Faith and Philosophy: Journal of the Society of Christian Philosophers

Volume 21 | Issue 1 Article 1

1-1-2004

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Alvin Plantinga's proper function epistemology is an incipient virtues epistemology of a sort that we call personal virtues epistemology. Personal virtues are bases of proper functioning of persons, rather than of faculties or of persons as occupying particular roles such as hockey player or medical pathologist; and personal epistemic virtues are such personal virtues as promote the acquisition, maintenance, transmission, and application of knowledge. As such, many bases of proper functioning relevant to warrant of true beliefs are perfections of the will. We particularly stress emotional functioning, and see in Plantinga's discussion of the Aquinas / Calvin model for the warrant of theism, and the extended A / C model for warranted Christian belief, and especially in his exploitation of Jonathan Edwards, movement in the direction of a personal virtues epistemology. This paper is an effort to hasten the movement.

Introduction

Alvin Plantinga's proper function theory of warrant is one of the most viable and complete contemporary accounts of knowledge. On his view, knowledge is true belief that achieves a certain threshold amount of warrant, and a belief is warranted if and only if it is the product of cognitive faculties functioning properly in a congenial environment according to a design plan successfully aimed at truth and is held with a certain threshold degree of conviction.[1] Though Plantinga has been coy about associating with virtue epistemology, we think this a natural direction to take his views, and we here sketch and commend an extension of his work into a certain kind of virtue epistemology. A main aim of Plantinga's epistemology is to produce a definition of knowledge in terms of its strictly necessary and sufficient conditions. In our extension of Plantinga's views, that aspiration is much less central and we remain agnostic about its feasibility. We think that in the absence of such a definition much can still be profitably learned about knowledge.

The notion of proper function is strongly reminiscent of Aristotelian thinking about the virtues, since for Aristotle virtues are enduring, learned traits or qualities of persons whereby persons function well as persons, in

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the various aspects of human existence. The conception of virtues that we employ in this paper stresses the qualifier *as a person* and interprets it as implying a contrast with qualifiers like *as a scientist*, *as a lawyer*, and *as a basketball player*; we also imply an integration of the parts or aspects of the person, such that excellences that are merely excellences of parts — say, of the eyes or the legs — are not what we call virtues, even though they are excellences and may be epistemic excellences. On the view of virtues that we propose it is natural to think of proper epistemic functioning as depending not just on the proper functioning of the specifically cognitive faculties, but on traits that make for the broader proper functioning of the person. This integrative view seems to imply that virtues are acquired traits, in particular, products of a felicitous moral and epistemic education. Thus the epistemic virtues that interest us are such personal traits as a passion for knowing, openness to correction, objectivity, proper tenacity of belief, self-criticalness, intellectual honesty, perseverance in intellectual work, intellectual humility, intellectual daring, intellectual caution, and intellectual generosity. We shall argue that a virtue epistemology focusing on this kind of virtues is a natural extension of Plantinga's proper function epistemology.

Another feature of the Aristotelian conception of the moral virtues (though interestingly not of the intellectual ones, except for practical wisdom) is their connection with the passions. Aristotle analyzes many of the moral virtues as dispositions to respond to situations with proper pathê. In the third and final book of Plantinga's series on warrant,[2] with considerable leading from the Christian tradition, he begins to develop a conception of a positive epistemic role for the emotions. He does this in dialog with Jonathan Edwards, in an effort to show that a person can be warranted in holding the distinctive Christian beliefs — belief in the incarnation of God in Christ and Christ's atoning death. The richness of his epistemology and its potential for the kind of extension we propose is due in large part to its religious motivation and the character of the particular religious tradition to which Plantinga belongs. But we think that the dependency of proper epistemic function on emotions is quite general and not limited to the context of religious belief.

So our proposed extension of Plantinga's views has two aspects. On the one side, we think that proper epistemic functioning is not limited to the functioning of the faculties, but is more broadly the proper functioning of the epistemic agent as a person, so that traits of the person and not merely traits of the faculties are the basis for warrant in many important cases. And on the other side, we want to say that these intellectual virtues, *as* traits of *persons*, are intimately connected in a variety of ways with proper emotional functioning. We assume that, just as the proper functioning of parts of things depends on the condition those parts are in (the proper functioning of the eye depends on its being in a physical condition that experts would consider a state of health of the eye), so the proper functioning of persons, in epistemic contexts as well as others, depends on the persons' being in certain conditions that we call virtues. We are especially interested in Plantinga's recent interest in the emotions, since we think that pretty much the whole range of virtues, both intellectual and moral, are in part dispositions with respect to emotions.[3] Speaking a little loosely for

summary's sake, we might say that the virtues that concern us here involve proper orderings of emotions. Such dispositional orderings are the bases for the kind of epistemic functioning that interests us.

In the first section we discuss Plantinga's application of his theory of warrant to Christian beliefs, since this will nicely illustrate the need for both sides of our extension. The integration of functions of the "intellect" and the "will" in producing Christian knowledge is a model for the production of much important human knowledge; and the need for the transformative development of these functions into the virtue of faith is a model for other bases of proper epistemic function. In the second section we make some general comments about the nature of virtues. In the third, we argue that epistemic virtues are, in large part, dispositions with respect to emotions, and we identify seven respects in which this is so. The fourth section is an illustration of our extension, and in the conclusion we comment about the nature of the epistemology we are proposing.

Warranted Christian Belief

Christian belief is a special kind of theism; that is, the Christian believes there is a personal being who is all powerful, all knowing, and all benevolent, who created the world. This belief can be warranted for her, since according to Plantinga's model (which is a souped-up version of John Calvin and Thomas Aquinas), humans have a faculty for knowing God (the *sensus divinitatis*, in Calvin's phrase) which, when functioning properly, gives rise, typically without inference, to the belief that there is such a being, in response to a range of rather diverse stimuli, such as perceptions of the starry heavens; "the majestic grandeur of the mountains...; the ancient brooding presence of the Australian outback" (WCB, 174); also to moments of realizing one has done something cheap, and moments of grave danger. According to the model, God created us with this faculty as an access to the truth that he exists, and he made it such that it is triggered by situations typical of the kind of environment we find ourselves in. So on Plantinga's view of warrant, a person is warranted in believing in God in case she holds this belief with a certain degree of conviction, and her belief is produced by the proper functioning of the *sensus divinitatis*.

