KEEPING AN OPEN MIND

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Abstract: 'Keeping an Open Mind', by John Kilcullen

This paper criticises rationalist ideas of intellectual honesty, arguing that the ethics of belief reduces to an ethics of inquiry, and that the ethics of inquiry should be based not on the dubious concept of 'sufficiency' of evidence but on economic considerations, such as the availability of time, resources and opportunities. Thus an inquiry may be sufficient for one person and not for another - which makes intellectual honesty difficult to assess. Scientific inquiry is also concerned with belief (to be worth constructing a theory must be at least 'potentially credible'), and the same ethical and economic considerations apply, e.g. to choice between research programs. They apply also to discussion and teaching, e.g. in judging whether participants in discussion are as open-minded as they should be, or whether a teacher is giving due credit to a student whose opinions he disagrees with, or whether he exercises improper censorship.
Keeping An Open Mind

Some Christians have held that faith is a duty, one with different implications for believers and non-believers: a non-believer ought to investigate until he discovers the vital truths, a believer ought to protect his belief, if necessary by refusing to investigate. Against this is the view, developed first also by Christians but later taken over by Rationalists as an important part of their critique of Christianity, that the duty is not to believe any particular set of propositions but to inquire seriously and to believe only what the evidence seems to warrant. The Rationalist morality of thinking, or parts of it, are summed up by various terms: open-mindedness, a critical outlook, objectivity, detachment, intellectual honesty, fair-mindedness, rationality, and so forth. These are ideals which many philosophers and other academics try to advance, sometimes in a crusading spirit.

Since some sort of concern for truth is a duty, or something morally good, acts and dispositions are subject

1 S. Harent, 'Foi', in A Vacant et al. (eds.), Dictionnaire de théologie Catholique (Paris, 1924), vol. 6.1, cols. 287-9. See also Thomas Aquinas Summa theologiae 1-2, q. 6 a. 8, q. 19 a. 6, q. 76 a. 2.


to moral evaluation as demonstrating concern for truth, or lack of concern. The part of morality to which such evaluations belong I will call the morality of thinking, stretching the term 'thinking' somewhat. It has at least three possible branches, dealing with areas in which it might be thought possible to show concern for truth: the ethics of belief, concerned with 'acts' of believing, assenting, suspending judgment etc., and with certain dispositions related to those 'acts'; the ethics of assertion, concerned with the expression of belief, either mentally to oneself or verbally to others; and the ethics of inquiry, concerned with gathering and considering evidence and argument. I will argue that the ethics of belief and the ethics of assertion should be eliminated, or at least reduced to a minor place, and that the ethics of inquiry should take more account of circumstances which are often ignored. My paper is, to put it crudely, a plea for a liberty of dogmatising, a defence of the closed mind. More exactly, it defends ways of thinking which may seem to show lack of concern for truth if circumstances which I believe are morally relevant are overlooked, as they often are. Whether a person is justified in believing or asserting something without further inquiry depends, not on what evidence he has, but on what else he could or should be doing besides inquiring.

I The Ethics of Belief

The chief objection against an ethics of belief is that belief and the other 'acts' in question are not voluntary, and there are duties only where there is voluntary control. Whether belief is voluntary is a question with a long history. Among the Greeks, the Stoics and Sceptics held that assent is voluntary, although we cannot withhold it when the evidence is clear.4 This was also the opinion of Thomas Aquinas, William of Ockham,5


5 See Thomas Aquinas de Veritate Q 14 a 1. According to Ockham, when there is evidence assent and the apprehension of evidence are the same thing, but when evidence is absent belief can be caused by the memory of seeing the evidence, or by the will; 2 Sent. Q 25, L, X-Z.
and some other medieval writers. However Duns Scotus denied that the will can control belief except indirectly, by diverting attention from one matter to another - otherwise it would be possible, just by willing it, to believe that the number of stars is even; and this is not possible.\(^6\) Scotists and Thomists debated the question at the Council of Trent in the 16th Century.\(^7\) Among the moderns, Descartes took up a position like that of the Greek Stoics and Sceptics: assent is an act of the will, free but necessary when there is intuitive evidence, optional when there is not - but then it ought to be withheld.\(^8\) Most other modern philosophers have adopted the position of Duns Scotus, usually without knowing its source. In Thomas More's Utopia they did not punish false belief 'because they be persuaded that it is in no man's power to believe what he list'.\(^9\) Hobbes also argued in this way for freedom of thought: 'the inward thought and belief of men...are not voluntary...and consequently fall not under obligation'.\(^10\) Locke in his writings on toleration also used the same argument.\(^11\) In the Essay Concerning Human Understanding Locke concedes to the sceptics that epoche, voluntary suspense of judgment, may be possible.

\(^6\) C. Harris, *Duns Scotus* (Oxford, 1927), vol. 2, p. 285-90. That the stars are even (or odd) was a commonplace example for ancient and medieval writers of a proposition which is inevident and neither probable nor improbable; see e.g. Cicero, *Academica* II 32, 110, or Sextus Empiricus, *Against the Logicians* I 243, II 147 and 317.


when there is little or no evidence,\textsuperscript{12} but argues that otherwise the will's influence is indirect, through the control of inquiry.\textsuperscript{13} Many other philosophers since the 16th century,\textsuperscript{14} including most of the recent contributors to the discussion, have argued that belief is not directly voluntary, that it can be controlled only indirectly.

Outward acts, including utterances, are voluntary, and may remain under the sovereign's control. Further, as Locke himself admits (see notes 12 and 13 below), beliefs may be voluntary at least indirectly.

\textsuperscript{12} Probability lacks 'that intuitive evidence which infallibly determines the understanding'; Essay Concerning Human Understanding, IV xv. 5; ed. P.H. Nidditch (Oxford, 1975), p. 656. 'Where...there are sufficient grounds to suspect that there is either fallacy...or certain proofs...to be produced on the contrary side, there assent, suspense, or dissent are often voluntary actions'; p. 716. See also p. 717-8.

\textsuperscript{13} After thorough inquiry, we cannot help assenting to the side on which probability is greater; Essay pp. 718 (7-14), 716 (10-11), 716 (21-3), 717 (1-2), 717 (7-17). (Parentheses give line numbers). 'We can hinder both knowledge and assent, by stopping our inquiry...if it were not so, ignorance, error or infidelity could not in any case be a fault'; p.717 ';...all that is voluntary in our knowledge, is the employing, or withholding any of our faculties from this or that sort of objects, and a more or less accurate survey of them; But they being employed, our will hath no power to determine the knowledge of the mind one way or other; that is done only by the objects themselves, as far as they are clearly discovered'; p. 650-1.


\textsuperscript{15} H. Price, 'Belief and Will', Aristotelian Society.
This is also my opinion. Some acts or changes in himself a person can bring about simply at will, for example, he can open or shut his eyes, speak or be silent. Others he cannot bring about directly, but he may be able to act at will in a way which puts him under the influence of causes from which some change in himself may result. Such indirect control is usually imperfect, since the outcome of the procedure is somewhat unpredictable. Belief is not directly voluntary; I cannot by a mere act of will believe that the number of the stars is even. But it is indirectly voluntary; I can open my eyes, or speak to some one, and what I see or the answer I hear may change my belief, though I cannot predict the change exactly.

The most important of the indirect procedures is inquiry, the gathering and consideration of argument and evidence. Other causes besides evidence seem to influence belief,16


16 James Mill argues that belief is altered only by evidence: 'The proof is indisputable, because the view which the mind takes of evidence, and its belief, are
so there are other indirect procedures, for example to live as if a proposition were true or to associate with believers. Some beliefs seem to arise in childhood and throughout life from unknown causes which cannot be manipulated. Some means by which one person may affect another's beliefs, such as reward and punishment, may not be available for modifying one's own. Whether, and how, and to what extent, a person can control his own beliefs seem to me questions of fact, about which some difference of opinion is to be expected, especially since people may differ in method and extent of control.

