criticism to be effective must satisfy four criteria:

1. Recognized avenues for the criticism of evidence, of methods, and of assumptions and reasoning.

In the context of scientific research less value is placed on constructive criticism than on original research. The lower value on criticism represents a disincentive to engage in criticism, to devote journals to criticism, etc. In the context of schools and teaching this suggestion amounts to a recommendation that students have recognized avenues for the evaluation of arguments, the criticism of evidence, assumptions and reasoning. In the context of professional inquiry criticism would do much to make belief on testimony more reasonable. Though much less competent to

criticize within the frameworks shared by experts, students will have perspectives that are free from the assumptions that bind together members of an epistemic community. More important perhaps is that classrooms that provide recognized avenues for the evaluation of evidence and reasoning help to familiarize students with ideal conditions of justification.

2. The community as a whole takes such criticism seriously and responds to it.

This criterion requires that community members pay attention to and participate in the critical discussions that take place. In schools teachers serve as representatives of the communities of inquiry whose conclusions it is the teacher's job to convey, so it is they who must take seriously student objections, criticism, and the like.

3. There exist shared standards which critics can invoke.

To be effective, criticism must appeal to standards that are held by those whose views are being criticized. Without these shared standards it will be difficult if not impossible to find points of agreement and disagreement or what would count as a way to resolve the latter or problematize the former. Criticism seen as idiosyncratic or whimsical has little bite. With respect to this criterion the teacher's job is to make plain the sort of standard that would be recognized by authorities in the field, and to which students might successfully appeal when they object or disagree.

4. Intellectual authority is shared equally among qualified persons.

This criterion is meant to prevent a set of assumptions from being enshrined in orthodoxy by virtue of the political power of its adherents. It bears a close resemblance to Peirce's concern over the authoritarian protection of belief shared by Habermas, Apel and Putnam. Putnam argued that insofar as we are interested in acquiring true beliefs we are necessarily committed to several presuppositions that logically follow from a commitment to the truth. One such presupposition is that there can be no such thing as a statement which is true, that is, capable of withstanding all possible attempts to falsify it, unless there is the possibility of a community of critics who could put claims to the test. One consequence of this view is that if I see myself as a rational person with the aim and capacity for making true statements then I am committed to the idea of a

possible community of inquirers whose authority derives from a particular sort of structure characterized by internal openness to rational assessment.

The difference between Longino's point and Putnam's is that Longino is talking about real communities of inquiry where the relevant epistemic differences between individuals are not so great as one would find between adolescents and educated adults. Putnam's remarks concern the nature of an ideal community of inquirers. Nonetheless there are several points of agreement in their separate accounts. Both stress the role of intellectual freedom and equality in the assessment of knowledge claims. In both cases the point is to ensure that hypotheses receive the broadest range of criticism. Longino notes that the exclusion of women and certain racial minorities from science education and the scientific professions in the United States constitutes a violation of this last criterion of effective criticism. She observes that scholars have analyzed the manner in which assumptions about sex and gender structure many research programs in biology and the behavioral sciences, as well as the manner in which racial assumptions have found their way into research. So long as women and members of these minorities were unable to gain entry to the relevant scientific communities these assumptions were protected from critical scrutiny. That these assumptions are now coming to light is due in large measure to the growing number of women and minorities who have recently found access to the scientific professions. To some degree the exclusion of these groups from the scientific professions is due to the failure of educational institutions to respect the potential contribution to science these groups might provide and to cultivate this potential in the day to day deliberations about what to believe. Longino sums up her position on this matter in the following way:

What this criterion [of effective criticism] requires is that the persuasive effects of reasoning and argument be secured by properties internal to them (rather than in properties, such as social power, of those who are propounding them), and that every member of the community be regarded as capable of contributing to its constructive and critical dialogue....*Thus a community must not only treat its acknowledged members as equally capable of providing persuasive and decisive reasons, and must do more than be open to the expression of multiple points of view; it must also take active steps to ensure that alternative points of view are developed enough to be a source of criticism. That is, not only must potentially dissenting voices not be discounted, they must be cultivated* (emphasis added).⁵⁸

It is no doubt frequently the case that teachers and students are not "equally capable of

providing persuasive and decisive reasons”, especially if by this one means equally capable across *all* contexts. But the point here is more what ideals ought to govern the enterprise of teaching students that *x* is the case. There will be contexts in which the experience of a student is sufficiently different from those who advance claims to grant her an insight that others lack. And these contexts are difficult, if not impossible for teachers to predict. More to the point, perhaps, is the fact that opportunities to raise objections, test hypotheses, and offer criticism are fundamental starting points for developing the intellectual virtues and critical dispositions that are constitutive of epistemic independence. If potentially dissenting voices need to be cultivated for their role in professional criticism, as Longino suggests, let us begin this process of cultivating reasonable dissent sooner than we do at present. Let us begin with children and adolescents rather than with novice professionals whose freedom to disagree may prove harder to ensure.

Now on to the third issue specified at the outset of this chapter, that of the implications for fostering epistemic independence to arise from the problem of vindicating reason.

VINDICATING REASON BY MEANS OF DIALOGUE

In two of Kant’s minor political essays, *What is Enlightenment?* and *What is Orientation in Thinking?* autonomy is construed as intellectual freedom in debate.⁵⁹ Kant, here, defines enlightenment as “the practice of autonomy in thinking.”⁶⁰ Enlightenment, he says, is a *process* whereby individuals begin to emerge from natural and social forms of heteronomy, not as individuals, but as “a people”.⁶¹ This stress on community is something of a deviation from the picture of Kant found in many commentaries that depict autonomous action as “the pursuit of our deeper or more substantial preferences.”⁶² The unit of analysis has been that of the individual engaged in a solitary exercise of practical reasoning. Kant can be read in another way, especially if some attempt is made to connect remarks from these political writings with the *Critique of Pure Reason*, the *Groundwork* and the *Critique of Judgment*.⁶³ The view that then emerges stresses the public and intersubjective aspects of critical reflection, and the role this criticism plays in the vindication of reason.

There is, in *What is Enlightenment?* and *What is Orientation in Thinking?*, the promising suggestion that autonomy is best understood in terms of the *public use of reason*.⁶⁴ The

argument is an unusual sort of communitarian one which states that autonomy, in addition to being a regulative ideal, is a set of practices that require for their exercise (and are presupposed by) a community characterized by respect for intellectual freedom. On this view, because there are no *antecedently* given standards that would vindicate reason, standards must be constructed in on-going and unrestricted debate. What makes this an odd sort of communitarian argument is the lack of any attempt to ground the standards of reason in a particular community. This is not a relativist or historicist thesis as much as a minimalist one, which, in steering a middle course between foundationalism and radical skepticism, offers the image of debating citizens as the defining metaphor of reason. Indeed, according to O'Neill, Kant's account of intellectual autonomy *just is* his account of reason: "Reason is nothing but the principle that informs practices of autonomy in thinking and doing.... [Kant] claims that only the principle of autonomy in thinking can have any general authority; hence autonomy is all there is to reason."⁶⁵

In the *Critique of Pure Reason* we also find a picture of reason which stresses its public and reflexively critical aspect, its self discipline, and constraint.

Reason must in all its undertakings subject itself to criticism; should it limit freedom of criticism by any prohibitions, it must harm itself, drawing upon itself a damaging suspicion. Nothing is so important through its usefulness, nothing so sacred, that it may be exempted from this searching examination, which knows no respect for persons. Reason depends on this freedom for its very existence. For reason has no dictatorial authority; *its verdict is always simply the agreement of free citizens, of which each one must be permitted to express, without let or hindrance, his objection or even his veto.*⁶⁶ (emphasis added)

This passage raises several questions. First, how does the very existence of reason depend on the public freedom of criticism? Second, in what sense does reason have no dictatorial authority, aside from the verdict of free citizens? The answer to these questions must begin with Kant's anti-foundationalism.

In the first *Critique* Kant poses an ironic question: what *is* the authority of reason? His answer is, as we have seen, that reason has *no* dictatorial authority; "*its verdict is always simply the agreement of free citizens, of which each one must be permitted to express, without let or hindrance, his objection or even his veto.*" What makes the question ironic is that reason is being asked to vindicate itself, an impossible task it would appear. If the vindication is provided by

reason, the vindication fails due to circularity. If the vindication is not reasoned, it is no vindication of reason. The question of reason's authority remains. In his attempt to vindicate reason Kant wished to avoid the errors which had plagued others' efforts in this regard. There are three sorts of error which concerned Kant. First, it would be unreasonable, he says, to ground one's belief in occult entities or other mysterious authorities. This is the error of Descartes' theism.⁶⁷ It is unreasonable also to suppose that thinking can be wholly arbitrary, or "lawless" as Kant put it. This is the mistake today of Baudrillard and other radically skeptical post-modernists.⁶⁸ Finally, it is unreasonable to assume that the principles of reason need only reflect some local authority, or conventional practice, a view held by Rorty.⁶⁹ The first and third attempts at vindication fail because they appeal to external authorities whose own authority is dubious. The second fails because it offers no vindication at all. On Kant's view reason is vindicated because it is law-like without submitting to any "alien" authorities. It is neither arbitrary or subservient. It is lawful, yet assumes no lawgiver. It is not the anarchy of well known defenders of Kant such as Wolff, for such anarchy amounts to little more than lawless self assertion.⁷⁰ Nor is it a matter of grounding one's belief in the alien authorities of church, state, or tradition, as Burke thought we must.⁷¹

The puzzle of how one might provide a non-circular, yet reasoned vindication is the main theme in the last pages of the *Critique of Pure Reason*. In the "Transcendental Doctrine of Method" Kant proposes in metaphorical terms a modest beginning to the task of building a conception of reason that can satisfy reason itself. Rather than attempt, as others have, to build a monumental structure resting on solid foundations, Kant insists that a less ambitious undertaking has a greater chance of succeeding, not least because we lack both the materials for a grand edifice and the means for co-ordinating the actions of workers who each possess a different blueprint from the other. The problem is one of conceiving the most suitable model of reason in a world characterized by a plurality of conflicting interests and perspectives.