It seems to us that Plantinga's account of warranted religious belief is like a chrysalis just on the point of becoming a lovely butterfly of virtue theory. Plantinga recommends a revision of Calvin's claim that God's existence is a truth "of which each of us is master from his mother's womb."[4] He says we should not think of the *sensus divinitatis* as an innate faculty fully present from birth (as eyesight more or less is), but as a *capacity* for knowledge of God, "like the capacity for arithmetical knowledge. ...The development of the *sensus divinitatis* requires a certain maturity (although it is often manifested by very young children)" (WCB, 173). In this respect of being susceptible to development the *sensus divinitatis* is like many other faculties. The auditory faculty is thus a capacity for discriminating sounds, say for distinguishing people's voices from one another. But some people develop this power of discrimination better than others. And it can be refined considerably (in some people, at least) by special disciplines like

the ear training that budding composers receive in conservatories of music. Similarly, practitioners of religion may have a fine-tunement of the *sensus divinitatis* that is a personal trait, something like the sensitivity that friends develop for one another, who are "alive" to one another's minds, who understand one another on the slightest cues. The virtue that Christians call faith is such a developed sensitivity.[5] As Brother Lawrence[6] says, Christians "practice the presence of God," presumably becoming more sensitive to God's presence (both more accurately discriminating of it and more vividly impressed by it). Plantinga quotes Aquinas approvingly:

> But this [natural knowledge of God] admits of a mixture of many errors. Some people have believed that there is no other orderer of worldly things than the celestial bodies, and so they said that the celestial bodies are gods. Other people pushed it farther, to the very elements and the things generated from them, thinking that motion and the natural function which these elements have are not present in them as the effect of some other orderer, but that other things are ordered by them.[7]

Plantinga notes wryly that if the outputs of the *sensus divinitatis* include such beliefs as these, then contemporary naturalists like Daniel Dennett and Richard Dawkins would count as having a natural knowledge of God (WCB, 177). It seems that this faculty can take several developmental directions, some of which yield beliefs that are inconsistent with theism. The conclusion seems pretty obvious: for the *sensus* to yield anything that could reasonably be called knowledge of God (that is, warranted true belief in God), an *appropriate development* of it is needed. As Aquinas would say, it needs to be "perfected." But "perfection of a natural faculty" is Aquinas's definition of a virtue.[8] The virtue in this case would seem to be faith or something approaching it. A virtue is neither the faculty nor the proper functioning of the faculty, but the disposition of the faculty to function properly, or better, as we will argue in the next section, it is the disposition of the person to function properly with respect to one or more faculties. It is what we have called the "basis" of the proper functioning.

In a discussion of the possibility that theism is true but belief in God lacks warrant, Plantinga canvasses the parts of his definition of warrant to see which ones might be absent compatibly with the truth of theism. About the congenial environment condition, he says "there seems no reason at all to think our epistemic environment is not the one for which [God] created us. (We have no reason, for example, to think that our ancestors originated on some other planet and made a long, hazardous journey to Earth)" (WCB, 189). But if we think of our cognitive equipment developmentally, as we are proposing to do, the environment becomes important in a somewhat different way, and the likelihood of its not being epistemically congenial seems greater. A few pages later, in a discussion of the noetic effects of sin (which include the dysfunction of the *sensus divinitatis*), Plantinga notes, "Because of our social nature, sin and its effects can be like a contagion that spreads from one to another, eventually corrupting an entire society or segment of it" (WCB, 207). If the sin in one's social

environment can degrade the functioning of the *sensus divinitatis* or impede its output, it would seem that some social environments could be more congenial than others as settings for the functioning of this faculty. For example, one might think that an undergraduate education at a Christian college is more likely to bring out the human potential for sensing God than an analogous education at a virulently and corrosively secular college. Admittedly, a Christian college is a different order of epistemic environment than a planet with a fine view of the starry heavens, since it is explicitly designed, not just to elicit *episodes* of functioning, but to cultivate *dispositions* to function in various ways. If it does cultivate the disposition for the *sensus divinitatis* to function as it was designed to do on Plantinga's conception of that design plan, then in effect it cultivates an epistemic virtue on what ought to be Plantinga's conception of the formation of persons.

So we see that at least in the case of the *sensus divinitatis*, the proper function of the faculty cannot be separated from the virtue that is the maturity of the faculty or better, the personal disposition to use the faculty properly. But what kind of a disposition is a virtue? Let us continue using faith as our example. According to Plantinga, only in a person who has Christian faith does the *sensus divinitatis* function as well as it can for human beings (even then it probably doesn't function perfectly). However, Plantinga does not seem to think of faith as a virtue. He gives his account of Christian faith in the chapters on "the extended Calvin / Aquinas model."

The extended model shows how it is possible for Christians to be warranted in believing such distinctively Christian claims as that God was in Christ reconciling the world to himself. The extended model has three chief elements: the Bible, the work of the Holy Spirit, and faith. Our current interest in this part of the model is the positive epistemic role it assigns to emotions, and we are interested in emotions' epistemic role because of their close connection, in classic discussions, with traits of whole persons. On the extended A / C model the *sensus divinitatis* has been corrupted by sin and consequently will work properly only if healed by an event or process of salvation from sin. Such healing has been accomplished by a sequence of actions of God, in which Jesus Christ, the incarnate Son, lived a morally perfect life of service and was executed as a criminal by sinful humankind, thus suffering a death in which he atoned for the sins of the very sinners at whose hands he violently died. God raised Jesus from the dead and drew him back permanently into his presence. The story of this salvation is recorded and interpreted in the Bible, which is inspired by the Spirit of God, who also works in the hearts of people to convict them of the central truths that the Bible enshrines, such conviction being an important part of the process of salvation.

Sin is not only a corruption of the *sensus divinitatis* (our intellectual equipment with respect to God), but also of our will (our faculty for loving, obeying, and enjoying God). So the faith that the Spirit produces in us through the words of Scripture about God's work in Christ is also a healing of our will. (Following Plantinga and the tradition, we will think of the will as having both an executive function, as the power to choose and initiate action, and a conative / affective function, as expressed in inclinations

[desires and other concerns] and affections or emotions. We use 'affection' and 'emotion' interchangeably.) On the extended A / C model, intellect and will coordinate and interact in a variety of ways in producing correct affections and decisions with respect to God, as well as belief in God. The Holy Spirit's work in thus producing beliefs is not the functioning of a *faculty*, but it is (according to Christian doctrine) a properly functioning epistemic process that is successfully aimed at truth. Consequently, a Christian who believes the central Christian doctrines and does so as a result of this process is warranted in her beliefs, on Plantinga's conception of warrant.

We want to argue, as we did about the previous part of Plantinga's A / C model, that it is a chrysalis needing only a little development to emerge with all the colors and comely grace of a virtue account. The crucial issue is the nature of faith, and two questions are especially pertinent: 1) Is faith a virtue, that is, a disposition of the person, or is it more like a mental event, an episode that perhaps recurs regularly in the life of the believer, but is not a state or condition of the believer's character? and 2) What is the relation between the two aspects of faith, the beliefs and the emotions, and of the faculties underlying these, the intellect and the will? To put the question somewhat vaguely, are these aspects internally related, or related only in some external, say causal, way? Plantinga's discussion does not contain decisive answers to these questions, but its drift seems to be towards thinking of faith in episodic, rather than dispositional terms, and towards regarding intellect and will as rather independent, externally related faculties. This drift tends to impede the growth of Plantinga's proper function theory into a virtue epistemology. But the tradition from which he derives the extended A / C model seems to give different answers to these questions, and ones which, we will argue, are more plausible. Let us begin with the second question.