A moral code regulates voluntary behaviour; it regulates directly voluntary behaviour in the first place, and it may thereby regulate certain things which are indirectly voluntary. Precepts about what is indirectly voluntary must be reducible to precepts about what is voluntary directly, otherwise they cannot be carried out. A disposition can also be evaluated, but the evaluation is not a moral evaluation unless the disposition is produced or can be changed by directly voluntary behaviour; other dispositions may be advantageous or pernicious, but they are not moral virtues or vices.

The ethics of belief as controlling dispositions

Belief results, without possibility of direct control, from the impact of external causes (let us call this experience) upon a person with certain dispositions; the dispositions include prior beliefs, and other dispositions, but two names for the same thing'; p. 1-2 (cf. Ockham, note 5 above). This is not what 'belief' means, and Mill's thesis seems false in fact.

17 B. Williams, 'Deciding', p. 148, argues that it is a matter of logic that belief is not voluntary. For criticism see T. Govier, p. 645-7; also B. Winters 'Believing at Will', Journal of Philosophy 76 (1979), p. 243-56.

18 See Aristotle, Nicomachean Ethics III 5. Bernard Williams has raised doubts about the distinction between moral and non-moral dispositions in Brian Magee, Modern British Philosophy (London, 1971), p. 163; see also B. Williams and T. Nagel, 'Moral Luck', Aristotelian Society Proceedings, suppl. vol. 50 (1976), p. 115-51. It seems to me that morality is concerned with what is voluntary, and if nothing is voluntary then morality is an illusion.
some temporary (such as moods) others more or less permanent. Belief can be indirectly controlled by controlling experience and dispositions. These cannot be controlled directly by a simple act of will any more than belief can be, but there may be indirect methods of control: if we do certain things which are directly in our power the effects may make a difference to our experience or dispositions, and in turn this may make a difference to our beliefs. The indirect control of experience is the concern of the ethics of inquiry; control of the dispositions might be the concern of the ethics of belief, if such control is possible.

The traditional ethics of belief includes exhortations relating to dispositions: to suspend judgment, to be 'indifferent', and to proportion assent to the strength of evidence.19 These things are not directly voluntary: a person cannot stop believing just by deciding not to believe, or stop wanting something to be true or false just by deciding not to want it, or vary the degree or assent just be deciding to do so. These exhortations will have to be dropped unless they can be applied to indirect methods of control. Now there do seem to be indirect ways of putting oneself into a judicial frame of mind: by reminding oneself of the risk of mistake, by interacting in certain ways with other people, by carrying out certain rituals, and so on. However the judicial frame of mind seems to pertain not to the ethics of belief but to the ethics of inquiry; it is a disposition, perhaps temporary and limited to certain subjects, to attend

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19 An inquirer should 'put himself wholly into this state of ignorance in reference to that question; and throwing wholly by all his former notions, and the opinions of others, examine, with a perfect indifference, the question in its source'; Locke, Conduct, p. 383-4. 'The surest and safest way is to have no opinion at all until he has examined'; p. 383. 'We should keep a perfect indifference for all opinions, nor wish any of them true'; p. 380. 'In the whole conduct of the understanding, there is nothing of more moment than to know when and where, and how far to give assent; and possibly there is nothing harder'; p. 378. On the proportioning of assent to evidence see Cicero De Natura Deorum I, (quoted by Locke at the beginning of Conduct), Academica I, 45; Hooker, Ecclesiastical Polity vol. 1, p. 269; Chillingworth, Religion, p. 27; Locke, Essay IV xix 1; Hume, Enquiries, p. 110. Hooker, Locke, Hume, James Mill and others believed that assent is involuntary, but inconsistently made rules about the giving of assent.
seriously to evidence on both sides. Suspending judgment is not suspending belief; a juror who gets a belief early in the hearing does his duty if he tests it against the evidence as it unfolds and gives a verdict only at the end. Hopes and fears need not be suspended (were that possible); hope that something is true may make a person more careful in testing whether it really is.

Can one do anything to proportion assent to the strength of the evidence? Belief can be changed by collecting more evidence, i.e. by inquiry, but this is not what is meant. Can a person increase or decrease his assent to a given body of evidence? It might be thought that the logic of probability offers a way of controlling assent. But logic can determine, at most, the probability of a proposition relative to the available evidence; this is not the objective probability of the event, which is not relative to some limited body of evidence. Except perhaps in artificially simple cases, logic cannot say how the available evidence compares with the totality of possible evidence. A person gives a certain measure of assent to a proposition which purports to state the objective probability of an event because this proposition is to a certain degree probable relative to the evidence and he trusts the evidence, i.e. judges it to be sufficiently comprehensive. Some people are readier than others to trust the evidence available to them, and I do not see how logic can criticise or control this disposition.

Perhaps there are other ways to control assent. Teachers try to teach students to be less precipitate in judgment, and perhaps a person can educate himself in the same way. However I do not believe that teaching or self-education can give a person the power deliberately to control his assent to a given body of evidence - to size up the evidence and then allow himself to feel convinced by it to just the right degree; assent on a particular occasion seems to be spontaneous, and not subject to direct control. Response to a particular body of evidence may reflect a general responsiveness, and perhaps this disposition can be modified deliberately; education might make a person habitually less ready to assent. However the effect of education can be accounted for, partly and perhaps altogether, in other ways not pertaining to the ethics of belief; education may leave a person just as ready to assent and his feelings of conviction may be as strong as ever, but it may make him cautious in certain other ways - more disposed to continue with inquiry, more tentative in speech and action. If he is properly cautious in these ways his spontaneous impulses to believe may not matter much; in fact it is possible that
a person who forms beliefs readily and holds them strongly will inquire more effectively, provided he is really concerned for truth.

I conclude that there is little scope for an ethics of belief.

II The Ethics of Assertion

Since the act of asserting (or affirming, or accepting) a proposition is directly voluntary, some of the traditional ethics of belief might be translated into an ethics of assertion; for example, the injunction not to believe without sufficient evidence could be reinterpreted as an injunction not to assert without sufficient evidence. Even if we cannot (at the moment) help believing whatever we believe with whatever degree of assent we happen to feel, it might seem that we should refuse to assert (or to act on) a belief unless it is warranted by good and sufficient reasons.

But there is another objection which applies to an ethics of assertion as much as to the ethics of belief, that there is no satisfactory way of specifying how much evidence is sufficient to warrant assertion or belief. It might be said that the evidence is sufficient when it is as much as a rational person would require. If there is some way of saying abstractly just how much evidence a rational person would require, then the reference to the rational person is superfluous. In the present section I will argue against various ways of specifying in the abstract how much evidence is sufficient. It is possible that the standard of sufficiency can only be grasped intuitively, by discussing a range of cases with a good judge. In section IV I suggest that what a good judge is good at is deciding

20 'It is wrong always, everywhere, and for anyone, to believe anything upon insufficient evidence'; W. Clifford, p. 186. Perhaps there are degrees of sufficiency and degrees of assertion; but those who treat this topic often write as if a proposition is either asserted or not asserted and as if the evidence is either sufficient or not sufficient. I will follow this practice. The degree of assurance can be regarded as part of what is asserted: the proposition may indicate the probability of an event, or it may be accompanied by another which attributes to the first a certain likelihood of error. The question is then whether the evidence is sufficient to justify the assertion of such a proposition or set of propositions.
when to break off inquiry to do something else, which is a matter for the ethics of inquiry.