If we look upon the sum of all knowledge of pure speculative reason as a building for which we have at least the idea within ourselves, it can be said that in the "Transcendental Doctrine of Elements" we have made an estimate of the materials, and have determined for what sort, height and strength of building they will suffice. Indeed, it turned out that although we had in mind a tower that would reach the heavens, yet the stock of material

was only enough for a dwelling house—just roomy enough for our tasks on the plain of experience and just high enough for us to look across the plain. The bold undertaking had come to nothing for lack of materials, quite apart from the babel of tongues that set workers against one another about the plan and scattered them across the earth, each to build separately following his design. Our problem is not just to do with materials, but even more to do with the plan. Since we have been warned not to risk everything on a favorite but senseless project, which could perhaps exceed our whole means, yet cannot well refrain from building a secure home, we have to plan our building with the supplies we have been given and also to suit our needs.⁷²

In the midst of these metaphors of construction we find reference to the problem of plurality and conflict—the babel of tongues has set workers against one another and dispersed them across the plain of experience. This theme of plurality and conflict is also discussed in metaphorical terms, not of construction, but of legal trials where contending parties appeal to the law via debate. Kant speaks of “the tribunal of reason” in terms which stress the necessity of interpretation and judgment, not the mechanical application of law. Kant makes clear that rules of any sort, including logical rules, are not self applying. Though tribunals may be furnished with laws, principles and precedents there is no algorithmic method for their application. O’Neill comments:

To have a tribunal is not to have an algorithm that the tribunal follows. If that were what tribunals did they would be redundant. Tribunals deliberate and reach verdicts; there are moves that they may not and had better not make as they move toward a verdict, but their charters and procedures do not fully determine every move.⁷³

The tribunal of reason is also furnished with certain materials—the manifolds and forms of intuition, categories of understanding, empirical concepts and algorithmic procedures in logic and mathematics—but these are insufficient to constitute the authority of reason or fully determine what is reasonable. Since the elements of human knowledge are not self constructing, they must be combined according to some plan or blueprint, even though no single plan is agreed to by those who need to reason together. In the absence of pre-established harmony between reasoners Kant offers only the idea of *discipline*, a sort of “negative instruction”, that guards against error, where reason disciplines itself by means of uncoerced communication and debate. This negative instruction is provided by the simple requirement that in debate any principles of reason which we employ must be of the sort that it is not impossible for others to follow; “any principle of thinking and acting that can have authority cannot enjoin principles on which some

members of a plurality cannot (not “would not”!) act.”⁷⁴

Though Kant does insist that enlightenment is to be achieved through the communicative efforts of the larger community it should be emphasized that Kant is not merely offering a version of the familiar Millian thesis that broad and free discussion will increase the likelihood of the truth emerging. Traditionally, liberal views like Mill’s hold that wide ranging, unfettered discussion will lead to new discoveries, reduce the number of false beliefs, or encourage us to hold our beliefs with greater flexibility. These instrumental justifications of free speech presuppose the existence of independent standards of reason that are readily at hand. Kant disputes this view of reason. The operative standards in debate are *presumed* to be reasonable. On Kant’s view, there is no reason to suppose these presumed standards are fully vindicated, and themselves beyond criticism. Enlightenment is a gradual process, as yet incomplete, in which a people release themselves from their immature “reason” by means of free and open debate of a particular sort. Out of this dialogue emerge standards of reason, that, temporarily at least, have passed the test of unconstrained intersubjective agreement. O’Neill notes this anti-foundational element in Kant’s constructivist account of reason:

Reason, on [Kant’s] account, has no transcendental foundation, but is rather based on agreement of a certain sort. Mere agreement, were it possible, would not have any authority. What makes agreement of a certain sort authoritative is that it is agreement based on principles that meet their own criticism. The principles of reason vindicate their authority by their stamina when applied to themselves....Reason’s authority consists simply in the fact that the principles we come to think of as principles of reason are the ones that are neither self-stultifying nor self defeating in use. The way to find which principles have this character is to encourage the increasingly public use of reason. Indeed if reason has no transcendent foundation, there is nothing else that we can do.⁷⁵

On this view there is a special significance to the claim that constructing the principles of reason is a collective, and not a solitary task. Nothing can count as a principle of reason if it demands submission to some unvindicated authority, and anything that does count as a principle of reason must be one that all persons can accept. It follows then that the principles of reason are those that *can* secure the possibility of intersubjective agreement. This does not mean that consensus must always be reached in discussion before we can be assured we’ve been reasonable. Rather, principles of reason must, in principle, be the sort to which all can agree. This also does

not mean that the principles of reason are only those that people actually do follow. Kant is not grounding reason in actual consensus, or in the conventions of a historical community. He grounds reason in the repudiation of principles that preclude the possibility of intersubjective agreement and communication. In essence Kant's account of reason can be expressed simply in terms of the categorical imperative applied to communication: "Act only on that principle through which you can at the same time will that it be a universal law."⁷⁶ Thinking, as well as acting, faces a simple and general constraint: adopt only principles that others can adopt and follow.

This discipline of reason, then, cannot be external; any thinking that submits to an external authority is at best deficient, subject to alien causes. Reasoning that is premised on external authorities is what Kant called a "private use of reason", in the sense of being a use restricted (*privatus*) by its submission to authority. Kant was well aware that such reasoning had its place, but nevertheless insisted that it could not serve as an adequate model of reason. Kant offers the following as examples of the private use of reason: the speech of officers to troops, of ministers to their congregations, or of government officials to taxpayers. These communications contain a tacit, and unjustified premise of submission to the authority of office. The private use of reason is further distinguished by its particular audience, one which has been restricted and defined by an authority. When Kant speaks of the communications of officials being private, private should not be taken to mean merely personal. Rather, what is private is the audience whose limited size is the result of a decision by some authority, whose restrictions may extend beyond size, and come to define the range of permissible opinions. O'Neill describes the limitation in the following way:

A communication that presupposes some authority other than that of reason may fail to communicate with those who are not subject to that authority; they can interpret it, if at all, only on the hypothesis of some claim that they reject. At some points in debates about such communication argument must stop and authority be invoked. Communications that cannot, however disseminated, reach those who do not accept or assume some authority are not full uses of reason at all. Communications that presuppose no external authority are even if they aim at and reach only a small audience, fit to be public uses of reason.⁷⁷

An interesting feature of this argument is that it can be used to evaluate the

communications between a teacher and her students. Such communications often presuppose some unvindicated external authority. Empirical research on classroom practice reveals the infrequency with which teachers offer epistemically relevant justifications for the knowledge claims they wish to advance. Analyses of classroom discourse show that teacher talk discourages genuine inquiry, and fosters either a reliance on authority as the ground for belief, or an indifference to the claims of teachers. The classroom audience is *restricted* in Kant's sense, as is the freedom to reason. By contrast, the classroom could conceivably be a place in which the criterion of publicity is given more weight than it typically enjoys. Reasonableness in the classroom could be modelled on the *sensus communis* found in the *Critique of Judgment*, and could be more governed than they are by the three maxims which, on Kant's view, allow reason to be law-like without any lawgiver, save the "agreement of free citizens." These maxims insist first that agents think for themselves; second, that they think from the standpoint of everyone else; and third, that they think consistently. The first of these maxims rules out heteronomous submission to "alien" authorities. If not buttressed by the second, the maxim of always thinking for oneself might encourage the arrogant solipsism that worries Telfer. The third maxim promises to balance the contradictory relation between the "lawlessness" of the first and the "lawlikeness" of the second by introducing the necessity of revision when beliefs conflict. Taken together, these maxims supply the self-discipline of reason, in which lawfulness minus the lawgiver is realized within a community of inquirers. Reason here is not an abstract principle, but as O'Neill says, a "process that neither submits to outside control nor fails to acknowledge differences of opinion and practice, and that treats resulting contradictions and tensions as an indefinitely extended demand for revision."⁷⁸ Kant's vindication of reason, in the end, is a vindication of *reasoning*, free of coercion or a reliance on unvindicated external authorities.

One should not conclude from this that reason is an all or nothing affair; even private uses of reason cannot be wholly arbitrary and still remain intelligible. Private uses of reason rather impede the *development* of public uses of reason. Enlightenment is a process, albeit one without end. In this process, insofar as they are intelligible, private uses of reason are "incipiently public," and can become more fully public by means of communications that aim beyond a restricted

audience to universal debate.

In sum, the standards of reason, like Peircean truth, are those that would be agreed to in the long run. What ensures that there will be a long run, at least on the Kantian view offered by O'Neill, is that parties to communication employ public and not private uses of reason. The Enlightenment Kant spoke of was a process more than an end-state, in which human beings, not yet enlightened, employ the "nearest-to-public" uses of reason available to them.

CONCLUDING REMARKS

Throughout this thesis it has been my aim to elucidate the nature of intellectual autonomy and demonstrate its value as a goal of education. That the nature and value of epistemic independence has been under appreciated is in some measure due, I suspect, to the extremism that has characterized discussions of intellectual autonomy over the last few decades. For that reason my argument has attempted to steer a course between a variety of polarized positions. There are some who have, in my view, underestimated the value of intellectual autonomy, or supposed our reliance on cognitive authorities and existing epistemic standards is entirely unproblematic. Among these are several who have, I think, exaggerated the epistemic prospects of the individual who would follow their advice and rely uncritically on the testimony of others. Conversely, some simply fail to appreciate that testimony is one of the chief means by which we come to know. There are also educationists who, in my view, have underestimated the capacity of children to benefit from educational arrangements that acknowledge and seek to extend whatever autonomy children may already possess. To the extent their arguments have been persuasive there must appear to be little reason to promote intellectual autonomy in schools. My position, in contrast, acknowledges the rational capacities of children, and recognizes the contribution of internalist intuitions to our sense of being justified in belief, without viewing the internalist condition as necessary or sufficient for justification. For all that it is still a good thing for an agent to know what justifies her belief, and this concession alone is enough to provide a *prima facie* case for including the practices of epistemic justification among the goals of education. In order to prepare children to be epistemically virtuous they must have some sense of what is to count as being justified. It is this sense of what it is to be justified in belief that helps to

underwrite belief on testimony, and gives the *concept* of being justified the hold on us that it has, and deserves. By means of experience in the *practice* of attempting to justify beliefs children may come to possess the *concept* of being justified in holding a belief. To have this concept and feel its force is to be committed to epistemically responsible action. So an initiation into our social practices of justification will provide not only a sense of what has to be specified in order to succeed in justifying a belief, in meeting challenges, etc., it will provide the experience necessary for developing a particular rational passion, a commitment to holding one's beliefs on the basis of good reasons. Even externalists admit there is a place for this, for it is obvious that the world is not so free of error and distortion that all we ever need to do is trust what others tell us. There is a place for thinking about what to believe, even if some philosophers have exaggerated the need to examine critically the claims that are put before us.

¹Philip Kitcher, "Authority, Deference, and the Role of Individual Reason," in *The Social Dimensions of Science*, ed. Ernan McMullin (Notre Dame, IN: University of Notre Dame Press, 1992), 244–271.