On Plantinga's A / C model, the *sensus divinitatis* is an intellectual faculty, the function of which is not shared by the will. Although the operation of the intellect can influence that of the will, and vice versa, and although Plantinga himself refuses to assign any strict priority to the one or the other in the production of religious knowledge, he makes the functions of these two faculties strictly non-overlapping. For example, he spends about twelve pages in chapter nine of WCB discussing the fundamental natural yearning of the human heart for God (this being surely a function of the will; we might call it the *appetitio divinitatis*), but does not make it part of the *sensus divinitatis*. When he speaks of the two faculties together, as they unite in faith, he uses purely conjunctive expressions, as in "We therefore need a change of attitude *in addition to* a change of opinion" (WCB, 270, italics added; see also 292, 293, 294, 295).

Jonathan Edwards does not seem to separate will and intellect as Plantinga does. He seems closer to the view that in matters of Christian faith, at any rate, the will is a properly epistemic faculty. He writes that spiritual understanding

> consists in a sense of the heart, of the supreme beauty and sweetness of the holiness or moral perfection of divine things, together with all that discerning and knowledge of things of religion, that depends

> upon, and flows from such a sense. ...I say, a sense of heart; for it is not speculation merely that is concerned in this kind of understanding; nor can there be a clear distinction made between the two faculties of understanding and will, as acting distinctly and separately, in this matter. When the mind is sensible of the sweet beauty and amiableness of a thing, that implies a sensibleness of sweetness and delight in the presence of the idea of it: and this sensibleness of the amiableness or delightfulness of beauty, carries in the very nature of it, the sense of the heart; or an effect and impression the soul is the subject of, as a substance possessed of taste, inclination and will.[9]

Edwards here distinguishes two kinds of knowledge and two kinds of faculties that produce them. "Speculation" produces knowledge of such things as the nature of a triangle, while knowledge of "the sweet beauty and amiableness of a thing" is produced by "a sense of the heart," something like a perceptual faculty that is a seat of inclination and is capable of being pleased or displeased. Thus two kinds of *knowledge*, one produced by the intellect, the other by the will.

Let us illustrate what we think this means, using a non-religious example. Imagine two equally intelligent people witnessing the following scene: Because of his race, a member of a racial minority is subtlely directed away from a white neighborhood in which he would like to buy a home, by the real estate agent who is helping him. The action is subtle enough to require intelligent discernment on the part of the two observers. They both understand the real estate agent's action, but they have different emotional reactions to it. One of them is highly displeased. She feels angry at the agent and sad for the home buyer, whom she sees as a representative of a long history of senseless suffering at the hands of prejudice. The other observer feels no displeasure; instead she is mildly amused by the agent's adroit maneuvers and even feels a little admiration of his skill in handling such "problems." In one sense both observers understand what is going on, but only one of them "tastes" the injustice in the situation. Even the morally indifferent observer may be able to subsume the current case under the category *injustice*, thus showing her mastery of the concept of injustice, her moral understanding of the situation. But we want to say that by contrast with the emotional observer, she is still missing something epistemically: she does not *appreciate* the injustice, *feel* it or *perceive* it as the nasty thing it is. She has a "notional" understanding of the action as an injustice, but in a moral or spiritual sense there is something she's not "getting." Thus the emotion is a peculiar and indispensable mode of *knowing* something. The "will" is crossing over into the area of the "intellect," supplying a kind of "cognition" that the "intellect" by itself cannot produce. Or perhaps it is better to say, with Edwards, that "a clear distinction [cannot be] made between the two faculties of understanding and will, as acting distinctly and separately, in this matter." (This is one epistemic function of emotions; several others will be discussed in the penultimate section of this paper.)

Thus on our view, the affections are themselves sometimes a source of knowledge. But they are far more than that. They are at the very heart of the personal life; emotional dispositions are a large part of what we call

personality, and affect our actions and shape our relationships, not only with God but with our fellow human beings.[10] Taken together, these two things — the epistemic importance of emotions and their general centrality to human life in all its aspects — suggest that an analysis of epistemic proper functioning needs to be understood in the larger context of character. The neat division that has traditionally been drawn between the intellectual and the affective, between the intellectual virtues and the moral ones, is artificial. We will argue this thesis further in later sections of this paper.

But before proceeding to that, let us turn to the first of our two questions that will manifest the butterfly of virtue latent in Plantinga's proper function theory of knowledge. That question is about the nature of faith. Is faith a virtue — that is, a trait of the believer, an abiding dispositional quality of personality — or is it something more episodic, an event or process that goes on in the believer at conversion and is then repeated at other junctures of life? As a case of the joint proper functioning of the *sensus divinitatis* and the *appetitio divinitatis*, is faith a personality condition underlying the functioning, or is it simply the functioning itself? Consider first Jonathan Edwards, who regards faith as a "new nature."

> 'Tis very true, that all grace and goodness in the hearts of the saints is entirely from God; and they are universally and immediately dependent on him for it. But yet... He gives his Spirit to be united to the faculties of the soul, and to dwell there after the manner of a principle of nature; so that the soul, in being endued with grace, is endued with a new nature: but nature is an abiding thing (342).

Thus even if human contributions to the formation of faith such as religious education, choices of yielding one's members to God as instruments of righteousness, voluntarily undertaken spiritual disciplines, modeling of one Christian on another, efforts of self-surveillance and self-correction, etc., are somehow entirely the supernatural work of the Holy Spirit, still faith is, in Edwards's view, a virtue in the sense that it is an abiding disposition resulting from an inward change. It is not merely the sum of the Holy Spirit's distrete actions, in pulling strings and pushing levers in the converted.

We have not been able to find a text in which Plantinga describes faith as a virtue, character trait, disposition, or new nature. He tends to characterize it, instead, in two episodic ways, as a warranting belief forming process and as knowledge in the sense of the warranted judgments that are produced by this process. For example,

> ...on this model, faith is a belief-producing *process* or activity, like perception or memory. It is a cognitive device, a means by which belief, and belief on a certain specific set of topics, is regularly produced in regular ways. In this it resembles memory, perception, reason, sympathy, induction, and other more standard belief-producing processes. It differs from them in that it also involves the direct action of the Holy Spirit, so that the immediate cause of belief is not

> to be found just in [the believer's] natural epistemic equipment (WCB, 256; Plantinga's italics).[11]

It is also the warranted beliefs about the great things of the gospel that are produced by this process.

> The result of the work of the Holy Spirit is faith — which, according to both John Calvin and the model, is 'a firm and certain knowledge of God's benevolence towards us, founded upon the truth of the freely given promise in Christ, both revealed to our minds and sealed upon our hearts through the Holy Spirit' (WCB, 290).

But it seems to us utterly natural for someone who is concerned with Christian faith as a proper epistemic process and its outputs also to be concerned with the dispositional *base* of that process, with the character of the *person* whose restored *sensus divinitatis* puts out true and warranted beliefs about God. This extension is particularly appropriate, given the preoccupation of the New Testament and the Christian tradition with the transformation of whole persons in conversion and sanctification, as exemplified in the passage we quoted a moment ago from Edwards. As Edwards also stresses, that transformation is largely a transformation of the will, the seat of the affections (the will being at the very heart of the person), and Plantinga's concurrence with Edwards on that point thus puts him on the verge of emerging as a virtues theorist.