Sufficient to guarantee truth

Is it possible to say in the abstract how much evidence is sufficient? 'Sufficient' invites the question 'For what?'. If the aim of thinking is to know the truth, then we might begin by saying that the evidence must be sufficient to guarantee that the conclusion is true, and that an assertion is knowledge only if it is warranted by such evidence. To guarantee that the conclusion is true the propositions offered as evidence must themselves be true without possibility of mistake. If these propositions must also be guaranteed by evidence then an infinite series of justifications would be needed before any assertion was warranted, and knowledge would be impossible. So some propositions must be evident in themselves, or perhaps some pieces of evidence are not propositions; at any rate, justified belief must ultimately rest on something superior to the demand for justification. Unless there is infallible basic evidence there can be no knowledge, and no beliefs or assertions will be warranted.

But there are no infallible propositions, and no conclusions for which there is enough evidence to exclude the possibility of mistake. Experience seems to support fallibilism, the doctrine that an apparently true statement of any kind may be false. Perceptual judgments and assertions of logical truth are the kinds that seem least likely to be fallible. But perceptual judgments sometimes have to be revised - we have to concede that we must not have seen what we thought we saw or what we think we remember seeing. Circumstances can be imagined in which a person might feel certain about what he thinks he perceives and yet be wrong. As for truths of logic, propositions which seemed such have sometimes had to be abandoned or revised, for example in the face of antinomies. A necessary truth must be true, but we may be mistaken in classifying something as a necessary truth, or in drawing out its implications, or in applying it to the world of experience. So error is possible with judgments of every distinguishable kind. There are no ultimate premisses permanently beyond question for which supporting argument is impossible and unnecessary - though it may happen that for the moment we cannot think of any

21 Cf. Aristotle, Anal. Post., 72 b 5-25, 100 b 3-18; Metaph. 1006 a 5-12, 1011 a 5-15.
objection or supporting argument.

By 'scepticism' I mean - narrowing the term a little - the doctrine that we may make mistakes which we can never correct, because they never show up in conflicts among our beliefs, or in disagreements with other people, or in any other way; some propositions may be 'incorrigible' and yet false. For example, if I am in the power of Descartes' evil demon I will never know it unless he chooses. It cannot be proved that we do make undetectable mistakes; neither can it be proved that we do not. The sceptic's suggestion is never proposed as a fact, only as a possibility; and it does seem possible. If it is, then we may be mistaken even about things which seem certain, and there is no knowledge; at least, none according to this first formulation of the standard of sufficiency.

**Sufficient to remove actual doubt**

Perhaps knowledge can be defined according to some lower standard; or we can say that some assertions are warranted if they meet the lower standard, even though they are not knowledge. One possible lower standard is this: a proposition can rightly be asserted if it is free from all actual doubt. This is, in effect, the standard put forward by C.S. Peirce. His position is as follows. Any belief may be mistaken, but this does not make every belief actually doubtful; suspicion on general grounds (the truth of fallibilism, the sceptic's possibilities) is not actual doubt. Doubt arises when there is a specific objection, some conflict with another belief, e.g. with a perceptual judgment, or with the belief of another person; it is impossible to doubt at will. If there is no specific

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23 Doubt comes from surprise: '...it is as impossible for a man to create in himself a genuine doubt...as it would be for him to give himself a genuine surprise by a simple act of the will'; *Writings*, p.292. 'The breaking of a belief can only be due to some novel experience... Now experience which could be summoned up at pleasure would not be experience'; *Writings*, p.299.
objection and no doubt, the belief can be asserted without supporting evidence. If there is doubt it is removed by inquiry; inquiry is pointless unless there is doubt. Inquiry should continue until sufficient evidence is collected to remove actual doubt. To achieve this it is not necessary to argue from basic premisses permanently beyond doubt - in fact there are none, since in the course of life anything may become doubtful (though not everything at once); it is enough if the premisses are not doubted at the moment. A belief is as good as a belief ever can be while it is free from actual doubt.

Peirce hopes that experience and discussion will take us toward the truth. 'There is but one state of mind from which you can "set out", namely the very state of mind in which you actually find yourself at the time when you do "set out" - in a state in which you are laden with an immense mass of cognition already formed'. This original stock of beliefs (some of which may be instinctive) is continually enlarged by perception, abduction and testimony. It is also pruned. Conflict among one's beliefs, or with the beliefs of other people, leads to doubt, and this leads to inquiry, which eliminates, modifies, or adds beliefs. The logician's hope is that

24 Writings, p.10-11.
25 Writings, p.11, 57-8; Papers 5.213 f. Peirce rejects the doctrine that anything is 'basic, ultimate... because there is nothing beneath it to know'; Writings, p.55. Cf. K.R. Popper, Logic of Scientific Discovery, (London, 1959), p.111.
26 Writings, p.256
27 'Abduction' is Peirce's term for the inference whereby one supposes tentatively that a proposition is true because it seems a natural way of explaining something that is a fact, though other explanations are possible (cf. Popper's 'conjecture'); see Writings p.151-3. A perceptual judgment is a kind of abductive inference, an interpretation spontaneously imposed upon sensation by a process which is not conscious, which one cannot control or criticise because one cannot go behind the perceptual judgment to compare it with the originating sensations; 'sensations emerge into consciousness in the form of beliefs'. See Writings pp.36, 302-5; Papers 2.140-3, 5.216-37, 5.263. On instinctive common sense beliefs see Writings p.293. Another apparently original source of beliefs is the testimony of other people; Papers 7.226.
these changes of belief take us closer to the truth. 'Different minds may set out with the most antagonistic views, but the progress of investigation carries them by a force outside of themselves to one and the same conclusion'.28 'Reasoning tends to correct itself...it not only corrects its conclusions, it even corrects its premisses'.29 It even corrects its own method and motivation: 'No matter how erroneous your ideas of method may be at first, you will be forced at length to correct them so long as your activity is moved by that sincere desire [sc. to learn what is true]. Nay, no matter if you only half desire it, at first, that desire would at length conquer all others, could experience continue long enough'.30

Peirce's approach is attractive. But on one important point I disagree with it: to remove actual doubt is not the sole purpose of inquiry; another purpose is to reduce the chance of mistake. The suspicion that a belief may be mistaken arises from: (a) Conflict with other beliefs - i.e. there is an argument against this belief from premisses which also seem true. (b) Disagreement on the part of some other person. If he gives reasons using premisses which seem true then there is also conflict with one's other beliefs, but even if he gives no reasons the fact that he disagrees is disturbing. (c) The possibility that further experience or discussion may reveal conflicts or disagreements. A belief not much tested or discussed is under suspicion even if no actual conflicts or disagreements are known. (d) The possibility of scepticism, i.e. that some false beliefs may be incorrigible. Inquiry cannot remove (d), and this possibility therefore cannot affect the order of priorities among possible inquiries; it cannot affect action, since the error will never show up; it is a bare possibility, about which nothing can be done. Inquiry can reduce suspicion (c) by testing and discussion, and (a) and (b) by the construction of arguments. If argument sometimes resolves conflict or disagreement instead of extending it, it must be that some beliefs 'out-rank' others, in the sense that conflict leaves the former unshaken and eliminates the latter. For example, a proposition which conflicts with a perceptual judgment will

28 Writings, p.38
29 Papers, 5.575
30 Papers, 5.582
probably cease to seem true. Perceptual judgments are probably not the only high-ranking beliefs. A high-ranking belief is not immune from suspicion, and may itself in the end be eliminated if it ceases to seem true. But argument is useful even when its premisses are not all high-ranking; it may reduce or shift suspicion, or at least it may extend the conflict and articulate the problem. To a great extent inquiry is the construction of arguments from premisses which are low-ranking and themselves under suspicion.31

'Actual' doubt is suspicion under heading (a), or perhaps (b); but there is at least one other heading, namely (c), to which inquiry may be relevant. Since even what is not actually doubted may be suspected of being mistaken, it is not pointless to investigate what is not actually doubted. A belief which is free from doubt after investigation is better than one which is free from doubt but has never been investigated. Peirce in some places acknowledges this,32 but it seems inconsistent with his general view of inquiry. The agenda of inquiry must be selective, since it is impossible, and uneconomic, to question everything. An obvious criterion for selection is the importance for theory or for practice of being right. Some actually doubtful matters may not get onto the agenda because they are not important; some important matters may, although they are not actually doubtful. If it is important to be right, evidence which removes actual doubt may not be sufficient.

