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AN ARISTOTELIAN CRITIQUE TO CONTEMPORARY VIRTUE EPISTEMOLOGY

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Abstract. This paper aims to offer an Aristotelian critique of virtue epistemology, particularly of the way virtue epistemologists use the concept of intellectual virtue in their definitions of knowledge. I engage with David Bronstein's thesis that virtue reliabilists, despite claims of being contemporary representatives of Aristotle's epistemology, construct their key epistemic categories in ways that fundamentally deviate from Aristotle's own virtue epistemology. In addition to Bronstein's argument, I will argue that a similar critique applies to the other main branch of virtue epistemology — namely, Zagzebski's responsibilism. I intend to clarify both the gist of contemporary virtue epistemologists and the motivation behind their approaches, highlighting that, not only do they differ from Aristotle, but also that their theories run the risk of vicious circular reasoning. I conclude by proposing alternative options, within virtue epistemology, that may avoid the problems I identify in mainstream virtue reliabilism and responsibilism.

Keywords: Aristotle • virtue epistemology • virtue reliabilism • virtue responsibilism

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1. Introduction

Following the revival of virtue theories in the twentieth century, many of its proponents have claimed or been assigned the label of neo-Aristotelians (e.g. Snow 2018). Within the field of analytic epistemology, this label has been applied to virtue reliabilism, both by interpreters (e.g. Battaly 2019) and by some of its main advocates (Greco 2010, p.3; Sosa 2015, p.34). Roughly, virtue reliabilists may be considered "neo-Aristotelians" as long as their understanding of human intellectual capacities and their comprehension of the nature of cognitive achievements seem to be borrowed from and inspired by Aristotle's epistemology and philosophy of science.

Both Aristotle and the neo-Aristotelians conceptualize human knowing as a process executed by certain truth-aiming natural capacities that, in the right conditions, produce knowledge. As Sosa puts it, "Knowledge [...] involves endeavors to get it right" (2019, p.15), and "propositional knowledge can be understood as belief that attains its aim (truth) and does so not merely by luck but through competence" (2015,

p.12). In the same vein, McPartland says of Aristotle, "Aristotle is best understood as having broadly externalist and reliabilist views about warrant", and, [true beliefs] "come to be as a result of the proper exercise of faculties that naturally and constitutively aim at the accurate representation of the world" (2021, p.153).

Further, Aristotle assigns to intellectual virtue a pivotal role in his epistemology. As explained by Gartner, "for Aristotle, there is a tight correspondence between objects in the world and our capacities or states", so that "subjects of awareness are constituted such that they possess different faculties for apprehending different things in the world" (2021, pp.126–7). For virtue reliabilists, similarly, intellectual virtue is a decisive category, understood as cognitive traits that manage to produce more true than false beliefs (Greco 1999).

Given these similarities, it would be plausible to conclude that, in fact, contemporary virtue reliabilists are neo-Aristotelians — they develop their epistemologies using roughly Aristotelian categories of knowledge as a cognitive achievement and of intellectual virtue as a reliable, truth-aiming disposition. This assumption has recently been challenged by David Bronstein (2019). For him, despite the common language and the self-proclamation of virtue reliabilists as neo-Aristotelians, there is a fundamental difference in how Aristotle and contemporary reliabilists understand and explain the relation between intellectual virtue and knowledge.

In this paper, I compare the virtue epistemology of Aristotle and contemporary virtue epistemologists. First, following Bronstein, I argue that virtue reliabilists, by characterizing knowledge as a true belief produced by intellectual virtue, end up subscribing to the thesis of metaphysical dependence of knowledge on virtue. Second, I claim that the other branch of virtue epistemology, namely, Zagzebski's responsibilism, curiously also subscribes to this thesis. Third, I claim that Aristotle does not subscribe to such a thesis, as he characterizes different cognitive achievements independent from the cognitive traits exercised in their production. Fourth, I argue then that those who subscribe to the thesis of metaphysical dependence of knowledge on virtue run a risk of vicious circularity. Since Aristotle does not subscribe to this thesis, his epistemology contains at least one theoretical advantage over contemporary virtue epistemologies. Finally, I argue that some virtue epistemologists are immune to the vicious circularity challenge. Therefore, their version of intellectual virtue has at least one important theoretical advantage over those who subscribe to the thesis of the metaphysical dependence of knowledge on virtue.