²See, for example, Harry Collins, *Changing Order* (London: Sage, 1985); Bruno Latour, *Science in Action* (Cambridge, MA: Harvard University Press, 1987).

³Kitcher cites Karl Popper, Larry Laudan, Imre Lakatos and Clark Glymour as proponents of this view among philosophers, while Alexander Koyré and Charles Gillespie are among the historians listed. See Kitcher, "Authority, Deference, and the Role of Individual Reason," 245–246 and 268–269.

⁴See Stephen L. Esquith, "Political Theory and Political Education," *Political Theory* 20, no. 2 (1992): 247–273.

⁵*Ibid.*, 253.

⁶Kitcher, 265.

⁷*Ibid.*, 266.

⁸Hilary Putnam, "Equality and Our Moral Image of the World," *The Many Faces of Realism* (LaSalle, IL: Open Court, 1987), 53.

⁹*Ibid.*, 54.

¹⁰Stephen K. White, *The Recent Work of Jurgen Habermas: Reason, Justice and Modernity* (Cambridge: Cambridge University Press, 1988), 56.

¹¹Annette Baier, "Claims, Rights, Responsibilities," in *Prospects for a Common Morality*, ed. Gene Outka and John P. Reeder, Jr. (Princeton, NJ: Princeton University Press, 1993), 154.

¹²John Locke, *Some Thoughts Concerning Education* (Menston, England: Scholar Press, 1970), §145.

¹³*Ibid.*, §145.

¹⁴Baier, 159.

¹⁵White, *The Recent Work of Jurgen Habermas*, 56.

¹⁶Baier, 159.

¹⁷Jurgen Habermas, "Wahrheitstheorien," in *Wirklichkeit und Reflexion: Walter Schutz zum 60 Geburtstag*, ed. H. Fahrenbach (Pfullingen: Neske, 1973), 256.

¹⁸There is some dispute as to whether perlocutions are acts or whether they are more properly termed 'upshots'. If perlocutions are upshots, then talk of ethical responsibility is out of place. Unfortunately, there does not seem to be any tidy way of distinguishing between what Habermas calls perlocutions and the effects they may have on others. So it is not perfectly clear that speech act theorists are mistaken in thinking perlocutions are acts. Regardless of how this dispute is to be resolved I don't think the issue bears directly on the point under discussion, which is that there is a type of communicative venture, speech act, if you will, which is strategically concealed and manipulative.

¹⁹Habermas, *The Theory of Communicative Action*, 305.

²⁰*Ibid.*, 277.

²¹W. K. Clifford, *Lectures and Essays*, 2. (London: Macmillan, 1979), 186.

²²Jurgen Habermas, *Legitimation Crisis* (Boston: Beacon Press, 1975), 15.

²³Steve Fuller, *Social Epistemology* (Bloomington: Indiana University Press, 1988).

²⁴By now it should be clear that a reliance on expert testimony is capable of being justified on epistemic grounds, so Kant's distinction may be viewed as overdrawn.

²⁵See Stephen Jay Gould, *The Mismeasure of Man*. (New York: Harper and Row, 1981) for a discussion of this sort of biased scientific undertaking.

²⁶Larry Laudan, *Progress and Its Problems* (Berkeley: University of California Press, 1977).

²⁷Kekule's own report of this incident is quoted in W. I. B. Beveridge, *The Art of Scientific Investigation* (London: Heinemann, 1957), 56.

²⁸John Stuart Mill, *On Liberty* (New York: The Liberal Arts Press, 1956).

²⁹Karl Popper, *The Open Society and its Enemies* (London: Routledge and Kegan Paul, 1966).

³⁰Charles Sanders Peirce, *Charles S Peirce: Selected Writings*, ed. Philip P. Wiener (New York: Dover, 1966).

³¹Paul K. Feyerabend, *Against Method* (London: New Left Books, 1975).

³²Imre Lakatos, "Falsification and the Methodology of Scientific Research Programs" in *Criticism and the Growth of Knowledge*, ed. I. Lakatos and A. Musgrave (Cambridge: Cambridge University Press, 1970); "Proofs and Refutations, II" *British Journal for the Philosophy of Science* 14 (1963): 120-139.

³³Fuller, *Social Epistemology*.

³⁴See Jonathan Bennett, *Rationality* (London: Routledge and Kegan Paul, 1964) for a discussion of this type of irrationality.

³⁵DeGeorge, Richard T. *The Nature and Limits of Authority*. Lawrence, KN: University of Kansas Press, 1985.

³⁶Deborah P. Britzman, *Practice Makes Practice: A Critical Study of Learning to Teach* (Albany, NY: State University of New York Press, 1991); Judith E. Lanier and Judith W. Little, "Research on Teacher Education," in *Handbook of Research on Teaching*, 3d ed., ed. M. C. Wittrock (New York: Macmillan, 1986), 525-569; Norma I. Mickelson, "The Role of the Practicum in the Preparation of Teachers," in *Teaching, Schools and Society*, ed. Evelina Orteza y Miranda and Romulo F. Magsino (London: The Falmer Press, 1990).

³⁷Stich and Nisbett, Hardwig, Goldman and Allen employ this move and conflate the analytic and the empirical senses of expertise in their respective arguments. The move is a simple one: first supply an example where a layperson must decide whether or not to accept expert testimony, then conclude that it would be irrational not to accept expert testimony.

³⁸Georg von Wright, *Explanation and Understanding* (Ithaca: Cornell University Press, 1971); Karl Otto Apel, *Understanding and Explanation* (Cambridge, MA: The MIT Press, 1984); Roy Bhaskar, *A Realist Theory of Science* (Brighton: Harvester Press, 1980).

³⁹Hilary Putnam, *The Many Faces of Realism* (LaSalle, Illinois: Open Court, 1987).

⁴⁰*Ibid.*, 19.

⁴¹*Ibid.*, 32-33.

⁴²*Ibid.*, 39.

⁴³Longino, Helen E. "Essential Tensions—Phase Two: Feminist, Philosophical, and Social Studies of Science." In *The Social Dimensions of Science*, ed. Ernan McMullin. Notre Dame, IN: University of Notre Dame Press, 1992.

⁴⁴Paul Forman, "Weimar Culture, Causality and Quantum Theory, 1918–1927: Adaptation by German Physicists and Mathematicians to a Hostile Intellectual Environment," in *Historical Studies in the Physical Sciences* 3, ed. R. McCormach (Philadelphia: University of Pennsylvania Press, 1971).

⁴⁵J. Farley and C. Geison, "Science, Politics and Spontaneous Generation in Nineteenth-Century France: The Pasteur-Pouchet Debate," *Bulletin of the History of Medicine*. 48 (1974): 16(1–198.

⁴⁶S. Shapin, "The Politics of Observation: Cerebral Anatomy and Social Interests in the Edinburgh Phrenology Disputes," in *On the Margins of Science: The Social Constructions of Rejected Knowledge*, ed. Roy Wallis (Keele: Sociological Review Monographs 27, 1979), 139–178.

⁴⁷Laudan, *Progress and Its Problems*.

⁴⁸See Sharon Traweek, *Beamtimes and Lifetimes* (Cambridge, MA: Harvard University Press, 1988) and Peter Galison, *How Experiments End* (Chicago: University of Chicago Press, 1987) for examples of the social production of knowledge.

⁴⁹See Alasdair MacIntyre, *After Virtue* for an elaboration of this point. See as well what Majorie Greene makes of MacIntyre's argument in her "Perception, Interpretation and the Sciences," in *Evolution at a Crossroads*, ed. David Depew and Bruce Weber (Cambridge, MA: MIT Press, 1985).

⁵⁰Longino, "Essential Tensions," 205.

⁵¹*Ibid.* 205.

⁵²*Ibid.*, 204.

⁵³*Ibid.*, 205.

⁵⁴*Ibid.*, 206.

⁵⁵*Ibid.*, 207.

⁵⁶*Ibid.*, 209.

⁵⁷*Ibid.*, 210.

⁵⁸*Ibid.*, 211.

⁵⁹Immanuel Kant, "What is Enlightenment?" In *Foundations of the Metaphysic of Morals*. Translated by Lewis White Beck. New York: Liberal Arts Press, 1959; "What is Orientation in Thinking?" in *The Political Writings of Kant* Hans Reiss, ed. (London: Cambridge University Press, 1990).

⁶⁰Kant, "What is Enlightenment?", 32.

⁶¹Ibid.

⁶²See Harry Frankfurt, "Freedom of the Will and the Concept of a Person." *Journal of Philosophy* 68 (1971): 5–20; Richard Lindley, *Autonomy* (London: Macmillan, 1986).

⁶³Immanuel Kant, *Critique of Pure Reason*, trans. Norman Kemp Smith (London: Heinemann, 1933); *Groundwork of the Metaphysic of Morals*, trans. H. J. Paton (New York: Harper and Row, 1964); *Critique of Judgment*, trans. Norman Kemp Smith (London: Heinemann, 1936).

⁶⁴Onora O'Neill, *Constructions of Reason: Explorations of Kant's Practical Philosophy* (Cambridge: Cambridge University Press, 1989); Putnam, *The Many Faces of Realism; Realism With A Human Face*; Habermas, *Moral Consciousness and Communicative Action*.

⁶⁵Onora O'Neill, "Vindicating Reason," in *The Cambridge Companion to Kant*, ed. Paul Guyer (London: Cambridge University Press, 1992), 299.

⁶⁶Kant, *Critique of Pure Reason*, A738/B766.

⁶⁷Rene Descartes, *Discourse on Method* (New York: Liberal Arts Press, 1950).

⁶⁸Jean Baudrillard, *Selected Writings*, ed. Mark Poster (Stanford: Stanford University Press, 1988).

⁶⁹Richard Rorty, *Consequences of Pragmatism* (Minneapolis: University of Minnesota Press, 1982).

⁷⁰Robert Paul Wolff, *In Defense of Anarchism* (New York: Harper and Row, 1970).

⁷¹See Edmund Burke, *Reflections on the Revolution in France* (Indianapolis: Hackett Publishing Co., 1993) for the view that society rests on "prejudice," not reason. By prejudice Burke meant habitual allegiance and affection for constituted authorities and the traditions they were dedicated to upholding.

⁷²Kant, *Critique of Pure Reason*, A707/B735.

⁷³O'Neill, *Constructions of Reason*, 18.

⁷⁴Ibid., 20.

⁷⁵Ibid., 38.

⁷⁶Immanuel Kant, *Groundwork of the Metaphysic of Morals*, trans. H. J. Paton (New York: Harper and Row, 1964), 30.