Sufficient as being unrefuted

More recent authors have put forward theories which resemble Peirce's in allowing a proposition to be asserted with no, or little, supporting evidence, provided there is no serious specific objection. For example, if I believe (or conjecture), without evidence, that there are Martians, I can assert (or entertain) this proposition if there is no evidence that there are no Martians; this is the reverse of the attitude traditional among academics, who commonly use locutions like 'There is no evidence that there are Martians', or 'There is no good reason to suppose that there are Martians', as dignified ways of saying that there are no Martians. Thus K.R. Popper allows

31 I use 'inquiry also to cover the collection of new evidence, and the consideration and re-consideration of evidence and argument already collected.

32 See Papers 5.451
testable conjectures to be entertained pending refutation, and to be believed if they resist refutation. R.M. Chisholm regards a proposition as 'acceptable' provided its contradictory is not 'adequately evident'. According to K. Lehrer a person's belief in a proposition is completely justified provided he believes that the proposition has less chance of being false than any objection against it. J.L. Pollock says that a person is justified in believing some propositions without reasons, and others for which the former constitute prima facie reasons, in the absence of good reasons for disbelieving. The differences between these theories are no doubt important, but they all alike set a very easy standard of justified assertion. This might be (and by some of these authors is) accompanied by a more demanding ethics of inquiry. It is the ethics of inquiry which does the real work.

How important it is to make sure that one's assertions are true depends on how the assertion connects with other thought and action; apart from this connexion assertion is trivial, and would hardly need to be regulated by moral or other standards. How much supporting evidence or inquiry is sufficient depends on what the assertion will lead to, in theory or in practice. For example, in courts the standard of proof is higher in criminal cases than in civil, because the judgments have different practical implications. So let us adjourn the attempt to decide how much evidence is sufficient to justify assertion and consider some of the connexions between belief and action.

### III Belief and Action

If a belief may be mistaken, as any belief may, then it is appropriate to act on it with caution, and to be more cautious the greater the chance of being wrong and the greater the importance of being right. Caution can take several forms; for example, we may delay while we make more inquiry, we may keep open lines of retreat. Caution costs something; to delay or to keep open a line of retreat is profitable only if the cost is likely to be exceeded by the benefit of reduced risk; there is an optimal degree of caution which may be less than the

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maximum. The forms of caution may supplement one another, or one may substitute for another; for example, the less it costs to provide a good line of retreat the less need there is to delay.

Since there are various kinds and degrees of caution, which can be proportioned, roughly, to the chance of mistake, it seems unnecessary to refuse to act on a belief which falls short of some single fixed standard of certainty. Such a refusal would be a kind of caution, but a simple-minded and rigid kind; a more graduated and discriminating caution seems more reasonable - indeed more cautious, since there is risk in disregarding a proposition believed to be true and relevant, even if the belief is only hesitant.

When a person acts on a belief with caution there are other beliefs involved besides the most salient one: beliefs about other possible courses of action and their advantages and disadvantages, about possible corrective action if certain beliefs turn out to be wrong, about the chances of mistake, about the costs and benefits of further inquiry, and so on. Among the beliefs involved two kinds are noteworthy. First, there are higher-order beliefs which mediate the application of other beliefs to practical decisions. They may require us to act as if we do not believe certain things which we do believe, or as if we believe certain things which we disbelieve - for example, as if we trust a person whom in fact we distrust. Second, there are beliefs about the likelihood of mistake. An estimate of the chance of being wrong may be based on the strength of the feeling of assurance, or on the experience of testing similar beliefs; but usually it is a spontaneous belief for which one can offer little or no support. Usually it is too rough to represent as a numerical probability.

34 To say that a higher-order belief may require us to act as if we believe p although we do not is to say that when we act on the ensemble of our beliefs a person ignorant of certain of them (viz. the higher-order belief) may mistakenly infer from our action that we believe p. E.g. I may act towards a person in such a way that he observes nothing from which he can infer that I do not trust him, and will naturally suppose that I do. So strictly speaking we act only on the set of propositions which we do believe.
Sometimes no estimate is possible, but to be cautious in action we must be able to pair at least some of the beliefs involved with an estimate of the chance of being wrong. In view of the role of these two kinds of beliefs, and others, it might be better not to speak of acting on a belief as if in isolation, but of acting on the ensemble of one's beliefs, or at least on the relevant sub-set.

The more rigorous forms of rationalism tried to exclude spontaneous beliefs, except those classed as basic truths, from at least the more dignified departments of thought. I would admit them to all departments, including factual beliefs to philosophy. By a spontaneous belief I mean one not derived deductively from other beliefs; 'intuition' is another term I may use, without implying that there is any special infallible faculty of intuition. Spontaneous or intuitive beliefs - guesses, hunches, etc. - arise perhaps from instinct, or from (other) occult causes. Abduction and deliberation are important reasoning processes which lead to spontaneous belief. In most departments of thought little of substance would be left if intuitive beliefs really were excluded. Without guesses about the chance of being mistaken and about the likely yield of various possible inquiries cautious action and planned inquiry would be impossible.

IV The Ethics of Inquiry: First Version

In a particular case considered by itself it may seem worthwhile to postpone action for further inquiry; the

35 As I indicated in note 20 above, I take a statement of partial belief as a conjunction of two statements, 'p' and 'There is such-and-such a chance that p is false'.

36 A person deliberating considers and reconsidersthe pros and cons until a conviction forms. Unless a conviction forms spontaneously he cannot 'make up his mind'; he can decide at will to do the contemplated act, but not to believe that it is the right thing to do. There are no rules for performing or criticising deliberation; the only way to check is to re-consider. The pros and cons are not deductive arguments, but merely reasons pro tanti; to reject the arguments on one side is not to imply any doubt about their premisses, or about the validity of arguments of that type. Deliberation is common in moral and other practical thinking, and also in choice of theories.
improvement in decision and the reduction in the risks of action may seem likely to make up for what is lost by delay. But the decision whether to make further inquiry cannot be made in isolation: the time and resources needed for more inquiry might be more urgently needed elsewhere. We must decide by balancing not two things, the benefit of inquiry against the cost of delay, but many competing possibilities; and we must decide not project by project but across many projects at once. To adjust the competing demands of many projects is a typical problem of economics, so as a first step toward an 'ethics of inquiry' it may be useful to sketch out an 'economics of inquiry'. To bring the two together, I will assume (for this section) that the agent has only one moral duty, to do as much good as possible. I will also assume, at least as a possibility, that he engages in other activities besides inquiry, and that sometimes his inquiry serves one of these other activities. The problem is, how should he decide when an inquiry has been carried far enough for the time being?37

He will do his duty if he allocates his time and resources in such a way that any reallocation which would have a better outcome in some respects would have a worse outcome in other respects, and the losses would equal or exceed the gains.38 Now it is important to

37 My sketch of an ethics of inquiry will concentrate on this question, because it leads to the matters in which I believe the rationalist morality of thinking is most mistaken. However, the ethics of inquiry is also concerned with other things; e.g. it might lay down a duty (of imperfect obligation) to cultivate a judicial frame of mind. Other branches of morality may also include rules about thinking, e.g. 'In thinking about whom to appoint to certain jobs pay no attention to the candidates' religious beliefs'; such rules are not part of the morality of thinking in my sense since they are concerned not with truth but with other values.

