Alvin Goldman, in *Epistemic Folkways and Scientific Epistemology*, intends to “identify the concept of justified belief with the concept of belief obtained through the exercise of intellectual virtues” (Goldman, 439). However, being a thoroughgoing reliabilist, Goldman wants to say that our stored lists of intellectual virtues which we use for epistemic evaluation are in some sense reducible to considerations of reliability, since they were originally formed with this condition in view. Therefore, what confers justification is actually reliability, though we have come to think in terms of intellectual virtues and vices in giving epistemic appraisal. For Goldman, reliability is construed as a characteristic feature of those processes which “are deemed to produce a high ratio of true beliefs” (Goldman, 441). This reliability is a necessary condition for an intellectual virtue, and it is prior to our storing lists of intellectual virtues and vices. In *Virtues of the Mind*, Linda Zagzebski identifies a reason why “the motivation to know is not fully expressed by following well-known reliable belief-forming processes” (Zagzebski, 466). I believe that this amounts to saying, in contrast to Goldman, that reliabilist theories do not have the necessary apparatus for capturing our intuitions about intellectual virtues because they do not recognize a sufficiently broad sense of truth conduciveness. Therefore, I have availed myself of Zagzebski’s invitation in *Virtues of the Mind* to further flesh out and investigate this issue.
It has become apparent that some reliabilists, like Goldman, have found merit in the idea of bringing evaluation of intellectual virtues into the justificatory picture. Presumably, this is due in part to the fact that they recognize the importance of affirming some sort of personal responsibility for the things we believe. It seems quite plausible that human beings exhibit some sort of epistemic agency, analogous to agency in ethics, by virtue of which we have at least something to do with our epistemic status. Given that consideration of moral virtues in doing evaluation puts this personal responsibility in view in ethics, some have been inclined to bring consideration of intellectual virtues into epistemic evaluation in an attempt to reassert the idea of personal responsibility in a theory of knowledge. Goldman and others think that they can get good mileage out of an incorporation of intellectual virtues into their theory of justification. But can a thoroughgoing reliabilist be consistent with this incorporation? Can he do a good enough job of incorporating intellectual virtues to put personal responsibility back in view, but without radically altering his reliabilist tenets? I shall argue that he cannot.

All virtues, intellectual or moral, “involve a motivational component and a reliable success component” (Greco, 2004). For intellectual virtues, the motivational component amounts to a “motivation to have cognitive contact with reality” (Zagzebski, 458). The reliable success component involves their being “known by the epistemic community to be truth conducive” (Zagzebski, 459). It seems to be truth conduciveness that is doing the work in conferring justification on beliefs formed through the exercise of
intellectual virtues. I think the reliabilist would agree with this. Thus, though the motivational and reliable success components both function as necessary conditions for intellectual (and moral) virtues, I will narrow focus primarily to the latter.

We have said that the reliable success component for intellectual virtues involves their being truth conducive in some sense. Traditionally, reliabilists have thought about truth conduciveness in arguably rather narrow terms. Reliabilists want to say that a belief-forming process is truth conducive if and only if it yields (either counterfactually or historically, depending on the account) a sufficiently high percentage of beliefs whose propositional content is true. Interestingly enough, this seems to be quite similar to the definition given for reliability. Thus, it comes as no surprise that reliability is taken to count as the important property for truth conducive types of belief-forming processes. The point of interest is that Zagzebski denies that this sort of truth conduciveness exhausts the range of truth conduciveness important for justification. Zagzebski says that “there is another sense of truth conduciveness” involved in the exercise of intellectual virtues that is not captured by the reliabilist account (Zagzebski, 465). She believes that this other type of truth conduciveness “generate[s] very few true beliefs, no matter how they are formed” (Zagzebski, 465). What makes these processes truth conducive in the second sense is that they are necessary for the advancement of knowledge, whether or not they are truth conducive in the sense recognized by the reliabilist. Since both senses of truth conduciveness are taken to have the advancement of knowledge as their aim, it seems clear that Zagzebski has identified a broader sense of truth conduciveness than that recognized by the reliabilist.
But what does this second (broader) sense of truth conduciveness amount to? Can a virtue or process count as truth conducive merely if it is in some way present in a chain of events that leads to knowledge, construed as human cognitive contact with reality? Presumably this would be too broad, for one could conceive of a state of affairs such that what we might take to be an intellectual vice indirectly precipitated, perhaps accidentally, or as some sort of equal and opposite reaction, the gaining of knowledge. One necessary condition for virtues or processes that are truth conducive in the broader sense we are considering is that such virtues or processes be self-correcting. Zagzebski says that “as long as these traits (in combination with other intellectual virtues) are self-correcting, they will eventually advance human knowledge, but many false beliefs may have to be discarded along the way” (Zagzebski, 465). Thus, although a virtue or process may not initially yield a preponderance of true beliefs, thereby failing to be truth conducive in the narrower sense, it is possible for it to serve the goal of advancing knowledge anyway, so long as it is self-correcting.