⁷⁷O'Neill, *Constructions of Reason*, 34.

⁷⁸O'Neill, "Vindicating Reason," 301.

BIBLIOGRAPHY

- Adams, Hazard. *Antithetical Essays in Literary Criticism and Liberal Education*. Tallahassee: Florida State University Press, 1990.
- Allen, R. T. "Because I Say So!: Some Limitations Upon the Rationalisation of Authority." *Journal of the Philosophy of Education* 21, no. 1 (1987): 15–24.
- . "I'll Say It Again: A Rejoinder to Jim Mackenzie." *Journal of the Philosophy of Education* 22, no. 1 (1988): 113–114.
- . "Rational Autonomy: The Destruction of Freedom." *Journal of the Philosophy of Education* 16, no. 2 (1982): 199–207.
- Alpert, M. I. and W. T. Anderson. "Optimal Heterophily and Communication Effectiveness—Some Empirical Findings." *Journal of Communication* 23 (1973): 328–343.
- Alston, William. "An Internalist Externalism." Chap. in *Epistemic Justification: Essays in the Theory of Knowledge*. Ithaca, NY: Cornell University Press, 1989.
- . "Concepts of Epistemic Justification." Chap. in *Epistemic Justification: Essays in the Theory of Knowledge*. Ithaca, NY: Cornell University Press, 1989.
- . "Internalism and Externalism in Epistemology." Chap. in *Epistemic Justification: Essays in the Theory of Knowledge*. Ithaca, NY: Cornell University Press, 1989.
- . "The Deontological Conception of Epistemic Justification." Chap. in his *Epistemic Justification: Essays in the Theory of Knowledge*. Ithaca, NY: Cornell University Press, 1989.
- Annis, David B. "A Contextualist Theory of Epistemic Justification." *American Philosophical Quarterly* 15, no. 3 (1978).
- Apple, Michael. *Teachers and Texts: A Political Economy of Class and Gender*. New York: Routledge and Kegan Paul, 1989.
- Apple, Michael and Susan Jungck. "You Don't Have to be a Teacher to Teach This Unit: Teaching, Technology and Control in the Classroom." In *Understanding Teacher Development*, ed. Andy Hargreaves and Michael Fullan. New York: Teachers College Press, 1992.
- Arends, Richard L. *Learning to Teach*. New York: McGraw Hill, 1991.
- Armstrong, David M. *Belief, Truth, Knowledge*. London: Cambridge University Press, 1973.
- Austin, J. L. "Other Minds." *Philosophical Papers*. Oxford: Oxford University Press, 1961.
- Aviram, Aharon. "The Paternalistic Attitude Toward Children." *Educational Theory* 41, no. 2 (1991): 199–212.

- Ayer, A. J. *The Problem of Knowledge*. Harmondsworth: Pelican Books, 1956.
- Bach, Kent. "A Rationale for Reliabilism." *The Monist* 68 (1985): 240–257.
- Baier, Annette. "Claims, Rights and Responsibilities." In *Prospects for a Common Morality*, ed. Gene Outka and John Reeder, Jr. Princeton, NJ: Princeton University Press, 1993.
- Baier, Kurt. "Moral Autonomy as an Aim of Moral Education." In *New Essays in the Philosophy of Education*, ed. Glenn Langford and D. J. O'Connor. London: Routledge and Kegan Paul, 1973.
- . "Autarchy, Reason, and Commitment." *Ethics* 100, October (1989): 93–107.
- Baldwin, Patricia and Douglas Baldwin. "The Portrayal of Women in Classroom Textbooks." *Canadian Social Studies* 26, no. 3, Spring (1992): 110–114.
- Ball, Stephen J. *Foucault and Education: Disciplines and Knowledge*. London: Routledge, 1990.
- Barrow, Robin. "Skill Talk." *Journal of the Philosophy of Education*, 21, no. 2 (1987): 187–214.
- Batcher, Elaine. *And Then There Were None...: A Report Commissioned by the Status of Women Committee*. Toronto: Federation of Women Teachers of Ontario, 1975.
- Baudrillard, Jean. *Selected Writings*. Edited by Mark Poster. Stanford: Stanford University Press, 1988.
- Beauchamp, Tom L. and LeRoy Walters, eds. "Autonomy." In *Contemporary Issues in Bioethics*. 2d ed. Belmont, CA: Wadsworth Publishing Company, 1982.
- Beck, Isabel L. and Margaret G. McKeown. "Substantial and Methodological Considerations for Productive Textbook Analysis." In *Handbook of Research on Social Studies Teaching and Learning*, ed. James Shaver, 496–512. New York: Macmillan, 1991.
- Bellack, A. *The Language of the Classroom*. New York: Teachers College Press, 1965.
- Benn, Stanley I. *A Theory of Freedom*. Cambridge: Cambridge University Press, 1988.
- Benn, Stanley and R. S. Peters. *The Principles of Political Thought*, New York: Collier Books, 1964.
- Benne, Kenneth D. "The Locus of Educational Authority in Today's World." *Teachers College Record* 88, no. 1 (Fall 1986): 15–21.
- . *A Conception of Authority*. New York: Russell and Russell, 1971.
- . "Authority in Education." *Harvard Educational Review* (August, 1970).
- Bennett, Jonathan. *Rationality*. Indianapolis, IN: Hackett Publishing Company, 1989.
- Benson, John. "Who is the Autonomous Man?" *Philosophy* 58 (1983): 5–17.

- Berlin, Isaiah. *Four Essays on Liberty*. London: Oxford University Press, 1969.
- Bernstein, Richard J. *Habermas and Modernity*. Cambridge, MA: MIT Press, 1985.
- Beyer, Linda. "What Knowledge is of Most Worth in Teacher Education?" In *Educating Teachers: Changing the Nature of Pedagogical Knowledge*, ed. John Smyth. London: Falmer Press, 1987.
- Bloom, Benjamin, ed. *Taxonomy of Educational Objectives: Handbook 1: Cognitive Domain*. New York: David McKay, 1956.
- Blustein, Jeffrey. *Parents and Children: The Ethics of the Family*. Oxford: Oxford University Press, 1982.
- BonJour, Lawrence. *The Structure of Empirical Knowledge*. Cambridge, Massachusetts: Harvard University Press, 1985.
- . "Externalist Theories of Empirical Knowledge." *Midwest Studies in Philosophy* 5 (1980).
- Bonnett, Michael. "Authenticity, Autonomy and Compulsory Curriculum." *Cambridge Journal of Education* 6, no. 3 (1976): 107–121.
- Borich, Gary D. *Effective Teaching Methods*. Columbus, OH: Merrill, 1988.
- Bridges, David & Peter Scrimshaw. *Values and Authority in Schools*. London: Hodder and Stoughton, 1975.
- British Columbia Teachers Federation. *Women in Teaching Textbook Study*. Vancouver, 1975.
- Brock, Dan. "Paternalism and Promoting the Good." In *Paternalism*, ed. Rolf Sartorius. Minneapolis, MN: University of Minnesota Press, 1983.
- Brookover, Wilbur, N. V. Bradyn and M. Warfield. *Educational Policies and Equitable Education: A Report of Studies of Two Desegregated School Systems*. East Lansing, MI: Center for Urban Affairs, Michigan State University, 1981.
- Brophy, Jere. "Classroom Management and Organization." *Elementary School Journal* 83, no. 4 (1983): 265–285.
- Brophy, Jere E., and Thomas L. Good. *Looking Inside Classrooms*. New York: Harper and Row, 1987.
- . "Teacher Behavior and Student Achievement." In *Handbook of Research on Teaching*. 3d ed., ed. M. C. Wittrock, 328–375. New York: Macmillan, 1986.
- Brown, S. C., ed. *Philosophers Discuss Education*. London: The MacMillan Press, 1975.
- Buchanan, Allen E. and Dan Brock. *Deciding for Others: The Ethics of Surrogate Decision-Making*. Cambridge: Cambridge University Press, 1989.

- Buchmann, Margaret. "The Use of Research Knowledge in Teacher Education and Teaching." *American Journal of Education* 92, no. 4 (1984): 421–439.
- Buchman, Margaret and J. Schwille. "Education: The Overcoming of Experience." *American Journal of Education*. 92, no. 1 (1983): 30–51.
- Calder, B. J., C. A. Insko, and B. Yandell. "The Relation of Cognitive and Memorial Processes to Persuasion in a Simulated Jury Trial." *Journal of Applied Social Psychology* 4 (1974): 62–93.
- Callan, Eamonn. "Freedom and Schooling." *Journal of Philosophy of Education* 17, no. 1, 1983.
- . *Autonomy and Schooling*. Kingston: McGill-Queens University Press, 1988.
- Canter, L. and D. M. Canter. *Assertive Discipline*. Los Angeles: Canter and Associates, 1976.
- Carnois, Bernard. *The Coherence of Kant's Doctrine of Freedom*, translated David Booth, University of Chicago, Chicago, 1987.
- Carroll, John. "Authority and the Teacher." *Journal of Philosophy of Education* 13, 1979.
- Carter, Rosemary. "Justifying Paternalism." *Canadian Journal of Philosophy* 7 (1977): 133–145.
- Case, Roland. "On Taking Experts' Word for Things: Disagreeing with Battersby." Presented to the Northwest Philosophy of Education Society, Annual Meeting, 1991.
- . "Pulling the Plug on Appeals to Irrationality, Immaturity and Expediency." In *Philosophy of Education 1985*, ed. David Nyberg, 445–453. Normal, IL: Philosophy of Education Society, 1985.
- Chi, M. T. H., J. Feltovich, and R. Glaser. "Categorization and Representation of Physics Problems by Experts and Novices." *Cognitive Science* 5 (1981): 121–152.
- Chisholm, Roderick *Perceiving*. Ithaca, NY: Cornell University Press, 1957.
- . *Theory of Knowledge*. New York: Prentice Hall, 1989.
- Christman, John. "Constructing the Inner Citadel: Recent Work on Autonomy." *Ethics* 99, no. 1, 1988.
- . *The Inner Citadel: Essays on Individual Autonomy*. New York: Oxford University Press, 1989.
- Clifford, W. K. "The Ethics of Belief." *Lectures and Essays, Volume II*. London: MacMillan, 1879.
- Cohen, Stewart. "Knowledge, Context, and Social Standards." *Synthese* 73 (1987): 3–26.
- Coombs, Jerrold. "Critical Thinking and Problems of Meaning." In *Critical Thinking and Social Studies*, ed. Ian Wright and Carol LaBar. Toronto: Grolier, 1987.