38 In saying that the agent's duty is to do as much good as possible I do not mean that he should try to maximise his subjective satisfaction; I mean he ought to do what really is good, whatever that may be. To decide when reallocation leads to more loss than gain, he must be able to compare outcomes and decide which is objectively preferable. If there are several kinds of intrinsic goods (things good in themselves, not merely as means), the decision will be an intuition arrived at through deliberation (cf. note 36). I believe that there are
notice that allocation includes time-tableing. The right quantities of time and resources must be allocated at the right times, in the right order. An inquiry or other activity which generally goes well may run into trouble, a generally difficult one may open out, and when this happens attention should be switched from the one to the other; progress along one line may presuppose progress in another; some necessary resource may not be available for the moment; a political crisis or other practical matter may for a time take priority over speculation. In practical matters opportunities and deadlines are set by outside causes, and may be ordered and spaced out in various ways. To do as much good as possible it is necessary to judge well when to switch from one inquiry or other activity to another.

The time-tabled allocation can be thought of as a plan of action. What the agent is doing now should be the first stage of a plan, or of a number of possible plans, than which there is none better. The plan should allocate some time to re-considering ends and means and to revising the plan; too much time should not be spent this way, since the return is uncertain. The plan is based on various beliefs which could themselves be investigated; the decision whether to investigate them is also based on beliefs which could be investigated; and so on, indefinitely. But the regress involves no absurdity if, as I maintain, we are not obliged to make a prior investigation of every belief on which we act. We investigate only when a good return seems likely. Since no plan will be carried right through, its later stages can and should be left vague. The plan should make sense starting from scratch from this moment: that something ought to have been done in the past but was not does not mean that it should be done now or in the future, since opportunities pass and new needs appear; that something was done in the past as a preparation for some action now does not mean that the action should now be done, since something better might now be possible.

several kinds of intrinsic goods, and that an agent ought to seek several kinds - he cannot concentrate exclusively on what he does best. I believe, with Aristotle, that the intrinsic goods include some kinds of knowledge, and also some kinds of action; the outcomes to be compared are not only the consequences of action, they are the outcomes of allocating time and resources to various activities some of which are valued for themselves. These are not assumptions of the argument of the text, but they are compatible with it.
To decide when to break off an inquiry a person should consult his current plan; in calling it 'his' plan I do not mean whatever plan he happens to have made, I mean the plan which is objectively appropriate to his circumstances. An inquiry has been carried sufficiently far for the time being when a properly drawn up plan directs a switch to something else; it will do so when the gain from more inquiry now is exceeded by the loss from not doing something else instead. This provides an answer of a sort to the question earlier adjourned, of how to decide when the evidence is sufficient to warrant assertion. If we want to continue to talk about evidence being sufficient, let us mean that evidence is to be deemed sufficient for the time being when the moment comes to adjourn the inquiry; then the evidence is sufficient not by some absolute standard the same for everyone, but in relation to the inquirer's particular circumstances - his purpose in inquiring and his other purposes, the time and resources he has, the sequence of his opportunities.

Some implications

Justifying a person's believing something is not the same as justifying the proposition he believes. A proposition is justified, provisionally, by testing and

39 Most epistemologists seem to hold that that evidence must be sufficient absolutely. For example, C.I. Lewis's 'critique of cogency' (as described by R.M. Chisholm, 'Lewis' Ethics of Belief', p.228) is an attempt to formulate canons which will tell us what we have a right to accept, and these canons refer to the character of the evidence. Chisholm views the matter in the same way: 'If you ask me to defend some conclusion of mine which you may think unreasonable, I will present evidence which I take to be such that, for anyone having that evidence (and no additional relevant evidence), the conclusion is a reasonable one to accept. Here, too, my justification may be formulated in a 'practical syllogism': the major premise will say that anyone having just the evidence in question is warranted in accepting the conclusion; the minor premise will say that I am in the position of having just that evidence; and these premises will imply that I am justified in accepting the conclusion'; p.226. I agree that if one person is justified another person similarly placed will also be justified. The disagreement is over which similarities and differences are relevant. I maintain that one should take into account the likely returns from all the possible uses of the person's time and resources, not how much evidence he has.
argument (see p. 13 above). The question I am concerned with is whether the person is morally justified in believing. If belief is not directly voluntary, then the 'act' of believing does not need to be justified morally, whatever the belief. If belief is the indirect result of some reprehensible directly voluntary act in the past, then that act, but not the belief, is reprehensible, and would be even if this belief had not resulted. Whether a person is justified in allowing the belief to stand without subjecting it to further inquiry depends on his plan; if the plan does not direct him to investigate the belief now, then whatever evidence he has for it (if any) must be deemed sufficient for the time being for whatever assertion and action his plan envisages. Perhaps he ought to have investigated it in the past and did not, but this does not mean that he should investigate it now or in the future. Different people should have different plans, because of their different starting points, talents, deadlines and opportunities. Two conclusions follow:

1) a body of evidence which suffices for one person, given his circumstances, may not be sufficient for another. And

2), in some circumstances a person may be justified in continuing in a belief for which he has no evidence at all - he may never have examined it, he may not intend to examine it in the foreseeable future, it may be open to objections drawn from among his own beliefs, other people may reject it; yet he may have the right to hold it. I am not saying merely that if a person, acting by his lights in a difficult situation, violates the morality of thinking in its rationalist version he should not be blamed, but rather that by the standards of a more reasonable version he may have done no wrong, objectively.  

V. The Ethics of Inquiry: Second Version

The argument of the last section assumed that the agent has only one moral duty, to do as much good as possible. But this view of duty is not correct; in its implications it is at some points too lax, at others too demanding. I want to leave the content of the moral code

40 A person may objectively meet the standards of a revised morality of thinking, and yet action based on his beliefs may violate the standards of some other department of morality. The act may not deserve blame, since he acts according to his lights, but it may be wrong objectively, and other people might possibly have the right to deter it and similar acts by threatening and inflicting penalties.
as open as possible, without implying that one code is as
good as another; however it seems that a correct code will
not include a general duty to do as much good as possible,
and it will include special duties some of which are of
strict obligation, to be carried out whatever the effect
on (certain) legitimate projects. What is left after the
strict duties are done need not be devoted entirely to the
service of a set of compulsory goals; some goals will be
optional, some good acts will be superogatory. The duty
to further a goal seems generally to be of imperfect
obligation; i.e. it requires a reasonable effort over
time, but no particular act at any particular time.41
Within the field of optional activities there are differ­
ences of better and worse. The maximising plan described
in the last section, modified to allow for the demands of
special duties, would show the best way of allocating
time and resources, and this would provide a reference
point for judgments of better and worse. But to do what
is better is not an obligation, and not essential to being
rational.42