Perhaps an account is needed of how intellectual virtues can be self-correcting. We have an example of a self-correcting process in the scientific method, but it would be nice to have a self-correcting component built directly into the list of intellectual virtues. I believe that something analogous to phronesis, which is itself one of the intellectual virtues Aristotle identifies, can fill this role. Construed as “practical wisdom,” phronesis is important for mediating conflicts among intellectual virtues in that it directs “cognitive activity appropriately” (Greco, 2004). It is this feature of phronesis that allows it to serve
as a primary self-correcting component necessary for truth-conduciveness in the broader sense. There is likely to be a strong correlation between the extent to which phronesis is exhibited and the extent to which other associated virtues that are co-exhibited will be self-correcting. Now of course phronesis is not the only thing that confers this self-correcting property on associated virtues. Counterbalancing or complementary virtues exhibited by other members of the epistemic community might also confer this self-correcting property, and in the end yield an advancement of knowledge.

These considerations lead to a further question: If knowledge amounts to cognitive contact with reality arising out of acts of intellectual virtue, when does the cognitive contact have to occur and who has to have it for an intellectual virtue to be ascribed to a particular agent? That is, in attributing intellectual virtues or vices to S, must only S’s activities and the results he achieves be considered, or should the scope of consideration be broadened? Here is a common example that might serve to flesh out our pre-reflective intuitions about this issue: Consider a group of Ptolemaic astronomers, the best available circa 400 C.E. Let us suppose that they were unequaled in their astuteness of planetary observation, rigor of calculation of the observed motions, intellectual courage in positing the notion of an equant, and intellectual sobriety in honoring the geocentric tradition that had predominated among earlier thinkers of renown. Suppose (as we today in fact do) that the exercise of these particular intellectual traits and faculties led these particular Ptolemaic astronomers immediately to the formation of patently false beliefs about the nature of our solar system. However, suppose further that through continuing to exhibit these and other traits and faculties, and building upon the work the
Ptolemaic astronomers had done, later astronomers came to form true beliefs about our solar system. Ought we to say that the traits and faculties exhibited by the Ptolemaic astronomers, such as astuteness of observation, rigor of calculation, intellectual courage, and intellectual sobriety should count as intellectual virtues? I believe the answer is “yes,” since the important consideration in attributing an intellectual virtue is its motivation for knowledge, and its reliable success in achieving it. Both of these components hold for the example. The traits, faculties, and processes our Ptolemaic astronomers exhibited/used were aimed at knowledge. Our Ptolemaic astronomers engaged in their research and theorizing with the attainment of knowledge as their goal. Also, it seems that the traits, faculties, and processes they exhibited/used contributed in a straightforward and direct way to an amplified cognitive contact with reality, though this was not the case for them specifically, but for humanity more generally. Moreover, it seems that in proximate possible worlds, these same traits, faculties, and processes would have contributed to a similar degree to an amplified cognitive contact with reality. If we agree with this, we ought to attribute these intellectual virtues to our Ptolemaic astronomers.