- Copi, Irving. *Introduction to Logic*, 6th ed. New York: Macmillan, 1982.
- Crittenden, Brian. "Autonomy as an Aim of Education." In *Ethics and Educational Policy*, ed. Kenneth Strike and Kieran Egan. London: Routledge and Kegan Paul, 1978.
- Cuban, Larry. "Persistent Instruction: Another Look at Constancy in the Classroom." *Phi Delta Kappan* (September, 1986): 7–11.
- . *How Teachers Taught: Constancy and Change in American Classrooms: 1900–1980*. New York: Longman, 1984.
- Culver, Charles and Bernard Gert. "Paternalistic Behavior." *Philosophy and Public Affairs* 6 (1976): 45–57.
- . "The Justification of Paternalism." *Ethics* 89 (1979): 199–210.
- Dallmayr, Fred. "Habermas and Rationality." *Political Theory* 16, no. 4 (1988): 553–579.
- Danes, J. E., J. Hunter, and J. Woelfel. "Mass Communication and Belief Change: A Test of Three Mathematical Models." *Human Communication Research* 4 (1978): 242–253.
- Daniels, LeRoi B. "What is the Language of the Practical?" *Curriculum Theory Network*. (1974): 1–14.
- Davis, M. *The Perceived Seriousness and Incidence of Ethical Misconduct in Academic Science*. Ohio State University Press, 1989.
- Dearden, R. F. *The Philosophy of Primary Education*. London: Routledge and Kegan Paul, 1968.
- . "Autonomy and Education." In *Education and the Development of Reason*, ed. R. F. Dearden, P. Hirst and R. S. Peters, 58–75. London: Routledge and Kegan Paul, 1972.
- . "Autonomy as an Educational Ideal." In *Philosophers Discuss Education*, ed. S. C. Brown, 3–18. London: Macmillan, 1975.
- . "Freedom and the Development of Autonomy: A Reply to Victor Quinn." *Journal of Philosophy of Education* 18, no. 2 (1984): 271–273.
- , ed. "Autonomy and Intellectual Education." *Theory and Practice in Education*. London: Routledge and Kegan Paul, 1984.
- , ed. "Education and the Ethics of Belief." *Theory and Practice in Education*. London: Routledge and Kegan Paul, 1984.
- , ed. *Education and the Development of Reason*. London: Routledge and Kegan Paul, 1972.
- DeCastell, Suzanne. "Authority, Power and Resistance: Response to A. S. Carson." *The Journal of Educational Thought* 16, no. 3 (1982): 191–194.

- . “Epistemic Authority, Institutional Power, and Curricular Knowledge.” *The Journal of Educational Thought* 16, no. 1 (1982): 23–28.
- DeCorte, E., R. de Lieuw, & C. Leishant. *Learning and Instruction: European Research in an International Context*. London: Pergamon Press, 1987.
- DeGeorge, Richard T. *The Nature and Limits of Authority*. Lawrence, KN: University of Kansas Press, 1985.
- Descartes, Rene, *Discourse on Method*. New York: Liberal Arts Press, 1950.
- Dennett, Daniel. “Conditions of Personhood.” Chap. in *Brainstorms: Philosophical Essays on Mind and Psychology*. Cambridge, MA: MIT Press, 1981.
- Dewey, John. *Democracy and Education*. New York: Macmillan, 1916.
- Dews, Peter. *Logics of Disintegration*. London: Verso, 1987.
- Doyle, Walter. “Classroom Organization and Management.” In *Handbook of Research on Teaching*. 3d. ed., ed. M. C. Wittrock. New York: Macmillan, 1986.
- Doyle, Walter and K. Carter. “Academic Tasks in the Classroom.” *Curriculum Inquiry* 14 (1984): 124–149.
- Doyle, Walter and G. Ponder. “The Practicality Ethic in Teacher Decision-Making.” *Interchange* 8, no. 3 (1978): 1–12.
- Dreikurs, Robert. *Psychology in the Classroom: A Manual for Teachers*. 2d. ed. New York: Harper and Row, 1968.
- Dunlop, Frances. “On the Democratic Organization of Schools.” *Cambridge Journal of Education* 9, no. 1 (1979): 43–54.
- Dworkin, Gerald. “Paternalism.” *The Monist* 56 (1972): 64–84.
- . *The Theory and Practice of Autonomy*. Cambridge: Cambridge University Press, 1988.
- Edwards, A. and V. Furlong. *The Language of Teaching*. London: Heinemann, 1978.
- Elder, D. “Ability Grouping as a Self-Fulfilling Prophecy: A Micro Analysis of Teacher-Student Interaction.” *Sociology of Education* 54, no. 3 (1981): 151–161.
- Elgin, Catherine Z. “The Epistemic Efficacy of Stupidity.” *Synthese* 74 (1988): 296–310.
- Elster, John. *Ulysses and the Sirens*, Cambridge: Cambridge University Press, 1979.
- Emmer, E. T., Carol Evertson, J. Sanford, B. S. Clements, and W. E. Worsham. *Classroom Management for Elementary Teachers*. Englewood Cliffs, NJ: Prentice-Hall, 1984.

- . *Classroom Management for Secondary Teachers*. Englewood Cliffs, NJ: Prentice-Hall, 1984.
- Ennis, Robert. "A Conception of Critical Thinking." In *Proceedings of the Philosophy of Education Society 1979*, ed. Jerrold R. Coombs. Normal, IL: University of Illinois Press, 1979.
- Ericson, D. and F. S. Ellett, Jr. "Interpretation, Understanding and Educational Research." *Teachers College Record*, 83, no. 4 (1982): 497–513.
- Evertson, Carol. "Differences in Instructional Activities in Higher and Lower Achieving Junior High English and Math Classes." *Elementary School Journal*. 82, 4 (1982): 329–350.
- Farber, Paul. "Authority in Curriculum: A Sociocentric View." In *Philosophy of Education 1985*, ed. David Nyberg, 350–359. Normal, IL: Philosophy of Education Society, 1985.
- Feiman-Nemser, Sharon and Robert Floden. "The Cultures of Teaching." In *Handbook of Research on Teaching*. 3d ed., ed. Merlin C. Wittrock, 505–526. New York: Macmillan, 1986.
- Feinberg, Joel. "Harm to Self." *The Moral Limits of the Criminal Law* 3. New York: Oxford University Press, 1986.
- Feldman, Richard. "Book Symposium: Proper Functionalism." *Nous* 27, no. 1 (1993): 35–36.
- Fenstermacher, Gary. "A Philosophical Reconsideration of Recent Research on Teacher Effectiveness." In *Review of Research in Education*, 157–185. Itasca, Illinois: Peacock, 1979.
- . "On Learning to Teach Effectively from Research on Teacher Effectiveness." In *Time to Learn*, ed. C. Denham and A. Liebermann. Washington, DC: National Institute of Education, 1980.
- Feyerabend, Paul K. *Against Method*. New York: New Left Books, 1976.
- . "Realism and Instrumentalism: Comments on the Logic of Factual Support." *Philosophical Papers*, vol. 1. London: Cambridge University Press, 1985, 176–202.
- Firth, Roderick. "Are Epistemic Concepts Reducible to Ethical Concepts?" In *Values and Morals*, ed. Alvin Goldman and Jaegwon Kim. Dordrecht: D. Reidel Publishing Co., 1978.
- Fisher, Donald. "The Political Nature of Social Studies Knowledge." *The History and Social Science Teacher* 18, 4 (1983): 219–225.
- Flathman, Richard. *The Philosophy and Politics of Freedom*. Chicago: University of Chicago Press, 1987.
- Flew, Antony. *Sociology, Equality and Education*, London: Macmillan, 1976.

- Floden, Robert, Margaret Buchmann and L. R. Schwille. "The Case for the Separation of Home and School." Paper presented at the annual meeting of the American Educational Research Association, New Orleans, 1984.
- Foley, Richard. "Rationality, Belief and Commitment." *Synthese* 89 (1991): 365–392.
- Frankfurt, Harry. "Identification and Wholeheartedness." In *Responsibility, Character and the Emotions: New Essays in Moral Psychology*, ed. F. Schoeman. Cambridge: Cambridge University Press, 1987.
- . "Freedom of the Will and the Concept of a Person." *Journal of Philosophy* 68 (1971): 5–20.
- Freeman, Helen. "Authority, Power and Knowledge: Politics and Epistemology in the. "New" Sociology of Education." *Philosophy of Education*, 1980, ed. C. J. B. Macmillan. Normal, IL: Philosophy of Education Society, 1980.
- Fuller, Steve. "On Regulating What is Known: A Way to Social Epistemology." *Synthese* 73 (1987): 145–183.
- Fumerton, Richard. "The Internalism/Externalism Controversy." *Philosophical Perspectives* 2: *Epistemology*, 1988.
- Gage, N. L. and Margaret C. Needels. "Process-Product Research on Teaching: A Review of Criticisms." *The Elementary School Journal* 89, no. 3, 1989.
- Gardner, Peter. "Liberty and Compulsory Education." In A. Phillips Griffiths. *Of Liberty*. Cambridge: Cambridge University Press, 1983.
- Garrison, J. W. and C. J. B. MacMillan. "A Philosophical Critique of Process-Product Research on Teaching." *Educational Theory*, 33 (1984): 157–166.
- Gaskell, Jane. "Stereotyping and Discrimination in the Classroom." In *Precepts, Policy and Process: Perspectives on Contemporary Education*, ed. J. Donald Wilson and Hugh Stevenson. Calgary: Detselig, 1977.
- Gettier, Edmond. "Is Justified True Belief Knowledge?" *Analysis* 23 (1963): 121–123.
- Godfrey, Raymond. "John White and the Imposition of Autonomy." *Journal of Philosophy of Education* 18, no. 1 (1984): 115–117.
- Goldman, Alvin I. "What is Justified Belief?" In *Justification and Knowledge*, ed. George S. Pappas, 1–23. Dordrecht, Holland: D. Reidel Publishing Co., 1979.
- . "The Internalist Conception of Justification." In *Midwest Studies in Philosophy: Studies in Epistemology, Volume V*, ed. Peter A. French, Theodore E. Uehling, Jr. and Howard K. Wettstein, 27–52. Minneapolis: University of Minnesota Press, 1980.
- . *Epistemology and Cognition*. Cambridge, MA: Harvard University Press, 1986.