As a virtue, faith is a polyconsequential disposition, issuing in actions, emotions, and judgments. The more faith a person has, the more and / or better (by Christian standards) will be the actions, emotions, and judgments in which that faith issues. The quality and quantity of each of these "issues" bear on warrant. Consider actions. Some Christians act on faith more regularly and with less environmental stimulus and support than others, making sacrifices for the sake of the gospel, performing acts of compassion in imitation of Christ and for his sake, bearing witness in hostile environments to the good news of the gospel. Christians differ from one another in the boldness and consistency with which they act out of faith. This difference bears on warrant because, as common experience in Christian circles attests, not only does bold action come from conviction, but conviction grows out of bold action. And as Plantinga affirms, confidence of belief bears on warrant.

Consider emotions. On the account of emotions we commend, they are a kind of immediate impression or "perception" of situations in terms of their propositional content, including the evaluations involved.[12] The joy that is characteristic of faith is an impression of the goodness of what God has done for us in Christ; faith's gratitude is an impression of God's unmerited benevolence towards us; faith's hope is a perception of the wonderfulness of our eternal future. On this quasi-Edwardsian account, then, the religious affections are to the value of the great things of the gospel something like what being appeared to redly is to the belief that something red is before one: they are a kind of non-inferential ground of beliefs (judgments). As the proper functioning of the will / intellect in this basic belief-forming way, they bear on warrant.

Consider judgments. The person of faith will daily make many judgments corollary to the great things of the gospel: *My* [dead] *mother is enjoying the presence of God. This person who has just cheated me out of $50 is someone for whom Christ died. The twinge of envy I just felt is evidence of the corruption of my heart.* Etc. As a disposition that can be more or less deeply or fully formed or mature in a person, it is a disposition with respect to which Christians differ from one another. Not only will the person of greater faith make more judgments corollary to the great things of the gospel, he will make them more spontaneously and with greater conviction and confidence. This variance of confidence will affect warrant, on Plantinga's view, for he thinks that, if other elements of warrant are in place, of two persons believing the same proposition the one who believes it with greater conviction or confidence has greater warrant.

Epistemic Functioning and the Concept of a Virtue

We are arguing that Plantinga's proper function theory of knowledge needs to be completed in a virtue account that bases epistemic proper functioning not just in healthy epistemic faculties narrowly conceived, but in certain virtues that are both qualifications of the person's emotional life and patterns of use of the epistemic faculties involved. We are not claiming that to have sufficient warrant to be knowledge all beliefs must be generated from such virtues; our claim, rather, is that some very important kinds of beliefs cannot, in practice, be generated without the virtues. We have illustrated our point using Plantinga's application of his theory to religious belief. We think it is significant that here, where by Plantinga's lights the most important kind of human knowledge is concerned, the emotions come to play a crucial positive role in the generation of knowledge. Nowhere else in Plantinga's account of knowledge is this positive role so clear. But the positive role of the emotions and the need for the personal epistemic virtues is not limited to the generating of religious beliefs. In the remainder of this paper we want to show that pretty much all kinds of deep, difficult, and important knowledge require proper (that is, virtuous) personal (that is, emotional) epistemic functioning. Virtues, as we will understand them here, are cultivated excellent dispositions and powers by which people function excellently as persons. (They are to be contrasted with cultivated excellent powers for field-specific functions, for example in molecular biology or ice hockey.) The epistemic virtues are a subset of the human virtues, being generically human cultivated excellent dispositions and powers to acquire, maintain, transmit, or apply knowledge.[13] Such virtues are generically human (not field-specific) because such involvements with knowledge are generically human. We gave a list of such traits in the opening paragraph of this paper. What is the relation between virtues such as these and the epistemic faculties?

We have faculties that enable us to form correct beliefs when they are functioning properly, but that is just the beginning of the story about proper epistemic functioning. Coming to know, as well as maintaining, transmitting, and applying our knowledge often depends on the skillful deployment of these faculties, on culture-bound cultivation of the faculty or of

parts of the mind that function in deployments of the faculty, and depends in the typical case on the personal aims, desires and attachments, emotions and actions of the knower. As knowers or would-be knowers, we are not just a coordination of faculties, analogous to an automobile which *is* nothing but a coordination of functional parts. People are epistemic agents — beings *equipped* with faculties for knowing things, who *pursue* knowledge by various means which centrally involve those faculties. To the extent that epistemic faculties are equipment, they may sometimes function magnificently and yet not generate knowledge of the kind they were designed to yield, just as a car might function perfectly with respect to engine, brakes, and other parts, and yet not be functioning very well as transportation if driven by a driver who didn't care where he was going or periodically depressed the brake pedal just to enjoy the sensation of being precipitated forward in the seat.[14]

Let us illustrate how personal virtues can ground proper intellectual functioning. A fact of our intellectual lives is that new information and new arguments frequently challenge us to revise our beliefs. Sometimes the possible revision is far-reaching. When it is, we may have to decide whether to abandon a hypothesis, belief, or avenue of research, or to persevere with it despite considerable uncertainty about its viability or outcome. Two coordinated virtues are relevant to this situation. On one hand, over the long haul we will have better warranted beliefs if we are open to revision, flexible and willing to revise. Such intellectual openness will have an emotional dimension. For example, the open person will either not feel too much anxiety about revising significant beliefs or will be able to master the anxiety he has, so as to make appropriate revisions. He will be eager to improve his beliefs, and so will greet criticisms with hope, readily[15] feel discomfort with beliefs that begin to seem wrong to him, and take satisfaction in revisions. On the other hand, over the long haul our beliefs will have more warrant if we do not too easily give up our beliefs, hypotheses, and research programs, but persevere in them long enough to understand, develop, and test them well. Such intellectual tenacity or perseverance will also have an emotional dimension: the tenacious person will have reasonable, well tempered confidence in herself as an epistemic agent, a confidence that will get her through the hard times and reinforce the hopefulness with which she addresses the tasks of the easier days. She will be relatively little beset with the emotion of impatience, and will be able to find satisfaction or joy in the small increments of progress that she may achieve from day to day and week to week, while at the same time keeping focused with hopefulness on the longer-term goals of her research. Behind both openness and tenacity is what might be counted as yet a third virtue: an enthusiasm and taste for knowing. Coordinated with these three virtues in the epistemically well functioning person is a power of judgment, fairly specific to the particular knowledge in question, as to when to persevere and when to abandon a hypothesis or line of inquiry. Because of its specificity to a field or research question, such judgment may be best thought of as a skill rather than a virtue.

The analogy of car and driver has limited application, since what are called epistemic faculties are not all well thought of as equipment. They

depart from this category in at least two ways. In our discussion of Plantinga's interpretation of Edwards, we counted the will as a faculty and said it can function well or badly. But it seems odd to designate the will as a piece of equipment on a par with eyesight or hearing or the ability to calculate. A deaf or blind person can be an excellent person, but to have a perverted or non-functioning will — chronically inappropriate desires, emotions, and attachments, and a disposition to make bad choices, or the complete lack of any of these powers — seems to be almost a definition of the deepest human dysfunction. The will seems to be the center of the person or personality, and this is shown by the fact that it is odd to speak of *using* the will well or badly. It is true that a person can dissociate from some deliverances of his will, such as some desires and emotions (thus criticizing and / or controlling them), but there is always some perspective of the will that is not dissociated from and can thus not be regarded as "used" even in this attenuated sense. By contrast, it makes perfectly good sense to speak of using inferential powers or hearing or memory. So in the automobile analogy, the center of the will, at any rate, is not the car, but the driver. But most epistemologists who speak of epistemic faculties do not include the will among them, and as we have seen, even Plantinga is reluctant to make the will a straightforwardly *epistemic* faculty.