2. Intellectual virtue in Aristotle and Virtue Reliabilists

For Aristotle, a virtue is a special acquired disposition of the soul that enables its possessor to accomplish the proper human function well. Aristotle divides human virtues between moral virtues and intellectual virtues (NE I.13, 1103a4-10; II.1, 1103a14-

18; Angioni 2011),[1] each of these corresponding to the well-functioning of the part of the soul to which they belong: intellectual virtues are excellences of the rational part, and moral virtues belong to the part of the soul that may — if functioning well — obey the rational part. Since Aristotle's conception of the highest form of human flourishing is connected to the highest form of cognitive activity (NE X.7, 1177a12-17), intellectual virtues are essential to a successful, fulfilled life.[2]

Aristotle postulates five intellectual virtues (or 'states of the soul'), each one suited to grasp the truth in a certain way:[3] craft knowledge (*techne*), practical wisdom (*phronesis*), scientific knowledge (*episteme*), comprehension (*nous*), and wisdom (*sophia*). While each of these virtues has received large treatment in the literature, in this paper my focus is on Aristotle's broad understanding of intellectual virtue and its role in cognitive life.

Virtue reliabilists characterize intellectual virtue as any cognitive ability that reliably produces more true than false beliefs. Thus, 'intellectual virtue' corresponds to a wide range of intellectual traits, from hardwired capacities such as vision and memory, to acquired skills such as the ability to distinguish birds by their singing, or the ability to solve exasperating mathematical equations (Battaly 2008; Pritchard 2018).

Knowledge, in turn, is any true belief that issue from an intellectual virtues. Thus, knowledge encompasses a wide range of cognitive achievements, from the passive, low-grade forms of knowledge, such as the perceptual knowledge that there is a bird before me while I am writing this paper, to active, high-grade forms, such as the scientific discovery of the Higgs boson.[4] Sosa, for instance, says, "Knowledge is true belief out of intellectual virtue, belief that turns out right by reason of the virtue and not just by coincidence" (Sosa 1991, p.277).

Two aspects of virtue reliabilism stand out. First, for reliabilism, as in Aristotle, knowledge is a kind of achievement. Sosa highlights this fact through the AAA (accuracy, adroitness, and aptness) model, which is able, according to him, to capture the nature of performances of any kind (2007).[5] Knowledge, within this model, is apt belief — a belief that is true because it is the result of the agent's exercise of their intellectual competencies.

As Greco puts it:

> *S* knows that *p if and only if*
> 1. *p* is true;
> 2. *S* believes that *p*; and
> 3. *S* believes the truth because *S*'s belief is produced by intellectual ability[6]
> (Greco 2010, p.12)

The second relevant aspect of virtue reliabilism is how it connects knowledge to intellectual virtue. Notice, in the following two passages, how both Sosa and Greco use the conjunction 'because' in their characterizations of knowledge:

> [Knowledge is a belief's] aptness, i.e., its being true *because* competent (Sosa 2007, p.23) (emphasis in the original).
>
> [Knowledge is present when] *S* has a true belief, *S*'s belief is formed by cognitive ability and *S* has a true belief *because* her belief is formed by cognitive ability (Greco 2018, p.273) (emphasis in the original).