One might wonder about exactly how truth conduciveness in the broader sense works out with respect to specific intellectual virtues we might want to add to our lists. For the sake of argument, let us consider a rather controversial intellectual virtue, originality. What makes originality truth conducive, if indeed it is? First of all, what we mean by “originality” must be made clear. It seems that the exercise of originality consists in forwarding propositions that have as yet not been widely considered. For
originality to count as an intellectual virtue by Zagzebski’s definition, it must at least have truth as its motivation. It seems that although she may be unlikely to get a preponderance of true propositions to fall out of this virtue, the original thinker is likely aiming at truth in some important sense. It seems that the reliable success component, the truth-conduciveness, of whatever originality is, is found in its propensity to broaden the set of viable propositions to be considered. The more viable propositions that are available for investigation by epistemic agents, the more true beliefs that will be generated (\textit{ceteris parabis}). If the calibration of the human belief set with reality is what is important, then it seems that some type of originality is truth conducive, and therefore should count as an intellectual virtue since it demonstrates a propensity to broaden the set of viable propositions to be considered. If the truth conduciveness of originality can be described in this way, surely there are other traits we would intuitively label intellectual virtues whose truth conduciveness works in similar fashion. Such might be open-mindedness (placed properly between the extremes of blind assent and cognitive recalcitrance) and intellectual courage.

Can reliabilists like Goldman who want to bring intellectual virtues into the picture attribute the intellectual virtues we mentioned to our Ptolemaic astronomers? It seems that they cannot do so without bending over backward. The reason for this is that the traits, faculties, and processes our Ptolemaic astronomers used are probably not truth conducive in the narrower sense recognized by the reliabilist. But what if they are indeed truth conducive in this narrower sense? To maintain that they are, it seems that the reliabilist would have to say that although these traits, faculties, and processes generally
yield a preponderance of true beliefs, the results achieved by the Ptolemaic astronomers are one among very few failures of these types of traits, faculties, and processes in yielding true beliefs. These Ptolemaic astronomers did exhibit these intellectual virtues, but it just so happens that in this unfortunate but rare case these normally truth conducive virtues failed to yield true beliefs. This line of response would allow the reliabilist to attribute intellectual virtues to our Ptolemaic astronomers without forcing them to broaden the sense of truth conduciveness so central to reliabilism. But, it does not seem like a plausible line of response. Presumably, other examples can be generated which are such that we will intuitively want to attribute the exhibition of intellectual virtues to the agent[s] in question, and that the agents manage to come up with false beliefs that are later corrected as a direct and straightforward result of the intellectual virtues exhibited by the original agents. Surely these cannot all be dismissed as contrived exceptions to the general truth conduciveness (in the narrower sense) of the intellectual virtues under consideration. If this is indeed the case, it seems that it will be necessary for the reliabilist who wants to attribute intellectual virtues and vices in intuitively plausible fashion to affirm the broader sense of truth conduciveness.

But why should the reliabilist who wants to get mileage out of intellectual virtues not simply limit the intellectual virtues to be admitted to his list to those which will most likely not be involved in the sorts of counterexamples mentioned above? That is, why should the virtue-oriented reliabilist not just stick with consideration of only those intellectual virtues likely to be truth conducive in the narrower sense, like properly-functioning sense perception and logical competence?
Let us recall that one of the primary motivations for incorporating consideration of intellectual virtues and vices into a theory of knowledge was to bring personal responsibility of epistemic agents back into the picture. It seems likely that to get such an evaluation of persons out of the theory, it will be necessary to construe intellectual virtues not only as “cognitive faculties or abilities like memory and vision,” but also as “intellectual character traits, traits like inquisitiveness, fair-mindedness, open-mindedness, intellectual carefulness, thoroughness, and tenacity” (Baehr, 2006). Accounting for the truth conduciveness of commonly discussed cognitive faculties and abilities is probably not difficult on a straightforwardly reliabilist account. But accounting for the truth conduciveness of some commonly discussed intellectual character traits seems as if it would be a significantly more difficult project on a straightforwardly reliabilist account. In fact, to accommodate these character traits as genuine intellectual virtues, it seems that we will need to broaden the truth conduciveness they must exhibit beyond the reliabilist’s recognition. Reliabilists in Goldman’s mold are faced with a choice: Give up this attempt to bring personal responsibility of epistemic agents back into the theory of knowledge, or drastically modify the sense of truth conduciveness reliabilists characteristically endorse.