So not all faculties are equipment. But even faculties that are straightforwardly equipment-like, such as vision and the power of a priori reasoning, seem to be subject to development and deep integration into other aspects of life, and in this way are unlike ordinary equipment. As we get better at driving, the steering wheel and the engine do not improve, but only the driver. By contrast, we do not just get better at *using* our hearing and vision, but the faculties themselves seem to become more discriminating, say with musical ear-training and training in the visual recognition of plant species. What is it for vision to function properly? There seem to be broadly two kinds of answer to this question. In one sense our visual apparatus functions well when the lenses focus sharply on the retinas and the retinas and other parts of the neurological equipment function in the way that an ophthalmologist would consider "normal." Proper functioning is 20-20 vision. This is the sense in which vision is most like a steering wheel. It does not get better with training, at least not much better. But vision can be trained in many ways, and the standards of proper functioning here will be laid down by the field in which the eyes are used: ambulation and throwing in basketball, various fields of microscopy, discriminating copies from originals of old paintings. In this deeper kind of seeing, vision in the equipment sense is integrated with motor skills, complex conceptual schemata, art history. An important social kind of vision is the visual recognition of others' emotions through facial expressions. By seeing others' emotions on their faces, we are enabled to respond sensitively and appropriately to their emotions and thus to pursue proper interpersonal relationships with others — relations of mutuality, friendship, harmony, etc., as well as relationships of suspicion and critical judgment. Since the subject's own moral-emotional maturity seems to be behind her ability to see in this way, this is a place where vision becomes much more than a faculty in the sense of equipment, and becomes an epistemic function of the whole person.

Knowledge comes in many different kinds and degrees of complexity, some depending on intellectual virtues and others not. A very young child may have all the proper epistemic functioning that is needed to know that Mommy has come home, by forming the belief that Mommy has come home on the basis of the auditory experiences of hearing the door shut and his mother's voice calling out "I'm home," and forming it in the kind of environment to which these powers are fitted. For such functioning, nothing in the way of epistemic virtue (in our preferred sense) is needed; it is quite enough if the child's faculties are functioning properly in more or less the equipment sense. The laboratory pathologist provides an intermediate case, for she will need a harder-won sort of proper epistemic functioning to recognize, under the microscope, a certain cell formation as basal cell skin cancer. But we are more likely to call her power of perception a skill than a virtue, because it is so specialized and narrowly focused: her ability to differentiate pathological cell formations visually is an excellence, all right, but one that makes her not so much a better person as a better professional. (We do think that people develop such high skills only if they have intellectual virtues in some degree — say, studiousness and perseverance.) But in addition to properly functioning faculties and intellectual skills are a group of powers not usually stressed by epistemologists — the epistemic virtues proper. Consider, for example, the power by which one is enabled and disposed to recognize subtle influences of envy and greed in one's own thoughts and actions that are to all outward appearances generous; or that combination of tenacity and openness in intellectual pursuits that we mentioned earlier. These are kinds of epistemic formation that do make their subject excellent as a person, and they are such not only because they have a generality that makes them applicable across a wide range of situations and topics, but also because they draw on concerns and powers that are basic to the constitution of good character.

Emotions and the Acquisition of Knowledge

In commenting on our illustrations we have stressed ways in which the intellectually virtuous person's emotions are qualified because we are interested in virtues that are attributable to the person and not merely to his parts, and we take human emotions to arise, typically, out of concerns that may be deeply determinative of one's character or personality.[16] Let us canvass some of the main ways that emotion-dispositions enter into the virtues that make us excellent epistemic agents.

First, a "passion" for knowledge (interest in it) seems likely to promote the acquisition of it, and to promote high quality knowledge. A striking example of intellectual enthusiasm is Barbara McClintock, the Nobel Prize-winning geneticist. Driven by her interest in corn chromosomes she spent about sixty years doing meticulous studies that yielded several innovative findings fundamental to 20th century genetics, despite gender discrimination which prevented her having a significant university post, as well as the incomprehension of other scientists due to the complexity of her research and the unconventionality of her ideas. Her story makes clear that she was less interested in the fame, power, and fortune that sometimes

accrues to successful scientists than she was in corn chromosomes and how they work. After a scientific meeting at which her summary of her discoveries "fell like a lead balloon" on the ears of fellow scientists, she commented, "I was startled when I found they didn't understand it, didn't take it seriously. But it didn't bother me. I just knew I was right. People get the idea that your ego gets in the way a lot of time — ego in the sense of wanting returns. But you don't care about those returns. You have the enormous pleasure of working on it." And on receiving her Nobel Prize she commented, "It's such a pleasure to carry out an experiment when you think of something — carry it out and watch it go — it's a great, great pleasure. It couldn't be nicer. ...I just have been so interested in what I was doing, and it's been such a pleasure, such a deep pleasure, that I never thought of stopping."[17] Given the enormous difficulty of acquiring for the first time the kind of knowledge that McClintock discovered, it seems clear that a passion (that is, emotion disposition) like hers, which generates not only the joy she speaks of, but also on occasion frustration, hope, disappointment, anxiety, anger, and other emotions, is an important ground of its acquisition. Here the emotions manifest or instantiate the concern for knowledge; this concern is a source of warrant analogous to the proper functioning of the cognitive equipment. It is an intellectual proper functioning of the will ("the will to know") and as such is partially constitutive of intellectual virtues such as tenacity, openness, humility, and honesty. Emotions with the requisite objects may thus be manifestations of intellectual virtues.

Second, Plantinga has noted that degree of warrant can vary with degree of felt inclination to believe.[18] For example, one is typically more warranted in believing that 2+2=4 than in believing the solution to a complex differential equation because one is more strongly inclined to the former than to the latter belief. In our discussion of Plantinga's religious epistemology we suggested that a person's emotional disposition may affect such inclination; the same is true in scientific epistemology. Consider Barbara McClintock again, proposing her genetic hypothesis to a disbelieving scientific community, yet retaining the strong conviction that she is right. Then imagine another scientist who has gathered the same evidence and arrived at the same conclusion, but who, because of vanity and lack of intellectual autonomy, is put off by his colleagues' disbelief, and wavers in his conviction that he is right. If Plantinga's point is correct, McClintock is more warranted in her belief than her colleague is in his, even if they have the same belief and the same evidence for it. It seems clear that the difference between the two scientists is one of character, and in particular, of their emotional dispositions. McClintock's intellectual autonomy is afforded by her passionate interest in the plants and the questions about how they work, nearly to the exclusion of concern (and the correlative emotions) about professional reputation; but the other scientist, in anxiety to be well regarded by his colleagues, loses sight of the truths he has garnered.