Sosa and Greco are straightforward in affirming that knowledge is a cognitive state that is *defined* in terms of intellectual virtue. Put differently, one cannot identify an instance of knowledge without discerning the circumstances into which such belief was formed. But they do not only indicate knowledge's instantiating conditions; rather, they make a stronger claim about the very nature of knowledge. For it seems that, in their accounts, it is not a certain quality of the belief, nor its role in inquiry, nor the kind of cognitive state it produces, nor its evidential basis that renders a true belief in an instance of knowledge, but *only and fundamentally* the virtue used in its formation. Commenting on virtue reliabilism, Gardiner says, "a belief is known *iff* it is both true and virtuously formed" (2019, p.296, emphasis in the original). Following Bronstein, I call this relation between knowledge and intellectual virtue the *metaphysical dependence of knowledge on virtue* [MdKV]. As it will become clear, it is that particular dependence that Bronstein sees as something strange — not to say contrary — to Aristotle's theory of knowledge and his understanding of the role intellectual virtues display in inquiry.

3. Aristotle and contemporary virtue epistemologists on MdKV

3.1. Aristotle's denial of MdKV

We can better understand the shortcomings of MdKV by looking at how Aristotle manages to describe different cognitive states without referring to intellectual virtues — despite the importance of such virtues for his understanding of human cognitive life. Let's appreciate his description of scientific knowledge (*episteme*), a cognitive achievement of particular significance to his epistemology.

Roughly, according to Aristotle, scientific knowledge is a grasp of a demonstration in which the premises express the salient causal factor of the fact expressed in the conclusion (Zuppolini 2017, p.13).[7] It is a highly valuable cognitive state that requires certain specific conditions to be met so that it may count as an instance of scientific knowledge. It is not enough to state the truth of the premises and conclusion; rather, there are two further requirements: the premises need to capture the specific property that explains why the fact being explained is what it is, and the conclusion must be necessary. As Morison says, "Aristotle's account of *episteme* is an

account of the epistemic state of the expert, a state which is far from quotidian, and rather difficult to obtain" (2019).

The cognitive demand to achieve the state of scientific knowledge is clearly higher than what is needed to get simple instances of knowledge, such as perceptual knowledge. But what is relevant at this point is that Aristotle describes scientific knowledge without any reference to the competence that an agent must possess and exercise to achieve it in the first place. In other words, for Aristotle, there is no metaphysical dependence of *scientific knowledge* on virtue, no commitment to the MdKV: one can appreciate the meaning and value of scientific knowledge apart from the human competencies used to produce it.[8]

3.2. Aristotle and Robust Virtue Reliabilists Compared

There are two major elements worthy of comparison between Aristotle and contemporary virtue reliabilists: (A) the understanding of intellectual virtue and (B) the relation between intellectual virtue and cognitive achievement. I will focus on (B), and thus I will only briefly discuss (A).

3.2.1. Differences in the notion of intellectual Virtue

What kind of traits are intellectual virtues? Virtue reliabilists and Aristotle agree that they are certain capacities human beings may happen to possess. As Bronstein puts it, "Aristotle shares with these authors an interest in the intellectual virtues and a belief in such virtues' centrality in human cognitive life" (Bronstein 2019, p.157). But there is a difference in scope: Aristotle's intellectual virtues may be seen as a subset of virtue reliabilists' intellectual virtues.

As briefly explained in section 1.2, virtue reliabilists conceptualize intellectual virtues in very broad and general terms, as any cognitive capacity that is reliable in producing true beliefs and avoiding false ones. These capacities can be hardwired or acquired; can be well-motivated, ill-motivated, or non-motivated at all; can be spontaneous (performed automatically) or reason-regulated. There is, in fact, no constraint apart from the reliability requirement.

Aristotle in turn, as pointed out in section 1.1, divides virtues between moral and intellectual, and both are kinds of competence or disposition (*hexis*). Aristotle's conception of *hexis* is much more demanding than reliabilists' concept of virtue (cf. Angioni 2011, p.307; Curzer 2018, p.105). It includes only capacities nurtured and acquired by practice, that are well-motivated, and fruit of reasoned choices. As Angioni says, "*hexis* is related to a capacity of action built on the agent through the habitual practice of the same actions that follow under the domain of such capacity" (2011, p.307).