- . "Epistemic Paternalism." *Journal of Philosophy* 88, no. 3 (1991): 111-131.
- Good, Thomas L. and Jere Brophy. *Looking Inside Classrooms*, 5th ed. New York: Harper Collins, 1990.
- Goodlad, John. *A Place Called School: Prospects for the Future*. New York: McGraw Hill, 1984.
- Gouinlock, James. *Excellence in Public Discourse: John Stuart Mill, John Dewey and Social Intelligence*. New York: Teachers College Press, 1986.
- Government of Canada, *Report of the Royal Commission on the Status of Women in Canada*. Ottawa, 1970.
- Govier, Trudy. *A Practical Study of Argument*. California: Wadsworth, 1988.
- Green, Thomas. "A Topology of the Teaching Concept." In C. J. B. MacMillan and Thomas W. Nelson, *Concepts of Teaching: Philosophical Essays*. Chicago: Rand McNally, 1968.
- . *The Activities of Teaching*. New York: McGraw Hill, 1971.
- Grice, Paul. "Logic and Conversation." In *Syntax and Semantics 3: Speech Acts*, ed. Cole and J. L. Morgan. New York: Academic Press, 1975.
- Gump, V. "School Settings and their Keeping." In *Helping Teachers Manage Classrooms*, ed. D. L. Duke, Alexandria, VA: Association for Supervision and Curriculum Development, 1982.
- Gutman, Amy. "Children, Paternalism and Education: A Liberal Argument." *Philosophy and Public Affairs* 9, no. 4 (1980): 338-358.
- Habermas, Jurgen. "Wahrheitstheorien." In *Wirklichkeit und Reflexion: Walter Schutz zum 60 Geburtstag*, ed. H. Fahrenbach, Pfullingen: Neske, 1973.
- . *The New Conservatism: Cultural Criticism and the Historian's Debate*. Cambridge, MA: MIT Press, 1989.
- . *Moral Consciousness and Communicative Action*. trans. by Christian Lenhardt and Shierry Weber Nicholson, Cambridge, MA: MIT Press, 1990.
- . *The Philosophical Discourse of Modernity: Twelve Lectures*. Cambridge, Mass. MIT Press, 1990.
- . *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*. Cambridge, MA: MIT Press, 1991.
- Habibi, D. A. "The Status of Children in John Stuart Mill's Theory of Liberty." *Educational Theory* 33, no. 2 (1983): 61-72.

- Hammersley, Martin and Peter Woods, eds. *Life in School: The Sociology of Pupil Culture*. Milton Keynes, England: Open University, 1984.
- Hanson, R. A., and R. E. Schutz. "A New Look at Schooling Effects from Programmatic Research and Development." In *Making Change Happen?* ed. Dale Mann, 120–149. New York: Teachers College Press, 1978.
- Hardwig, John. "Epistemic Dependence." *Journal of Philosophy* 82, no. 7 (1985): 335–349.
- . "The Role of Trust in Knowledge." *Journal of Philosophy* 88, no. 12 (1991): 693–694.
- Hare, William. *Open-Mindedness in Education*. Montreal, McGill-Queens University Press, 1979.
- . *In Defence of Open-Mindedness*. Montreal: McGill-Queens University Press, 1985.
- Hargreaves, Andy. "Time and Teachers' Work: An Analysis of the Intensification Thesis." *Teachers College Record* 94, no. 1, 87–107.
- . *Curriculum and Assessment Reform*. Toronto: OISE Press, 1989.
- Hargreaves, Andy and Rouleen Wignall. *Time for the Teacher: A Study in Collegial Relations and Preparation Time Use Among Elementary School Teachers*. Toronto: Ontario Institute for Studies in Education, 1989.
- Harman, Gilbert. *Change in View: Principles of Reasoning*. Cambridge, MA: MIT Press, 1986.
- Haydon, Graham. "Autonomy as an Aim of Education and the Autonomy of Teachers." *Journal of Philosophy of Education* 17, no. 2 (1983): 219–228.
- Hetherington, Stephen Cade. "On Being Epistemically Internal." *Philosophy and Phenomenological Research* 51, no. 4 (1991): 855–871.
- Hirst, Paul. "Liberal Education and the Nature of Knowledge." *Knowledge and the Curriculum: A Collection of Philosophical Papers*. London: Routledge and Kegan Paul, 1974.
- . *Knowledge and the Curriculum*. London: Routledge and Kegan Paul, 1974.
- Hirst, Paul and R. S. Peters. *The Logic of Education*, London: Routledge and Kegan Paul, 1970.
- Hoetker, E. and W. Ahlbrand, Jr. "The Persistence of the Recitation." *American Education Research Journal* 6 (1969): 145–167.
- Hoy, W. "Organizational Socialization: The Student Teacher and Pupil Control Ideology." *Journal of Educational Research* 61 (1967): 153–155.
- . "The Influence of Experience on the Beginning Teacher." *School Review* 76 (1968): 312–323.

- . “Pupil Control Ideology and Organizational Socialization: A Further Examination of the Influence of Experience on the Beginning Teacher.” *School Review* 77 (1969): 257–265.
- Hoy, W. and R. Rees. “The Bureaucratic Socialization of Student Teachers.” *Journal of Teacher Education* 28, no. 1 (1970): 23–26.
- Hume, David. *A Treatise of Human Nature*, ed. L. A. Selby-Bigge, Oxford: Blackwell Books, 1978.
- . *An Enquiry Concerning Human Understanding*. Oxford: Clarendon Press, 1979.
- Hunt, L. “Character and Thought.” *American Philosophical Quarterly* 15 (1978): 177–186.
- Jackson, Philip. W. *Life in Classrooms*. New York: Holt, Rinehart & Winston, 1968.
- Johnson, James. “Habermas on Action.” *New German Critique* 19, no. 2, 1991.
- . “Habermas on Strategic and Communicative Action.” *Political Theory* 19, no. 2 (1991): 181–201.
- Johnson, Ralph and Blair, Thomas. *Logical Self-Defense*. Toronto: McGraw-Hill Ryerson, 1983.
- Kahneman, Daniel and Tversky, Amos. “On the Psychology of Prediction.” In *Judgment Under Uncertainty: Heuristics and Biases*, ed. Daniel Kahneman, Slovik, and Amos Tversky. Cambridge: Cambridge University Press, 1982.
- Kant, Immanuel. *Critique of Pure Reason*. Translated by Norman Kemp Smith, London: Heinemann, 1933.
- . “What is Enlightenment?” In *Foundations of the Metaphysic of Morals*. Translated by Lewis White Beck. New York: Liberal Arts Press, 1959.
- Kaplan, Laura Duhan. “Teaching Intellectual Autonomy: The Failure of the Critical Thinking Movement.” *Educational Theory* 41, no. 4 (1991): 361–370.
- Kaplan, Rochelle G., Takashi Yamamoto, and Herbert Ginsburg. “Teaching Mathematics Concepts.” In *Toward the Thinking Curriculum: Current Cognitive Research*, ed. Lauren B. Resnick and Leopold E. Klopfer. Yearbook for the Association of Supervision and Curriculum Development, 1989.
- Kaplan, Rochelle G. Burgess, and Herbert Ginsburg. “Children’s Mathematical Representations Are Not Always Mathematical.” *Genetic Epistemologist*. 1990.
- Kerr, Donna. “Teaching Competence and Teacher Education in the United States.” In *Handbook of Teaching and Policy*, ed. Lee S. Shulman and G. Sykes, 126–149. New York: Longman, 1983.
- Kim, Ki Su. “J. S. Mill’s Concept of Maturity as the Criterion in Determining Children’s Eligibility for Rights.” *Journal of Philosophy of Education* 24, no. 2 (1990): 235–243.

- . "Liberty, Authority, and Character Cultivation: John Stuart Mill's Revised Liberal Theories." *Educational Theory* 38, no. 3 (1988): 369–377.
- Kleinig, John. "Mill, Children and Rights." *Educational Philosophy and Theory*, 8 (1976): 1–16.
- . *Philosophical Issues in Education*. London: Croom Helm, 1982.
- Kohn, M. L. *Class and Conformity: A Study in Values*. Homewood, IL: Dorsey Press, 1969.
- Kohn, M. L. and C. Schooler. "Job Conditions and Personality: A Longitudinal Assessment of their Reciprocal Effects." *American Journal of Sociology*. 87, 6 (1982): 1257–1286.
- Kornblith, Hilary. "Ever Since Descartes." *The Monist* 68 (1985): 264–276.
- . "Naturalizing Rationality." In *Naturalism and Rationality*, ed. N. Garver and Hare, 115–133. Buffalo, NY: Prometheus Books, 1986.
- . "Some Social Features of Cognition." *Synthese*, 73 (1987): 27–41.
- Kounin, John. *Discipline and Group Management in Classrooms*. New York: Holt, Rinehart & Winston, 1970.
- Lakatos, Imre. "Falsification and the Methodology of Scientific Research Programs." In *Criticism and the Growth of Knowledge*, ed. I. Lakatos and A. Musgrave. Cambridge: Cambridge University Press, 1970.
- . "Proofs and Refutations, II." *British Journal for the Philosophy of Science*. 14 (1963): 120–139.
- Lanier, Judith and Judith W. Little. "Research on Teacher Education." In *Handbook of Research on Teaching*. 3d ed., ed. M. C. Wittrock, 525–569. New York: Macmillan, 1986.
- Larkin, Jill H. "The Role of Problem Representation in Physics." In *Mental Models*, ed. D. Gentner and A. L. Stevens. Hillsdale, NJ: Lawrence Erlbaum Associates, 1983.
- . "Enriching Formal Knowledge: A Model for Learning to Solve Problems in Physics." In *Cognitive Skills and Their Application*, ed. J. R. Anderson. Hillsdale, NJ: Lawrence Erlbaum Associates, 1981.
- Larkin, Jill H. and Ruth W. Chabay. "Research on Teaching Scientific Thinking: Implications for Computer Based Instruction." In *Toward the Thinking Curriculum: Current Cognitive Research*, ed. Lauren B. Resnick and Leopold E. Klopfer. Yearbook for the Association of Supervision and Curriculum Development, 1989.
- Larson, S. M. "Proletarianization and Educated Labour." *Theory and Society* 9 (1980): 131–175.
- Lashbrook, W. B., W. B. Snively, and D. L. Sullivan. "The Effects of Source Credibility and Message Information Quality onto the Attitude Change of Apathetics." *Communication Monographs* 44 (1977): 242–262.