Third, emotions can assist knowledge by influencing what counts as evidence for a given knower and how much weight he assigns it.[19] A biographer, for example, will tend to notice and stress the traits of his subject that he admires or despises. Thus an investigator may be better or worse

suited by his own character to be the biographer of a given life. John Wain, in his biography of Samuel Johnson, takes James Boswell to task for failing to give a just impression, in his biography, of the side of Johnson's personality that is represented by his opposition to colonialism, "his hatred of the slave trade, his pleas for a more merciful penal system; his insistence that the real test of any civilization lies in its treatment of the poor." And he explains Boswell's intellectual failure by reference to his character:

> Boswell was a sentimental-romantic Tory of a very different stripe. ...being the son of a laird and a bit of a snob, he deferred to titled people, where Johnson, for all his support of "subordination," was just as likely to growl at them; ...being untroubled by any notion of the basic rights of the human being, he thought the slave trade an excellent institution.[20]

Boswell's problem was not that he lacked evidence for the humane side of Johnson, but that, lacking emotional responsiveness to that evidence (admiration for this aspect of Johnson's personality), he did not give it due weight.

Dialectical exchange is another context where emotional receptivity to information may affect reasoning. When you argue with someone to whom you feel uncharitable, you may be inclined to put the worst construction on her arguments. If your interlocutor has genuine information or inferential insights to offer, your emotions may impede your acquisition of knowledge. But if you feel respect and charity for your interlocutor, you will be inclined to listen carefully to her statements and search for a plausible interpretation of them, thus increasing your likelihood of getting access to certain meanings and information. We admit that people are sometimes led to precise interpretations of their dialectical opponents by less virtuous emotions such as fear of looking stupid, or even malicious hope of making the interlocutor look stupid; we also admit that an epistemically misguided charity can make a person insufficiently critical of his interlocutor's arguments. In the last case what seems needed is other intellectual virtues, like passion for truth, to be coordinated with charity. However, in the long run and other things being equal (like the other intellectual virtues, and such faculties as intelligence and skills like dialectical skill), we think the moral virtue of charity, applied to dialectical exchange, is likely to be a net promoter of epistemic warrant. At least, this will be so in congenial social-intellectual environments.

As we argued in our discussion of Edwards, emotions are important in producing knowledge of values. Our next three points elaborate this claim. Thus fourth, a case can be made that emotions themselves are perceptual or quasi-perceptual states (not necessarily *sense*-perceptual states),[21] a kind of "seeing"-as; in emotions one sees situations in light of their import to oneself or *überhaupt*.[22] For example, if McClintock is disgusted at administrators of the University of Missouri for standing in the way of her research while promoting that of inferior male scientists, she perceives the situation as "stinking" and corrupt and not worth further investment and effort from her. If the disgust is well formed, it affords her a warranted view of the

actual values of this situation, a view that would be less full and precise (though perhaps not altogether absent) if she beheld the situation without emotion.[23] But if emotions are a major source of our knowledge of the values of things, they can also be false perceptions (as sense perceptions are sometimes false). Just as people grow and mature in their capacity to perceive accurately with their five senses, they may mature in their ability to perceive accurately with their emotions. Aristotle defines moral virtues as dispositions to feel passions at the *right* time, in the *right* way, towards the *right* person, etc.[24] Thus on a plausible account of at least some moral virtues, these have an intellectual or knowledge-gathering dimension: they are dispositions to perceive the moral qualities of situations.

Fifth, awareness or feeling of emotion can be an important access to self-knowledge. Not all emotions are felt, but when they are, they afford the subject an opportunity to read his own character. If emotions are manifestations of concerns and attachments, and concerns and attachments are what virtues and vices are largely made of, then emotions are often manifestations of virtues and vices. For example, one who feels envy of a friend's academic success and has a modicum of wisdom about moral symptomatology may be able to see in that emotion a perverse competitiveness with a person whose joy should be an occasion for her to rejoice too.[25] The cognitive virtue of self-insight seems to have two "emotional" components: a transparency to one's own emotions (a tendency to feel them), and an ability to "read" them. The ability to read them is itself an emotional ability. Consider a person who feels envy and knows that this is a symptom of an inappropriately competitive character, but feels nothing *about* feeling envy (feels no discomfort, no shame, no anxiety or dismay). Such a person does not have the fullest form of self-insight because, while she "knows" what she is, she does not fully *appreciate* it. If one's emotions can be an access to knowledge of one's own character, observations of other people's emotions can be an access to knowledge of their character, an access sometimes less ambiguous than the observation of their actions. This epistemic virtue — we might call it character-insight — like self-insight, depends on the ability to experience and appreciate emotions. This fact is highlighted by cases of persons who conspicuously lack the ability, like Temple Grandin, a highly intelligent autistic woman discussed by Oliver Sacks.[26]

Sixth, another person's emotions may reflect more accurately the values of a situation than one's own do, because of his or her greater virtue (justice, compassion, honesty); that is, the other's emotions may be more warranted than one's own in virtue of the person's being a better functioning person. But more virtuous persons sometimes influence the emotions of less mature persons who associate with them. For example, in the presence of someone with a strong sense of social justice, someone less developed may, by a sort of sympathy, come to feel an indignation at injustices and hope of their rectification that she is not disposed to feel on her own. Through this sympathetic emotion the less developed person achieves, for the moment, a moral perception similar to that of the more developed person. In such a case the wiser person may, by his expressed emotion, transmit moral knowledge to someone else. Children learn how to feel, in part,

by imitating sympathetically the emotions of their parents. Even in the less developed person, the ability to experience situations via sympathy with the emotions of others depends on a kind of sensitivity that can be thought of as an (incipient) epistemic virtue. Some people lack even this amount of sensitivity.

Our first six connections between emotions and knowledge are ones in which emotions *foster* knowledge or are strongly associated with something (e.g. the concern for knowledge) that fosters it. By contrast, the literature on epistemology, when it has spoken of emotions at all, has spoken chiefly of their role as impeders of knowledge. For example,

> ...proper function can be impeded by pride, ambition, lust, anger, patriotism, fear, greed, impatience, buck fever, mother love, avarice, hate, undue sensitivity, excessive pessimism (or optimism) and the like; and when this happens warrant is often excluded. ...loyalty and love for your friend prevents you from seeing what you otherwise might have, namely that she has been lying to you.... ...Now I propose to describe these phenomena in terms of 'impeding proper function'....[27]

In connection with emotions' power to impede knowledge, two virtues reminiscent of classical ones stand out as corrective. Let us say that temperance is a disposition to have proper, and only proper, emotions and appetites.[28] The more temperate a person is, the less her knowledge-gathering and -maintaining will be impeded by improper emotions. But some of the emotions that impede knowledge are not improper in themselves, and so even the temperate person may have episodes of passion that undermine knowledge, and thus be in need of the virtue of self-control, which is the ability to evaluate and set aside, disregard, transcend, suppress, or otherwise manage emotions, desires, and impulses that, at a given moment of life, are contrary to one's purposes, whether these passions are strictly speaking improper or just inopportune. Because emotions do often undermine the processes of knowledge-acquisition and -maintenance, warrant will often depend on a person's having these virtues. If impatience often induces people to form beliefs without the labor and care that alone would give them warrant, then patience, in one or more of two possible forms, will be an important virtue for aspiring knowers. In its temperance form, patience will be the disposition not to have improper impulses of impatience, but to be satisfied to move along in one's research at an appropriate pace, taking each moment and each day as it comes. In its self-control form, patience will consist in an alertness to the detriments that impatience threatens, an ability to recognize impulses of impatience as such and to cut through any rationalizations that might dim one's awareness of those impulses, and both a motivation and an ability to manage those impulses so they do not undermine the acquisition of knowledge.