Does this difference in scope jeopardize the possibility of comparison between Aristotle and contemporary virtue reliabilists? Not necessarily. Aristotle does recognize sensory capacities as human abilities that are able to get things right and produce correct representations of the things that are perceived (McPartland 2021, p.158). However, his more restricted and specialized concept of intellectual virtue indicates that his main interest is cognitive achievements that are harder to obtain, and which require focused, trained, reasoned, and properly educated forms of inquiry. While this difference in outlook does not jeopardize the comparison, it does point out that any conclusion must be taken carefully and tentatively.

3.2.2. The relation between intellectual virtue and cognitive achievement: the two priorities

As suggested in section 3.1, Aristotle denies the *metaphysical dependence of knowledge on virtue* [MdKV] — the thesis that knowledge is fundamentally characterized by an appeal to the intellectual traits that are exercised in its production — which is a core doctrine of virtue reliabilism. To better appreciate the Aristotle/virtue reliabilists disagreement, let's recur to Bronstein's helpful characterization of the relation between virtue and knowledge by employment of two distinct types of priority (2019, pp.162–4). According to him, virtue reliabilism is committed to:

> (i) Causal priority: intellectual virtue is causally prior to knowledge, i.e., an agent's knowledge is obtained by the exercise of her intellectual virtues.
>
> (ii) Metaphysical priority: intellectual virtue is metaphysically prior to knowledge, i.e., virtue, along with truth constitutes what knowledge essentially is.

The (i) 'causal priority' thesis is simple and in a certain way detached from the other priority: an agent S can achieve knowledge that p only if S possess an intellectual virtue V that is reliable in achieving the truth in some domain and within certain circumstances. In other words, it is the possession of V which explains how S is able to achieve knowledge of p.[9] As Sosa puts it, "when a success, practical or intellectual, is creditable to an agent, it is due to an aptitude (to a competence or skill or virtue) seated in the agent, whose exercise is rewarded with success in his act or attitude" (Sosa 2007, p.86). Greco is emphatic about the causal connection between intellectual virtue and knowledge, "In case of knowledge, S believes the truth because S believes from an intellectual ability or power [...] the 'because' is here intended to mark a causal explanation" (Greco 2010, p.74, my emphasis).[10]

The (ii) metaphysical priority is another way to state the MdKV thesis: what characterizes and defines the distinctive kind of cognitive achievement called 'knowledge' is that it is the result of the exercise of intellectual virtue. As Bronstein puts it, "the salient factor in the explanation of true belief in cases of knowledge determines what

knowledge essentially is" (2019, p.161), and such a salient factor is exactly the performance of an intellectual virtue. Sosa stresses it by pointing out that epistemic virtues are constitutive of knowledge, "Virtues are thus constitutive because the aptness of a belief is constituted by its being accurate because competent" (2007, p.88).

In company with virtue reliabilists, Aristotle holds (i), the thesis of causal priority: for him, cognitive achievements (of the kind he privileges in his epistemology, such as scientific knowledge) are the result of the exercise of a set of intellectual capacities. On the other hand, Aristotle does not subscribe to (ii) the thesis of metaphysical priority: for him, high cognitive achievements are not characterized by the cognitive capacities that are related to such achievements. For Aristotle's virtue epistemology, thus, we can postulate the following theses:

> (i) causal priority: virtue is causally prior to excellent performances, i.e., a virtue is a certain competence that brings about excellent performances in an agent who possesses it — including cognitive performances.
>
> (∼ ii) Metaphysical priority: intellectual virtue is metaphysically *posterior* to excellent cognitive performances, i.e., what makes a capacity C constitute an intellectual virtue is C's deliverance of excellent cognitive performances, such as *scientific knowledge*.