- Laudan, Larry. *Progress and Its Problems*. Berkeley: University of California Press, 1977.
- Lehrer, Keith. "Social Information." *The Monist* 60, no. 4 (October 1977): 473–487.
- . *Theory of Knowledge*. London: Routledge, 1990.
- Lindley, Richard. *Autonomy*. London: Macmillan, 1986.
- Lipstadt, Deborah. *Denying the Holocaust: The Growing Assault on Truth and Memory*. New York: Free Press, 1993.
- Locke, John. *An Essay Concerning Human Understanding*. Oxford: Clarendon Press, 1979.
- Longino, Helen E. "Essential Tensions—Phase Two: Feminist, Philosophical, and Social Studies of Science." In *The Social Dimensions of Science*, ed. Ernan McMullin. Notre Dame, IN: University of Notre Dame Press, 1992.
- Lortie, Dan. *Schoolteacher*. Chicago: University of Chicago Press, 1975.
- Luke, Carmen, Suzanne DeCastell, & Allan Luke. "Beyond Criticism: The Authority of the School Text." *Curriculum Inquiry* 13, no. 2 (1983): 111–127.
- MacIntyre, Alasdair. "The Idea of an Educated Public." In *Education and Value: The Richard Peters Lectures*, ed. Graham Haydon. London: University of London, Institute of Education, 1985.
- . *Whose Justice? Which Rationality?* Notre Dame: University of Notre Dame Press, 1988.
- . *After Virtue*, Duckworth, London, 1981.
- MacKenzie, Jim. "Authority." *Journal of Philosophy of Education* 22, no. 1 (1988): 57–65.
- . "Because R. T. Allen Says So." *Journal of Philosophy of Education* 22, no. 1 (1988): 107–111.
- Magee, Bryan. *Popper*. London: Fontana, 1973.
- Marzano, Robert Ronald S. Brandt, Carolyn Sue Hughes, Beau Fly Jones, Barbara Z. Presseisen, Stuart C. Rankin and Charles Suhor. *Dimensions of Thinking: A Framework for Curriculum and Instruction*. Alexandria, VA: Association for Supervision and Curriculum Development, 1988.
- McHoul, A. "The Organization of Turns at Formal Talk in the Classroom." *Language in Society* 7 (1978): 183–213.
- McLaughlin, Milbrey Wallin. "What Matters Most in Teachers' Workplace Context?" In *Teachers' Work: Individuals, Colleagues and Contexts*, ed. Judith Warren Little and Milbrey Wallin McLaughlin. New York: Teachers College Press, 1993.

- McMahon, Christopher. "Autonomy and Authority." *Philosophy & Public Affairs* 16 (Fall, 1987): 303–328.
- McNeill, Linda. "Defensive Teaching and Classroom Control." In *Ideology and Practice in Schooling*, ed. Michael Apple and Lois Weiss. Boston: Routledge and Kegan Paul, 1983.
- McPeck, John. *Critical Thinking and Education*. New York: St. Martin's Press, 1981.
- Meyer, John W. "Levels of the Educational System and Schooling Effects." In *The Analysis of Educational Productivity*, vol. 11, ed. C. Bidwell and D. Windham. Cambridge: Ballinger, 1980.
- Mill, John Stuart. *On Liberty*. New York: The Liberal Arts Press, 1956.
- Miller, Max. "Learning How to Contradict and Still Pursue a Common End: The Ontogenesis of Moral Argumentation." In *Children's World and Children's Language*, J. Cook-Gumperz, ed. W. Corsaro & J. Streeck. Berlin: Mouton de Gruyter, 1986.
- Misgeld, Dieter. "Education and Cultural Invasion." In *Critical Theory and Public Life*, ed. John Forester. Cambridge, MA: MIT Press, 1985.
- Moore, James A. "Knowledge, Society, Power, and the Promise of Epistemological Externalism." *Synthese* 88 (1991): 379–398.
- Murdoch, Iris. *The Sovereignty of the Good*. London: Routledge and Kegan Paul, 1970.
- Murnane, Richard, Judith Singer, John Willett, James Kemple, and Randall Olsen. *Who Will Teach?* Cambridge, MA: Harvard University Press, 1991.
- Murphy, John. *Pragmatism: From Peirce to Davidson*. Boulder: Westview Press, 1990.
- Neiman, Alven Michael. "Education, Power and the Authority of Knowledge." *Teachers College Record* 88, no. 1 (Fall, 1986): 64–79.
- Nielsen, Kai. "Taking the Humanities Seriously." In *Tradition and Modernity: Contemporary Perspectives on the Humanities*, ed. David Wallace. Burnaby: The Institute for the Humanities, Simon Fraser University, 1983.
- Nisbett, Richard and Lee Ross. *Human Inference: Strategies and Shortcomings of Social Judgment*. New York: Prentice-Hall, 1980.
- Nisbett, Richard and Lee Ross. "Popular Induction: Information is Not Necessarily Informative." In *Judgment Under Uncertainty: Heuristics and Biases*, ed. Kahneman, Slovik, and Tversky, 112–113. Cambridge: Cambridge University Press, 1982.
- Norris, Christopher. *Spinoza & the Origins of Modern Critical Theory*. Oxford: Basil Blackwell, 1991.
- . *What is Wrong with Postmodernism?: Critical Theory and the Ends of Philosophy*. New York: Harvester Wheatsheaf, 1990.

- Nyberg, David. "Ambiguity and Constraint in the. "Freedom" of Free Schools." In *Ethics and Educational Policy*, ed. Kenneth Strike and Kieran Egan. London: Routledge and Kegan Paul, 1978.
- Nyberg, David & Paul Farber. "Authority in Education." *Teachers College Record* 88, no. 1 (1986): 2–14.
- O'Neill, Onora. *Constructions of Reason: Explorations of Kant's Practical Philosophy*. Cambridge: Cambridge University Press, 1989.
- . "Vindicating Reason." In *The Cambridge Companion to Kant*, ed. Paul Guyer. London: Cambridge University Press, 1992.
- . "Enlightenment as Autonomy: Kant's Vindication of Reason." In *The Enlightenment and Its Shadows*, ed. Ludmila Jordanova and Peter Hulme. London: Routledge, 1990.
- Oakes, J. *Keeping Track: How Schools Structure Inequality*. New Haven, CT: Yale University Press, 1985.
- Oakeshott, Michael. "Learning and Teaching." In *The Concept of Education*, ed. R. S. Peters. London: Routledge and Kegan Paul, 1967.
- Olafson, Frederick A. "Habermas as a Philosopher." *Ethics* 100 (April, 1990): 641–657.
- Ornstein, Allan C. *Strategies for Effective Teaching*. New York: Harper and Row, 1990.
- Page, R. N. "Lower-Track Classes at a College-Preparatory High School: A Caricature of Educational Encounters." A paper presented at the annual meeting of the American Educational Research Association, New Orleans, 1984.
- Paul, Richard. "Some Common Problem with Social Studies Texts." In *Critical Thinking Handbook: 6th to 9th Grades*. 172–176.
- Peters, R. S. "Authority." In *Political Philosophy*, ed. Anthony Quinton. Oxford: Oxford University Press, 1967.
- . "Reason and Habit: The Paradox of Moral Education." In *Moral Education in a Changing Society*, ed. W. Niblett. London: Faber and Faber, 1963.
- . *Authority, Responsibility and Education*, New York: Atherton Press, 1965.
- . *Ethics and Education*. London: Allyn and Unwin, 1966.
- , ed. *John Dewey Reconsidered*. London: Routledge and Kegan Paul, 1977.
- Phillips, D.C. "The Anatomy of Autonomy." *Educational Philosophy and Theory* 7, no. 2. 1975.
- . "Perspectives on Teaching as an Intentional Act." *The Australian Journal of Education*, 25 (1981): 99–105.

- . *Philosophy, Science, and Social Inquiry: Contemporary Methodological Controversies in Social Science and Related Applied Fields of Research*. Oxford: Pergamon Press, 1987.
- Polanyi, Michael. *Science, Faith and Society*. Chicago: University of Chicago Press, 1964.
- . *Personal Knowledge*. London: Routledge and Kegan Paul, 1968.
- . *Knowing and Being*. London: Routledge and Kegan Paul, 1969.
- Popkewitz, Thomas. "The Social Structure of Schools and Reform: A Case Study of IGE/S." In *Qualitative Evaluation: Concepts and Cases in Curriculum Criticism*, ed. G. Willis, 413–441. Berkeley: McCutchan, 1978.
- Popper, Karl Raimund. *The Open Society and Its Enemies*. London: Routledge and Kegan Paul, 1946.
- . "Intellectual Autobiography." In *The Philosophy of Karl Popper*, ed. Paul Arthur Schlipp, 3–181. LaSalle, Illinois: Open Court, 1974.
- Powell, A. E., E. Farrar, and David Cohen. *The Shopping Mall High School: Winners and Losers in the Educational Marketplace*. Boston: Houghton Mifflin, 1985.
- Price, H. H. *Belief*. New York: Humanities Press, 1969.
- Pring, Richard. "In Defense of Authority." In *Values and Authority in Schools*, ed. D. Bridges and Scrimshaw. London: Hodder and Stoughton, 1975.
- Putnam, Hilary. "Why Reason Can't Be Naturalized." *Realism and Reason: Philosophical Papers*, volume 3. Cambridge, Cambridge University Press, 1983.
- . *The Many Faces of Realism*. LaSalle, Illinois: Open Court Publishing, 1987.
- . *Realism With A Human Face*. Cambridge, MA: Harvard University Press, 1990.
- Quinn, Victor. "To Develop Autonomy: A Critique of R. F. Dearden and Two Proposals." *Journal of Philosophy of Education* 18, no. 2 (1984): 265–270.
- Quinton, Anthony. "Authority and Autonomy in Knowledge." *Proceedings of the Philosophy of Education Society* 5, no. 2 (1971): 205–224.
- . "On the Ethics of Belief." In *Education and Values: The Richard Peters Lectures*, ed. Graham Haydon (London: University of London, Institute of Education, 1987).
- Rajchman, John & Cornell West, eds. *Post-Analytic Philosophy*. New York: Columbia University Press, 1985.
- Relman, J. "Lessons from the Darsee Affair." *New England Journal of Medicine*. 308, no. 23 (1983): 1415–1417.