41 See Kant, Metaphysical Principles of Virtue, trans.
Ethics, Religion and Society, ed. J.M. Robson (Toronto,
42 It is sometimes said that action is 'practically'
rational only if the agent has conclusive reason for doing
just that act, or only if he believes that there is no
better way of furthering his ends. For a discussion of
such conceptions of rationality see S.I. Benn and
G.W. Mortimore, Rationality in the Social Sciences (London,
1976), p.4. I suggest instead something like this: an
action is rational if it does not conflict with the agent's
beliefs. To work this out it would be necessary to decide
what is to count as conflict; perhaps there are degrees
of conflict and degrees of rationality. There is clear
conflict if the agent believes he has a duty always to do
his best for some end and then does something less than
best, but if he does not believe in such an exacting duty
then failure to maximise might not be irrational. Again,
there is clear conflict if he believes that he ought to do
a certain act on a certain occasion and then does not do
it. But unless his code of duties is comprehensive, or
unless 'conflict' is taken very widely, his beliefs will
often leave open a range of possible acts none of which
would be irrational (though they might be objectionable in
other ways). A rational agent's actions can generally be
changed by reasoning with him, but not always; the
connexion between belief and action may be rather loose.
There may be some strict duties to inquire, some of which may go with certain roles (e.g. juryman, member of a commission of inquiry, examiner, etc.); there are also some duties of imperfect obligation, some of which also may go with certain roles (e.g. an academic's duty to contribute to his subject). In optional inquiry a person does better or worse depending on how closely he conforms to a version of the maximising plan, modified to allow for the demands of the special duties. We can say that in optional inquiry sufficiency is judged in relation to the plan, except that 'sufficiency' is too strong a word - any amount of inquiry is morally sufficient when there is no duty. Perhaps the right word is zeal. Due concern for truth does not require the greatest possible zeal. How zealous a person is in his inquiries can be judged by reference to the maximising plan. Zeal for truth does not require the same inquiries from everyone, since their plans ought to reflect their different circumstances, and it is compatible with not examining even uncertain beliefs which one holds and acts upon. In fact the conclusions drawn at the end of the last section still stand: of two persons having the same belief and the same evidence, one may believe reasonably and the other not, and it may be rational to hold unexamined beliefs. To exclude these conclusions it would be necessary to adopt a code of special duties so comprehensive and exacting as to leave no room for optional inquiry, or for differences of duty corresponding to the individual's particular circumstances and projects. When the details of the moral code are filled in, I would not expect such a code to be adopted.

So whether the truth lies with some maximising ethic, e.g. some form of utilitarianism, or with some kind of deontology, in either case it will not be easy to decide whether a person really has an open mind. It is difficult to know enough about the relevant circumstances to judge whether someone has done his duty according to the ethics of inquiry: '... you will perhaps think this is a case reserved to the great day, when the secrets of all hearts shall be laid open; for I imagine it is beyond the power or judgment of man, in that variety of circumstances, in respect of parts, tempers, opportunities, helps etc. men are in, in this world, to determine what is everyone's duty in this great business of search, inquiry, examination; or to know when anyone has done it.'

VI Scientific Inquiry

Methodology is like a morality of scientific thinking, a combination of an ethics of assertion and an ethics of inquiry. Belief is sometimes said to be irrelevant to science; science is said to be an object, an artefact, existing independently of the minds of scientists. Methodology controls changes to this artefact. The attempt to control construction from the foundations up has been abandoned, since there are no foundations (see above, p.10); the inquirer begins with a set of theories already provided (by instinct or tradition - the source does not matter), tests them, and makes changes when they fail. Creative imagination is needed in devising tests and revisions, but some possible changes are excluded by methodological rules which, ideally, it should be possible to apply mechanically, without exercising intuitive judgment. The ideal set of rules should suffice to exclude all possible changes but one, so that competent inquirers will agree. A theory is not objective unless it can be tested by public, 'intersubjective', repeatable observations; otherwise agreement could not be attained. However the ideal rules have not yet been devised, and agreement must sometimes rest on convention.


45 'I am not a belief philosopher, I am primarily interested in ideas, in theories, and I find it comparatively unimportant whether or not anybody "believes" in them'; K.R. Popper, Objective Knowledge (Oxford, 1972), p.25. 'I wish to distinguish sharply between objective science on the one hand, and "our knowledge" on the other'; K.R. Popper, Logic, p.98. See also Objective Knowledge, pp.73-4, 106-112, 121-2. A reason given for the elimination of belief is that 'Our subjective experiences or our feelings of conviction ... can never justify any statement'; Popper, Logic p.44. This confuses the two kinds of justification distinguished above on p. 20. The statement, i.e. the proposition stated, is not justified by the fact that I believe it, but my stating it is morally justified by my believing it.

46 See Popper, Logic, p.56

47 Cf. Lakatos, pp.106-12, 125-31
I disagree with this view of science at several points: the elimination of belief, the claim that concern for agreement is essential to objectivity, the elimination of intuitive judgment from methodological decisions.

(1) I agree that a theory can be regarded as an artefact the existence and character of which does not depend on its constructors' beliefs; a fundamentalist Christian might make useful contributions to the theory of evolution, an atheist might be a theologian. But the point of these artefacts (at least their ostensible point) is to provide means of knowing and understanding, and guidance for action; explicit knowledge and understanding involve belief, and a theory can reasonably be acted on only if it is thought to be true, i.e. believed. There is therefore no point in elaborating a theory unless it is at least 'potentially credible'; that is, unless someone (not necessarily the constructor) might believe it.

(2) Thinking is objective if it has certain characteristics which make it likely to lead to truth. I will not try to specify the characteristics, or to analyse the notion further; the essential point is that objectivity is connected with truth, not with agreement. Disagreement is a reason for suspecting falsity (see p. 13 above), but it is not a conclusive reason, nor the only reason; it would not be absurd to suppose that some people can see truths to which others are congenitally blind, or, on the other hand, that the human race may unanimously and forever agree on something false. Thus there is no necessary connexion between truth and agreement, nor, 48 'We use objective knowledge in the formation of our personal subjective beliefs'; Popper, Objective Knowledge, p. 80. I would add that it is for this reason alone that objective knowledge, i.e. the artefact, can be called 'knowledge', the primary reference of which is to a state of mind.

49 Peirce defines the truth as the opinion upon which all inquirers would agree if inquiry were carried indefinitely far; Writings pp. 38-9, 240, 247-8, 257-8. This is not acceptable. If the external world does not exist, then the belief that it does is false even if every inquirer (or the only inquirer) holds it and will always hold it; some false beliefs may not be corrigible. Anyway, inquiry may not lead to agreement, or to any other goals. See T. Kuhn, The Structure of Scientific Revolutions (Chicago, 1970), pp. 170-3, 205-6, for a sceptical suggestion to this effect.
therefore, between concern for agreement and objectivity. So there seems no reason to believe, and I do not believe, that science cannot be objective unless it is 'intersubjectively testable'. Much of physics is not intersubjectively testable, if this means actually testable by everyone, because some people are deaf or blind; if the race evolved so that human beings normally were blind, optics might come to seem mystical except to a sighted minority, but it would not for that reason lose its objectivity. On the other hand, if the principle means testable by those capable of the appropriate experiences, it is vacuous. 50

Nothing in the nature of science forbids work on a theory by those who think they understand it and regard it as potentially credible, even if most other people regard it as mystical or quite incredible. Questions about the use of common resources, or the conduct of educational institutions, may require collective decisions, and this may lead to political activity some of which may be quite legitimate; but nothing in the nature of scientific inquiry requires consensus, spontaneous or imposed.