We may grasp the meaning of (∼ii) by seeing that one needs *first* to comprehend what a cognitive achievement is — its normative properties, what it accomplishes or fulfills, and how to describe or define it — so that one can understand the trait that generates it; or, to put it in other terms, a trait is an intellectual virtue because it is able to issue in a certain desired — and previously recognized and characterized — cognitive goal. To appreciate Aristotle's view, it is important to understand that he characterizes diverse cognitive achievements without reference to intellectual virtue. Two paradigmatic examples:

> *Nous*. To have a certain instance of knowledge of a first premise (*nous*) is to know a certain fact to be necessary, to be the premise (the explanation) of certain instances of scientific knowledge, and to know that no other scientific facts explain this first premise (Morison 2019, p.22). Thus, the intellectual virtue N, which enables S to achieve *nous*, is an intellectual virtue because it is able to issue in *nous*.
>
> *Episteme*. To have a certain instance of scientific knowledge sk is to know a demonstration with certain properties (the truth of the premises and the conclusion, the premises showing up the salient causal factor of the conclusion, the conclusion being necessary). Thus, the intellectual virtue E, which enables S to achieve sk, is an intellectual virtue because it is able to produce sk.[11] This virtue E is what enables S to soundly grasp a demonstration.

From these two paradigmatic Aristotelian cognitive achievements, we see that, for him, it is not the source of the agent's grasp of a demonstration, or the first premises,

that make these cognitive achievements what they are, nor to possess the normative properties they possess. The correct grasp of a cognitive achievement is metaphysically independent of the virtues because it is not defined by them, nor conceived in their terms (Bronstein 2019, p.168).

We thus can point out that Aristotle and virtue reliabilists share (i) the causal priority thesis, a notion akin to epistemic externalism, while they diverge in the conceptualization of cognitive achievements, particularly how such achievements are related to the epistemic capacities that generate them (theses (ii)/(∼ii)), may it be knowledge in general or scientific knowledge in particular. Thus, epistemic externalism — a view that humans have (or can develop) capacities that are truth-conducive — does not entail the view that knowledge itself is defined or understood in terms of such capacities. Aristotle does not think that understanding *scientific knowledge* is the same thing as tracking the capacities that are able to generate it. Virtue reliabilists do.

4. Extending the challenge to Zagzebski

Linda Zagzebski published in 1996 *Virtues of the Mind*, a book that offers a major contribution to the other strand of virtue epistemology, namely, virtue responsibilism. She presents a fierce critique of the virtue reliabilism epistemic project, claiming that, while adopting virtue-like language, it is thoroughly framed not on virtue theory but on consequentialism — a type of utilitarian ethics.[12] She intends to furnish a fresh account of epistemology and inquiry in which virtues have a legitimate pivotal role (Alston 2005, p.3).[13] What is most distinctive in her proposal is the development of a theory of knowledge inspired by Aristotle's *moral* virtues — and not the intellectual ones.[14] Thus, for her, intellectual virtues are traits that resemble moral virtues, such as intellectual humility, open-mindedness, intellectual perseverance, and thoroughness.[15]

Central to her approach is that for some trait to rise to the position of a virtue it is not enough to be a reliable producer of some desired, good end. Integral to a virtue is the presence of a certain suitable motivation. As she says, "A virtue, then, can be defined as a deep and enduring acquired excellence of a person, involving characteristic motivation to produce a certain desired end and reliable success in bringing about that end" (Zagzebski 1996, p.137). An intellectual virtue is a special case of virtue in general, one that has as an underlying motivation the love for truth and that is able to, reliably, produce true beliefs (Zagzebski 2019, p.32).

And how does she define knowledge? According to her, "knowledge is a state of cognitive contact with reality [true belief] arising out of acts of intellectual virtue" (Zagzebski 1996, p.271). We do not need to bother here with the expression "cogni-

tive contact with reality" because she refers to it as something akin to "true belief" (2020, p.32). We can understand how she conceives of this relation through some of her examples, such as "a person who has the virtue of attentiveness is as attentive as is necessary in situations of a given kind in order to reach the truth" and "a person who has the virtue of thoroughness examines the evidence as thoroughly as is necessary for the particular circumstances" (2020, p.33). The presence of an intellectual virtue allows its possessor to achieve knowledge as much as a moral virtue allows its possessor to achieve a moral good.