- Resnick, Lauren B. and Leopold E. Klopfer, eds. *Toward the Thinking Curriculum: Current Cognitive Research: Yearbook for the Association of Supervision and Curriculum Development*, Alexandria, VA: ASCD, 1989
- Rich, John Martin. "Autonomy and the Purposes of Schooling." *Educational Philosophy and Theory* 18 (October, 1986): 34–47.
- Roberts, K. "Will Power and the Virtues." *Philosophical Review* 93 (1984): 224–247.
- Rogers, E. W. *Diffusion of Innovation*. New York: Free Press, 1983.
- Rorty, Richard. *Consequences of Pragmatism*. Minneapolis: University of Minnesota Press, 1982.
- . "Thugs and Theorists." *Political Theory*, 15, 1987.
- Rosenak, Julia. "Should Children be Subject to Paternalistic Restrictions on their Liberties?" *Journal of Philosophy of Education* 16, no. 1, 1982.
- Rosenshine, Barak V. "Explicit Teaching." In *Talks to Teachers: A Festschrift for N. L. Gage*, ed. D. C. Berliner and B. V. Rosenshine, 70–89. New York: Random House, 1987.
- Russell, Bertrand. *A History of Western Philosophy*. New York: Simon and Schuster, 1945.
- Ryan, Alan. "Communitarianism. The Good, The Bad, & The Muddy." *Dissent* (Summer, 1989): 350–354.
- Saltiel, J. and Woelfel, J. "Inertia in Cognitive Processes: The Role of Accumulated Information in Attitude Change." *Human Communication Research* 1 (1975): 333–344.
- Saner, Hans. *Kant's Political Thought: Its Origins and Development*, translated H. B. Ashton, University of Chicago Press, Chicago, 1983.
- Sarason, Seymour. *The Predictable Failure of Educational Reform*. San Francisco: Jossey Bass, 1990.
- Scanlon, Thomas. "A Theory of Freedom of Expression." *Philosophy and Public Affairs* 1, Winter, 1972.
- Scheffler, Israel. *The Language of Education*. Springfield, IL: Charles Thomas Publishers, 1960.
- . *Conditions of Knowledge*. Chicago: University of Chicago Press, 1965.
- . *Reason and Teaching*. Indianapolis: Hackett, 1973.
- . *In Praise of the Cognitive Emotions*. New York: Routledge, 1991.
- . "Responses." to Festschrift in Honour of Israel Scheffler. In Catherine Z. Elgin, ed. *Synthese* 94, no. 1, 1993.
- Schlechty, C. and V. S. Vance. "Recruitment, Selection and Retention: The Shape of the Teaching Force." *Elementary School Journal* 83 (1983): 469–487.

- Schmitt, Frederick F. "Justification, Sociality and Autonomy." *Synthese* 73 (1987): 43–85.
- Schmuck, Richard A. and Patricia Schmuck. *Group Processes in the Classroom*, 5th ed. Dubuque, Iowa, W. C. Brown, 1988.
- Schoeman, Francis. "Rights of Children, Rights of Parents, and the Moral Basis of the Family." *Ethics* 91 (1980): 6–19.
- Schrag, Francis. "Children: Their Rights and Needs, in *Whose Child? Children's Rights, Parental Authority and State Power*, ed. William Aiken and Hugh LaFollette, 237–253. Totowa, NJ: Powman and Littlefield, 1980.
- . "The Child in the Moral Order." *Philosophy* 52 (1977): 167–177.
- . *Thinking in School and Society*. London: Routledge, 1988.
- Schwartz, R. "Supporting or Subverting Learning: Peer Group Patterns in Four Tracked Schools." *Anthropology and Education Quarterly* 12, no. 2 (1981): 91–121.
- Searle, John. *Intentionality*. Cambridge, Cambridge University Press, 1983.
- Sellars, Wilfred. *Science, Perception and Reality*. London: Routledge and Kegan Paul, 1963.
- Shaver, James. *Handbook of Research on Social Studies Teaching and Learning*. New York: Macmillan, 1991.
- Siegel, Harvey. *Educating Reason: Rationality, Critical Thinking, and Education*. New York: Routledge, 1988.
- . "Rationality and Epistemic Dependence." *Educational Philosophy and Theory* 20, no. 1 (1988): 1–6.
- Simon, D. and H. A. Simon. "Individual Differences in Solving Physics Problems." In *Children Thinking: What Develops?* Edited by R. S. Siegler. Hillsdale, NJ: Lawrence Erlbaum Associates, 1978.
- Snook, I. A., ed. *Concepts of Indoctrination*. London: Routledge and Kegan Paul, 1972.
- Sosa, Ernest. *Knowledge in Perspective: Selected Essays in Epistemology*. Cambridge: Cambridge University Press, 1991.
- Steup, Mathias. "The Deontic Conception of Epistemic Justification." *Philosophical Studies* 53, no. 1, 1988.
- Stevens, Romniett. *The Question as a Measure of Efficiency in Instruction: A Critical Study of Classroom Practice*. New York: Teachers College Press, 1912.
- Stich, Stephen & Richard E. Nisbett. "Justification and the Psychology of Human Reasoning." *Philosophy of Science* 47 (1980): 188–202.

- Stone, Carolyn M. "Autonomy, Emotions and Desires: Some Problems Concerning R. F. Dearden's Account of Autonomy." *Journal of Philosophy of Education* 24, no. 2 (1990): 271–283.
- Strike, Kenneth. *Liberty and Learning*. Oxford: Martin Robertson, 1982.
- Sutherland, Neil. "The Triumph of Formalism: Elementary School Teaching in Vancouver from the 1920s to the 1960s." *B. C. Studies* nos. 69–70 (1986): 175–210.
- Swain, Marshall. *Reasons and Knowledge*. Ithaca: Cornell University Press, 1981.
- Swartz, Ronald, Henry J. Perkinson, and Stephenie Edgerton. *Knowledge and Fallibilism: Essays on Improving Education*. New York: New York University Press, 1987.
- Tabachnick, B. R., T. S. Popkewitz, and Kenneth Zeichner. "Teacher Education and the Professional Perspectives of Student Teachers." *Interchange* 10, no. 4 (1979–1980): 12–29.
- Tangney, J. "Fraud Will Out—Or Will It?" *New Scientist* 115 (1987): 62–63.
- Taylor, Charles. "Kant's Theory of Freedom." In *Philosophy and the Human Sciences*. London: Cambridge University Press, 1984.
- Telfer, Elizabeth. "Autonomy as an Educational Ideal." In *Philosophers Discuss Education*, ed. S. C. Brown, 19–28. London: Macmillan, 1975.
- Tom, Alan. "The Reform of Teacher Education through Research: A Futile Quest." *Teachers College Record* 82, no. 1 (1980): 15–29.
- . *Teaching as a Moral Craft*. New York: Longmans, 1984.
- Tyack, David. *Once Best System*. Cambridge, MA: Harvard University Press, 1974.
- Urmson, John O. "Parenthetical Verbs." In *Essays in Conceptual Analysis*, ed. Antony Flew, 198–199. London: MacMillan and Company, 1956.
- van Eemeren, Frans H. and Robert Grootendorst. "Rules for Argumentation in Dialogues." *Argumentation* 2, no. 4 (November, 1988): 499–510.
- Vance, V. S. and C. Schlechty. "The Distribution of Academic Ability in the Teaching Force: Policy Implications." *Phi Delta Kappan* 64, no. 1 (September 1982): 2–27.
- Walsh, W. H. "Knowledge in its Social Setting." *Mind* 80, no. 319 (1971): 321–336.
- Walton, Douglas. *Informal Fallacies: Toward a Theory of Argument Criticisms*. Amsterdam: J. Benjamins Publishing Company, 1987.
- Walzer, Michael. "Political Decision-Making and Political Education." In *Political Theory*, ed. Melvin Richter and Political Education. Princeton: Princeton University Press, 1980.

- . *The Company of Critics: Social Criticism and Commitment in the Twentieth Century*. New York: Basic Books, 1988.
- Watt, E. D. *Authority*. London: Croom Helm, 1987.
- Webb, Mark Owen. "Why I Know About As Much As You: A Reply to Hardwig." *Journal of Philosophy* 14, no. 3 (1993): 260–261.
- Weis, Lois. *Issues in Education: Schooling and the Reproduction of Class and Gender Inequalities*. Buffalo, NY: State University of New York, Buffalo, Department of Educational Organization: Occasional Paper Number Ten, 1986.
- Welbourne, Michael. "The Transmission of Knowledge." *Philosophical Quarterly* 29, no. 114 (1979): 1–9.
- . "The Community of Knowledge." *Philosophical Quarterly* 31 (1981): 302–314.
- . *The Community of Knowledge*. New Jersey: Aberdeen University Press, 1986.
- Werner, Walter. *Curriculum Integration and School Cultures*. Occasional Paper Series: FOCL, Tri-University Project, 1991.
- White, John. "A Reply to Raymond Godfrey." *Journal of Philosophy of Education* 18, no. 1 (1984): 119–121.
- . *Education and the Good Life: Beyond the National Curriculum*. London: Kogan Page, 1991.
- Williams, Bernard. "Deciding to Believe." In *Problems of the Self*. Cambridge: Cambridge University Press, 1972.
- Willower, D. J. "The Teacher Subculture." *Samplings* 1 (1968): 45–59.
- Wilson, John. "De-intellectualisation and Authority in Education." *Oxford Review of Education* 15, no. 2 (1989): 111–119.
- . "Indoctrination and Rationality." In *Concepts of Indoctrination*, ed. I. Snook. London: Routledge and Kegan Paul, 1972.
- Wittgenstein, Ludwig. *Philosophical Investigations*. London: Basil Blackwell, 1986.
- Wolff, Robert. *In Defense of Anarchism*. New York: Harper and Row, 1970.
- Woods, Peter. *Sociology and the School: An Interactionist Viewpoint*. London: Routledge and Kegan Paul, 1983.
- Woods, Peter and Martin Hammersley. *School Experience*. London: Croom Helm, 1977.
- Young, Robert E. "The Epistemic Discourse of Teachers: An Ethnographic Study." *Anthropology and Education Quarterly* 12, no. 2 (1981): 122–144.

- . "Teaching Equals Indoctrination: The Dominant Epistemic Practices of our Schools." *British Journal of Educational Studies* 32, no. 3 (October, 1984): 220–238.
- . "Moral Development, Ego Autonomy, and Questions of Practicality in the Critical Theory of Schooling." *Educational Theory* 38, no. 4 (1988): 391–404.
- . "Critical Teaching and Learning." *Educational Theory* 38, no. 1 (1988): 47–59.
- . "Habermas' Ontology of Learning: Reconstructing Dewey." *Educational Theory* 40, no. 4 (1990): 471–482.
- . *A Critical Theory of Education: Habermas and our Children's Future*. New York: Teachers College Press, 1990.
- Zumwalt, K. K. "Research on Teaching: Policy Implications for Teacher Education." In *Policy Making in Education*, 81st Yearbook of the National Society for the Study of Education, Part 1, ed. A. Lieberman and M. W. McLaughlin, 215–248. Chicago: University of Chicago Press, 1982.