In several ways, then, emotions determine human epistemic functioning for good and for ill, and so must be taken account of in any construction of proper epistemic functioning. Emotion dispositions and emotion-directed dispositions that promote knowledge are aspects of the base for proper

functioning of human epistemic agents. As such, they are traits of the persons whose beliefs are most likely to have warrant.

An Illustration

Consider Plantinga's discussion of a passage from John Locke, who imagines a seasoned professor confronted all of a sudden with a bright graduate student who makes a point that undermines a fundamental principle of the professor's life's work.

> Would it not be an insufferable thing for a learned professor, and that which his scarlet would blush at, to have his authority of forty years standing wrought out of hard rock Greek and Latin, with no small expence of time and candle, and confirmed by general tradition, and a reverend beard, in an instant overturned by an upstart novelist[29]? Can any one expect that he should be made to confess, that what he taught his scholars thirty years ago, was all errour and mistake; and that he sold them hard words and ignorance at a very dear rate?

Plantinga distinguishes two kinds of faculties whose functioning may affect the warrant of the professor's beliefs. "The professor's faculties may be functioning properly (there may be a properly functioning defense mechanism at work); but his belief that the young upstart is dead wrong would have little by way of warrant."[30] So Locke's description does not suggest that the professor is suffering from bad hearing or a neurological dysfunction that prevents his understanding the novelist's point. However, Plantinga notes that a defense mechanism, say, against psychological devastation by shame, may also be functioning properly, to its *own* purpose, undermining the work for which the properly epistemic faculties are designed.

So the professor himself is not functioning well epistemically, despite his unimpaired faculties. Contrast the case of another professor. After arguing that the search in recent epistemology for the single correct concept of epistemic justification has been a mistake, William Alston comments:

> It will, I hope, have become clear by now that the thesis of this paper is an iconoclastic and revolutionary one, a bold departure from the well trodden pathways of the discipline. It implies that a large proportion of contemporary epistemologists, including myself, have been misguided in their researches, fighting under a false banner, engaged in a quixotic tilting at windmills.[31]

It is true that Alston goes on to confess the pleasures of iconoclasm and to show how a good portion of the epistemological windmill-tilting over recent decades can be redeemed, after all, by reconceiving somewhat the goals of epistemology. But still, it is an impressive epistemic attribute to be able to see and admit that what one has been laboring at for the past several decades and enshrining in ink, and what one has been lionized for, is pretty fundamentally misconceived. The difference between Locke's

professor and Alston is, as Plantinga's language suggests, not a difference of the excellence of epistemic faculties. But it is a difference of epistemic functioning, and one that would seem to be an asset for a philosopher. Locke's professor is blinded to truth by the deterrent of shame, by the stake of his honor and status and image and identity as professor that, as he sees it, will be compromised by so fundamental an admission of error. Alston, by contrast, is willing to suffer the embarrassment because of his overriding interest in getting epistemology right. Or perhaps he sees more clearly that there is not much shame in disowning a significant part of his work in the interest of truth.

So we need to assess not just faculties, but their integration into the character of the epistemic agent. Perhaps it is psychologically needful that people have a defense against devastating shame, but adjustments are possible here, and normatively called for. One might think that the professor is overly ashamed, or ashamed of what is not really or deeply shameful; or that it would be better for his defenses to be more permeable than they are. By contrast with Alston, Locke's professor is one in whom the defense mechanism may be functioning properly if construed in isolation from the larger context of the purposes of his life, but is functioning in such a way as to make him something of an intellectual coward. His defense mechanism is functioning properly in the way that the eyesight of a person with 20-20 vision is functioning properly, despite the fact that her visual assessments of people's emotional states are skewed.

On a plausible description of the professor's mind, taking cues from Locke's references to his authority and his reverend beard, the professor's failure to hear the student's point is due to the emotional structure of his personality (his self-image as important and learned and his emotional attachment to that self-image; the subordination of the concern for truth to the concern to be respected). By contrast, on a plausible description of Alston's mind, it is not just that he did his epistemic duty so as to form the belief that the jig was up for monolithic theories of justification. Instead, the order of his concerns was somewhat different from that of the professor; his character was differently formed. Getting it right philosophically was a powerful enough concern to override the concern to maintain the full lustre of his previous accomplishments. If the difference between these professors is in the excellence of their faculties, it is largely a difference in the functioning of their wills. But it is also a difference in their functioning as epistemic agents. And this difference bears quite directly on the warrant of their beliefs.

Conclusion

We have argued that proper function epistemology requires completion as a virtues epistemology of a particular sort that we have called personal virtues epistemology. Personal virtues are excellences of the whole person rather than of the narrowly epistemic faculties. In particular we have argued that for the knower to function properly as a knower, his will, especially as a source of emotions or affections, needs to be shaped and completed to form such epistemic virtues as charity, fairness, intellectual hon-

esty, love of knowledge (truth), perseverance, openness, caution, boldness, and humility. Such virtues tend to increase the epistemic desideratum of warrant, among other desiderata, not for all kinds of knowledge but very much for the more difficult and important kinds.

At a conference on virtue epistemology, and partly in response to our exploration of epistemic humility at that conference,[32] Plantinga commented on the virtues and limitations of virtue epistemology. Among the virtues he mentioned the following. Focusing on the virtues alerts us to the diversity of kinds of knowledge, and calls our attention to kinds that epistemologists have neglected in recent decades. Among these are moral knowledge of self and other, and scientific knowledge (we would add religious knowledge). Second, virtue epistemology tends to bring out the variety of epistemic goods. Knowledge is not the only one. Understanding and clarity of expression are others. Third, virtue epistemology encourages us to note epistemically relevant states of the knowing agent that we might otherwise miss. For example, there has been very little discussion of epistemic humility in the recent literature, and only a little more of the relevance of emotions to knowing.

However, Plantinga pointed out that virtue epistemology is not well suited to promote a project that has dominated epistemology since Gettier and before: that of defining knowledge. Any definition that places virtues among the necessary conditions of knowledge will be far too strong. It will rule out simple cases of perceptual knowledge and slightly more complex ones like our example of the child who knows his mother has come home when she calls out upon arrival. Nor is any amount of virtue, generating true belief, sufficient for knowledge. For example, imagine that Hank has a brain tumor that is emitting, in some eccentric way, data from which Hank concludes, by honest and persevering research and charitable interpretations of his interlocutors and heroic openness to new ideas, that he has a brain tumor. Even though Hank believes truly that he has a brain tumor, and came to this belief by way of calling upon impressive intellectual virtues, he does not know that he has a brain tumor.