Although a necessary connection with agreement is not implied in the notion of scientific inquiry, it may be in the notion of a scientific community engaged in certain kinds of cooperation. Two kinds are to be distinguished: (a) discussion, and (b) management of common resources and common projects other than inquiry (e.g. teaching). The first kind is part of inquiry; discussion does not presuppose agreement, or even aim at it (the aim is knowledge of the truth - of course if all the participants

50 'Some mystics imagine that they have such a method [whereby beliefs are determined by reality, by an 'external permanency'] in a private inspiration from on high. But that is only a form of the method of tenacity, in which the conception of truth as something public is not yet developed. Our external permanency would not be external, in our sense, if it was restricted in its influence to one individual. It must be something which affects, or might affect, every man'; Peirce, Writings, p.18. 'Or might affect' destroys the force of this passage. Mystics do not say that their revelations are essentially private, restricted in principle to one individual; they might affect everyone except that some people lack the necessary receptive capacity, just as some people are blind or deaf. (Two incidental comments: Truth is neither public nor private, but something independent of what any person, or all persons, may think. And does it follow that something restricted in its influence to one person is not (in the relevant sense) external?).
attain that aim they will, incidentally, agree). The second kind does presuppose some agreement. If we decide to call a person a scientist only if he is a member of a community based (in part) on the second sort of cooperation, then agreement is an essential concern of science. But it seems to me that an inquiry can rightly be called scientific because of its subject matter, even if the inquirer does not also cooperate in common projects other than inquiry.

(3) No plausible methodology yet formulated can do without intuitions, hunches, guesses and the like. For example, there are no rules which say that in specified circumstances a rational inquirer must definitively abandon one paradigm or research program for another. The multiplication of research programs alarms some, delights others. 'We must find a way to eliminate some theories. If we do not succeed, the growth of science will be nothing but growing chaos'. 'Knowledge ... is ... an ever increasing ocean of mutually incompatible (and perhaps even incommensurable) alternatives'. Economic considerations make some sense of both attitudes, and suggest that each may be appropriate in different circumstances: when one program is clearly more promising the others should be eliminated, at least for the time being; but when no program seems very promising many programs should be tried. A program sensibly abandoned now may sensibly be revived later, if the rival program which now seems more promising runs into difficulties. Since difficulties cannot be foreseen, it may be sensible to

51 Kuhn sometimes uses the word this way, p.159/19 (i.e. p.159, line 19).

52 This seems to be the outcome of the discussion in Lakatos, p.154-177; cf. P. Feyerabend, Against Method, (London, 1975), p.185-7. 'There is no neutral algorithm for theory-choice, no systematic decision procedure which, properly applied, must lead each individual in the group to the same decision'; T. Kuhn, p.200. The choice is made by deliberation; see p.199/37 and 204/1-2; cf. note 36 above. The failure of attempts to substitute the mechanical application of clear criteria for intuitive judgment is also clear in C.G. Hempel, Philosophy of Natural Science (Englewood Cliffs, 1966); see pp.27/34-40, 30/7, 32/1-3, 36/23-5, 41/31, 57/41-3, 60/41-2, 65/20, 75/21-2.

53 Lakatos, p.108

54 Feyerabend, p.30
keep several programs going simultaneously; but not too many, only those which seem to have enough chance of being true to justify the costs of carrying them on.\textsuperscript{55} Just as a firm occasionally reviews its projects and eliminates or reduces those which seem least promising, so an inquirer should occasionally abandon or shelve the programs which seem least likely to yield potentially credible theories.\textsuperscript{56} This is an investment decision made under uncertainty, and for such decisions there are no rules sufficient to eliminate intuition and guesswork. The inquirers need not all make the same investment decisions,\textsuperscript{57} although some collective decisions may be needed (see (2) above).

\textsuperscript{55} According to Kuhn, an approach which has some striking success, so that it seems much more promising than its rivals, may become paradigmatic for almost all work in the subject; but if later on a crisis develops and it no longer seems so promising, competing schools of thought appear again until another paradigm is found. This makes good economic sense. To concentrate investment on the most promising approach is especially sensible when work in the field is costly, requiring expensive equipment and materials and highly trained manpower, and, on the other hand, costly research is justified only when the program seems promising. For both reasons some correlation is likely between what Kuhn calls 'maturity' and costliness; the 'immaturity' of a science in a field in which inquiry is cheap does not mean that nothing worthwhile is being accomplished.

\textsuperscript{56} 'In developing their research programs they act on the basis of guesses about what is and what is not fruitful, and what line of research promises further results in the third world of objective knowledge. In other words, scientists act on the basis of a guess, or, if you like, of a subjective belief (for we may so call the subjective basis of an action) concerning what is promising of impending growth in the third world of objective knowledge'; Popper, \textit{Objective Knowledge}, p.111. Cf. Kuhn, p.157/26 - 158/7.

\textsuperscript{57} It may be good that some people are willing to make investments which others consider too risky; Kuhn, p.186/24-29. (In this respect Kuhn's account of science is reminiscent of Adam Smith: an 'invisible hand' guides individually narrow-minded scientists in ways which bring the scientific community closer to Popper's ideal of the self-critical scientist; see, e.g. p. 24/31, 64/30-65/20.)
If I am right about these three points, then from the standpoint of the morality of thinking there seems no difference between scientific and other inquiries, and what was said earlier about inquiry in general applies also to scientific inquiry. In particular, there is no reason in the nature of science why a scientist should not conduct his inquiries according to his own beliefs, including intuitive beliefs for which he has little or no evidence, even if other scientists disagree.

VII Discussion and Teaching

The norms of intellectual honesty in discussion and teaching are part of the morality of thinking, or closely allied to it. A person can show concern for truth not only in the interior dialogue of his own thinking but also in dialogue with others. I will indicate briefly how the line of thought I have so far followed extends into these areas.

One of the premisses of J.S. Mill's argument for freedom of discussion is that our best means of coming to know the truth is to listen to all that can be said against our beliefs by persons of every variety of opinion.\(^5\) The obvious objection is that life is not long enough.\(^5\) Since time is scarce the inquirer must establish priorities among competing inquiries and ways of inquiring, and must judge when to switch from one to another. To listen to other people is only one way of inquiring, and there are many people who might be listened to. It would be inefficient to discuss everything with everyone through to the end; we must decide when to stop listening to switch attention elsewhere. Special duties attached to certain roles may require a person to go on listening even when it might seem a waste of time, but it would be implausible to postulate a list of such duties which would be equivalent in practice to Mill's recommendation. Whether another person has listened as much as he ought (or would do well) to do is difficult to judge, and one should be careful about accusing someone of having a closed mind.


Anyway, to close one's mind to exponents of certain points of view may not show lack of due concern for truth. Suppose a person has come to believe that a certain subject is full of pitfalls, that he does not have a good head for it, that some who claim to understand it do not care about truth, and that therefore if he discusses it, at least with some people (those who attack what he believes to be the truth in this subject), he will probably be led into error; he may therefore close his mind, at least to some opinions. For example, he may refuse to listen to liberal academics who defend abortion, because he suspects they will be too clever for him and that they care more for being fashionable, or for being different, than for the truth; or he may refuse to listen to those who argue that cigarettes or certain drugs are not harmful, because he suspects they speak for tobacco companies or drug distributors; or he may refuse to look into some environmental issues, because they are complex and the motives of some of the protagonists seem suspect (antiuranium campaigners may be financed by coal mining companies, anti-Concorde campaigners by the American aircraft industry, etc.) This person's mind is closed, perhaps but not because he does not care enough about truth.60

In deciding whom to ignore and whom to cut short, the inquirer is guided by beliefs about the likely return on time spent in various ways. These may be based on advice, for example from a book reviewer. A person may be unlucky in his own beliefs and in his advisors, but if time is very short he may still do better to act under fallible guidance than to leave the allocation of time to chance. It would not be sensible to read books through to the end in just the order in which they happened to come to hand.

Teachers are advisors in the planning of inquiry. Among their other tasks they must advise students on what to read and whom to listen to. A reading list which includes everything is less useful than one which is selective. If the teachers' advice is followed, the effect may be much the same as censorship. There is obviously a risk in this, which is increased when the same advisors help select books and articles for publication, and help select people for jobs, and in particular when they select and train and appoint their own successors. To give all these tasks to the same people saves time and resources and has other advantages, but it is dangerous. On the other hand, even if these advisors are only moderately

60 See Bayle, p. 528-30.
reliable, not to accept their guidance may be so wasteful as to risk serious harm to the search for knowledge and to other projects. There is risk either way.

The main point of the academic ethics as it relates to teaching is to reduce the risk that the teacher may censor and repress, wittingly or unwittingly. This is the point, for example, of the rule that good marks should be given for well argued papers whatever the opinions expressed. But the examiner must rely on his own opinions about which propositions have a fair chance of being true. A person does not argue well merely by avoiding self-contradiction, and validly deriving some of his improbable opinions from others; he must know what is unlikely and in need of support and what can be taken for granted, which objections are strong and which are too improbable to need an answer. If his argument is that an hypothesis must be true because it is the only good explanation of the data, then he must be able to distinguish good explanations from others which are possible but unlikely. So in judging whether a person argues well one implicitly relies on one's own sense of what is likely.61 Since it is possible to judge that a proposition has a fair chance of being true without believing that it is true, it is possible to judge that a person argues well while disagreeing with him at many points. Still, a student whose opinions about what is likely to be true are too much at variance with the teacher's cannot reasonably be given good marks. If jobs were more equal the teacher's power would be less; but as

61 Something similar can be said about clarity of thought and expression. Members of a circle of like-minded people will congratulate one another on being the only clear thinkers. A line of thought seems unclear if it is hard to tell how to continue it to answer other relevant questions, or if the answers it seems to suggest seem unlikely. What seems relevant depends on what theories seem possible and likely; new possibilities raise new questions, and what formerly seemed clear may come to seem obscure. So in judging clarity of thought we rely on our sense of likelihood; similarly, in judging clarity of expression we assume that some words and ideas are familiar and clear and others in need of explanation. A line of thought can never be made absolutely clear; the most that can reasonably be asked is that it be made clear enough to those concerned for present purposes. Deciding who is concerned, what purposes should be envisaged, and how clear is clear enough, is part of the planning of inquiry, and can be covered by what was said in Sections IV and V above.
long as people would rather be selected for one social role than another, for whatever reason (selfish or not), and as long as selection is based (e.g. for reasons of economy) partly on performance during education, there will be a risk that teachers may censor and repress, perhaps unwittingly. In some circumstances the economies may justify the risk.

Students and members of the public also assess the reliability of teachers, experts and other leaders. These assessments also reflect what the assessors think about the likelihood of various propositions. Which leaders people choose or willingly accept therefore depends on the state of opinion in the community. Since discussion and other forms of inquiry begin from and are guided by the inquirer's existing beliefs and by advice given by leaders whose influence depends on the existing state of opinion, discussion in a community in which ignorance and error are widespread may merely confirm and disseminate false beliefs. If some people are much superior to the rest they might serve the cause of truth best by displacing the existing leaders, defending their position by preventing public criticism, and using their influence to spread true opinions; a time might come when the enlightened state of public opinion made free discussion the best means of further improvement, but meanwhile authoritarian methods might be better. Thus Mill's argument for freedom of discussion assumes general enlightenment, as he acknowledged; it will not, and ought not, convince someone who believes that most other people are deluded.

VIII Conclusion

I have argued not merely that one cannot (directly) help believing whatever one believes, or that it may be reasonable to have beliefs which may be mistaken, but that it may be reasonable in some cases to assert and act upon possibly mistaken beliefs without further investigation; and I have suggested how one might decide

62 'The early difficulties in the way of spontaneous progress are so great, that there is seldom any choice of means for overcoming them... . 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 fair and equal discussion'; J.S. Mill On Liberty, p. 224. Cf. Representative Government, in Collected Works, Vol. XIX, p. 418-20.
in a given case whether it is reasonable. At the begin-
ning I said that, crudely, the paper is a defense of
the closed mind. This is how it will seem to those who
hold the position I have attacked, viz., that it is im-
moral to hold a belief and act on it without sufficient
evidence. But more exactly it is a proposal to salvage
parts of the ethics of belief as an ethics of inquiry and
of action under uncertainty. Under the proposed reinter-
pretation, whether a person is justified in acting on his
beliefs without further inquiry does not depend upon
whether his evidence is sufficient by some standard un-
related to his projects, talents, opportunities, etc.,
but on how else he could use his time, given his circum-
stances. It is impossible (I believe) to say exactly how
it depends on circumstances, so as to reduce the decision
to rule. And since the relevant circumstances will usually
be known in detail only to the person himself, judgment
will be mostly a personal matter. The reinterpreted ethics
of thinking is no longer a handy means of putting people
down. One person should be pretty slow to say that another
has a closed mind; on the other hand he cannot be too sure
that he hasn't. Sometimes we need to judge another's de-
votion to truth, but in most disagreements it is enough
simply to urge on him what we may think he would have seen
if he had looked further, without suggesting that he ought
to have done so; instead of passing judgment it is better
to argue. Notice, however, that I do not say that in in-
tellectual matters there are no duties, and no moral dif-
fERENCE of better and worse, or that one opinion is as
good as another, or that it is wrong to criticise -indeed it is part of respecting a person to take his opi-
nions seriously enough to criticise them, and to credit
him with willingness to listen to criticism frankly ex-
pressed.

The traditional academic morality dismisses 'unfounded'
opinions (especially in religion & politics): 'Come back
when you have sufficient evidence; meanwhile suspend
judgment, do not assert or act upon a belief you cannot
justify'. Against this I claim that our assertions and
actions may and should take account of all of our beliefs,
including opinions, intuitions, and other beliefs for
which no credentials can be found. Philosophers since
Plato have disparaged mere opinion, holding that while
opinions may be unavoidable and in some ways useful they

63 It has been put to me that my thesis is the truism
that it is not unreasonable to have opinions which do not
rest upon an infallible foundation. This is not a truism,
and in any case I am saying more.
are no part of philosophy. Modern philosophy has tried to base thought and action on principles which are certain, and to devise criteria and rules of thinking which can be applied mechanically to give authoritative conclusions. But these attempts have not succeeded. The principles are merely spontaneous beliefs under a more pretentious name; criteria are revised if they give intuitively unacceptable decisions; the proposition that thought and action should be based only on certain principles cannot be justified in its own terms (since it is not self-evident or provable); the theoretical structure grows too slowly for the needs of action, and a gap opens between theory and practice - everyday life is based on opinions which are not part of the justified system, and the opinion that it is all right to live this way is not part of the system either.64 The academic ethics ends up as an armory of weapons to be used selectively against unpopular creeds. The policy which I advocate is at least self-consistent and practicable: to assert and (with due caution) act upon all the propositions which seem true and relevant, whatever their source and credentials, subjecting any of them to examination if and when this is opportune, not claiming for any of them - even after thorough examination - any infallibility or authoritative status. This policy does not guarantee that a false belief accepted with no credentials except that it seems true will eventually be eliminated. No policy for the conduct of the understanding can guarantee this, since the suggestions of the sceptics may be true. On the other hand they may not be, and I do not believe they are; in any case there seems to be nothing more rational we can do than to act on what we believe, even when we cannot prove it.65

64 Cf. Descartes' provisional code of morals, adopted 'in order that I should not remain irresolute in my actions while reason obliged me to be so in my judgments', Vol. I, p.95. In ancient times Carneades set standards for knowledge so strict that no belief could meet them, and then allowed action to be based on probability; see Cicero, Academica II, 99-100, 104.

65 This paper was written when I was a Visiting Fellow at the Australian National University. I am grateful for comments on earlier versions by Stanley Benn, Ed. Curley, Barry Maund, Reg. Naulty, David Papineau, Frank Snare and Michael Tooley.