We agree. Personal virtue epistemology is not well suited to the project of defining knowledge. We do not know whether proper functionalism or any other theory can define knowledge. The history of efforts to define knowledge in the twentieth century is strewn with corpses of theories exploded by ingenious counterexamples. But we understand many concepts for which we do not have strict definitions, and the goal of personal virtue epistemology is to promote our understanding of epistemic agents, especially when they are engaged in the pursuit of the more difficult and important kinds of knowledge. The strict definition of knowledge is not our aim.

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NOTES

1. See *Warrant and Proper Function* (Oxford: Oxford University Press, 1993), 46-47. See also "Why We Need Proper Function," *Noûs* 27 (1993): 66-82, 73.

2. *Warranted Christian Belief* (New York: Oxford University Press, 2000). Hereafter WCB.

3. We do not deny the propriety of other uses of 'virtue.' As Ernest Sosa points out, the Greeks used 'arete' for excellences even of such things as knives (*Knowledge in Perspective: Selected Essays in Epistemology*, Cambridge University Press 1991, 271), and we have no reason to legislate that an excellence such as 20-20 vision, even taken in abstraction from larger and deeper personal powers of vision, is not a virtue. Application of 'virtue' to excellences of knives and eyes is even good English, though we think it is not the central sense of the word in modern English. Also, as will be seen later in the paper, to say that virtues in our sense are dispositions with respect to emotions is not to deny that they are dispositions with respect to other things, such as actions and judgments. On our view, emotions, actions, and judgments are capable of a complex set of internal relations. For example, a person often judges the content of his emotion to be true and is thereby moved to perform an action whose reason is also the content of his emotion and his judgment.

4. *Institutes of the Christian Religion*, Tr. Ford Lewis Battles and ed. John T. McNeill (Philadelphia: Westminster Press, 1960), volume I, 46.

5. In Christian conversion and sanctification, "the *sensus divinitatis* is partly healed and restored to proper function by *faith* and the concomitant work of the Holy Spirit in one's heart" (WCB, 186; Plantinga's italics).

6. *The Practice of the Presence of God* (New Kensington, PA: Whitaker House, 1982).

7. *Summa Contra Gentiles* III, 38, 3, translated by Vernon Bourke (Notre Dame: Notre Dame University Press, 1975).

8. See *Summa Theologiæ* 1A2Æ 56, 6, reply.

9. *Religious Affections*, edited by John Smith (New Haven: Yale University Press, 1959), 272.

10. For a rather rich account of the latter, see Edwards's *Charity and its Fruits: Christian Love as Manifested in the Heart and Life* (Edinburgh: Banner of Truth Trust, 1969; originally published 1852).

11. He also makes the by now familiar point that faith is an affection producing process. See p.270.

12. See Robert C. Roberts, "What An Emotion Is: A Sketch" *Philosophical Review* 97 (1988): 183-209; and *Emotions: An Essay in Aid of Moral Psychology* (Cambridge University Press, forthcoming), Chapter Two.

13. In this paper we concentrate, as most epistemologists do, on acquisition. However, a more complete account of the epistemic virtues would illuminate their relation to other epistemic goals. See W. Jay Wood, *Epistemology: Becoming Intellectually Virtuous* (Downers Grove: InterVarsity Press, 1998), Chapter Two.

14. To our knowledge it was Lorraine Code who in recent epistemology first distinguished faculty excellence from agent excellence, commenting that attributions of cognitive virtues "are more appropriately assigned to persons than to faculties." See her *Epistemic Responsibility* (Hanover and London: University Press of New England, 1987), 57. Linda Zagzebski makes the same distinction in her criticism of Plantinga. See her *Virtues of the Mind* (Cambridge University Press, 1996), 319-329. The distinction needs some qualifications that we will discuss in a moment.

15. The less open person may be capable of feeling this discomfort, but tend to repress or ignore such emotions, and will accordingly feel them less readily. The dogmatist or ideologist who is very closed to revision of his beliefs may simply do his best not to get in a position to see what may be wrong with them, and so protect himself more radically against such discomforts.

16. In both the Aristotelian and the sentimentalist traditions, virtues are strongly associated with emotions and emotion dispositions. See, for example, Aristotle's *Nicomachean Ethics*, 1104b4-15, 1105b25-29, 1106b15-22; Aquinas's *Summa Theologiæ*, 1a2æ Questions 22-48, 59; David Hume's *Treatise*, Book II and Book III, especially Parts I and III; Adam Smith's *The Theory of Moral Sentiments*, especially Parts I-III. However, in both these traditions it is not the intellectual, but the moral virtues that are so associated. Our policy of not marking a strict division between moral and intellectual virtues is a departure from both of these traditions.

17. Quotations are from Sharon Bertsch McGrayne, *Nobel Prize Women in Science* (New York: Birch Lane Press, 1993), 168, 173.

18. "When my faculties are functioning properly, a belief has warrant to the degree that I find myself inclined to accept it; and this (again, if my faculties are functioning properly and nothing interferes) will be the degree to which I *do* accept it" (*Warrant and Proper Function*, 9).

19. This connection is a major theme of William Wainwright's *Reason and the Heart: A Prolegomenon to a Critique of Passional Reason* (Ithaca: Cornell University Press, 1995).

20. *Samuel Johnson* (New York: The Viking Press, 1974), 14.

21. See Adam Smith, *The Theory of Moral Sentiments*.

22. This is a corollary of Roberts's account of emotions. See note 12.

23. For discussion, see William Tolhurst, "On the Epistemic Value of Moral Experience" *Southern Journal of Philosophy* 29 Supplement 1990, 67-87.

24. *Nicomachean Ethics*, 1106b15-22.

25. For discussion, see Robert C. Roberts, "Feeling One's Emotions and Knowing Oneself" *Philosophical Studies* 77 (1995): 319-338.

26. See *An Anthropologist on Mars* (Toronto: Vintage Books), 244-296.

27. Alvin Plantinga, "Précis of *Warrant: The Current Debate* and *Warrant and Proper Function*" *Philosophy and Phenomenological Research* 27 (1993), 444-45.

28. We extend the concept of temperance here beyond the classic one, which limits it to bodily appetites. On the present concept many of the moral virtues are, on Aristotle's account, versions of temperance.

29. Novelist: "†2. One who is inexperienced; a novice. 1630 Lennard tr. *Charron's Wisd.* II.VII §18. 305 There is not any thing so easie that doth not hurt and hinder vs, if wee bee but nouelists therein" (*Oxford English Dictionary*).

30. *Warrant and Proper Function*, 12. Compare WCB 149-151.

31. "Epistemic Desiderata" *Philosophy and Phenomenological Research* 53 (1993): 527-551; 541-2.

32. See "Humility and Epistemic Goods" in Michael DePaul and Linda Zagzebski (Eds.), *Intellectual Virtue: Perspectives from Ethics and Epistemology* Oxford University Press, 2004.