It is worth noting that, like Sosa and Grego, Zagzebski also intends to connect her approach to Aristotle. She says, "in one way of interpreting Aristotle, and in any event, the concept of a virtue as used in ethics can be adapted to our need for a concept that makes an intrinsic relation between [...] belief and [...] the truth" (Zagzebski 1999, p.105). She defends that epistemological theories are, in one way or another, grounded on some ethical theory (1996, p.2); her epistemology, she claims, is grounded on Aristotle's ethical theory.

It turns out, though, that exactly as virtue reliabilists, Zagzebski also adds the condition that, in order to promote a true belief into the state of knowledge, the belief must be produced by an intellectual virtue. More precisely, she argues that knowledge is an outcome of "*acts* of intellectual virtue", and not "intellectual virtue" *per se*, by which she means acts that are just as the acts that a virtuous person, in the same conditions, would perform. Following Aristotle, Zagzebski concedes that it takes a long process for any person to fully develop a virtue, but agents are able to perform virtuous acts even without a fully formed corresponding trait. As she says, "an act of intellectual virtue *A* is one that arises from the motivational component of an intellectual virtue *A*, is an act that persons with virtue A characteristically do in these circumstances, and is successful in reaching the truth because of these other features of the act" (Zagzebski 1999, p.112). Thus, epistemic agents that are not fully virtuous are able nonetheless to achieve knowledge and other epistemic goods. Notwithstanding such refinement, for Zagzebski knowledge is characterized fundamentally with reference to the concept of intellectual virtue. As a subject S needs to exercise some intellectual virtue V to obtain knowledge, this implies a commitment to the (i) causal priority of virtue over knowledge. This puts her side by side both with Aristotle and virtue reliabilists.

Furthermore, despite the differences between her epistemological framework and that of Sosa and Greco, Zagzebski seems also to be committed to the MdKV, and therefore with (ii) the metaphysical priority of virtue over knowledge. As she says,

> A person *A* is praiseworthy (justified) for doing an act (having a belief) *S* just in case *A* does what a virtuous person would (probably) do (believes what a virtuous person would [probably] believe) in the same circumstances and is motivated by virtuous motives (Zagzebski 1996, p.236).

From this passage, it follows that the normative status of being justified is ascribed to a belief if and only if the belief was formed by an act of intellectual virtue. Also, it is the exercise of a virtue — of its motivation and its specific cognitive ability — that makes a certain true belief an instance of knowledge. This entails the thesis of the *MdKV*. The strong connection that she stipulates between intellectual virtue and knowledge is also clear in how she connects knowledge and the broader category of good, "knowledge is not only a good way of cognitively grasping the truth, but it is also one in which the truth and the good way in which it is achieved are intrinsically related" (Zagzebski 1999, p.108).

As we have seen, both Sosa and Greco use the conjunction "because" to stress the dependence of knowledge on intellectual virtue. Zagzebski makes the same point, "An effective agent is one who reaches her end *because* of her act, the exercise of her power" (Zagzebski 2001, p.43 emphasis in the original). In the epistemic domain, an effective agent is one who reaches the truth because of her cognitive act, the exercise of her intellectual virtue. Knowledge is the good that an effective cognitive agent obtains.

More formally, we can describe the thesis of metaphysical dependence of knowledge on virtue as follows:

1. Knowledge is true belief produced by intellectual virtue.
2. If a true belief were formed by an intellectual virtue, and the truth of the belief is due to the intellectual virtue, then this belief would be knowledge.
3. There is no other aspect apart from intellectual virtue (plus true belief) that displays a relevant role in the characterization of knowledge.
4. If knowledge occurs, it is because an intellectual virtue occurs.
   Therefore,
5. There is a metaphysical dependence of knowledge on virtue.

Summing up, despite the sharp difference in their conception of epistemic virtues, Zagzebski and virtue responsibilists agree on two important points. First, the primary *focus* of epistemic evaluation is not propositions, beliefs, or other mental states, but agents themselves and their properties (Brady and Pritchard 2003), i.e., their epistemic abilities. Second, both have as a central project the outline of a definition of knowledge in terms of, and constituted by, intellectual virtue (Baehr 2011; Battaly 2021) — which leads them to subscribe to the thesis of the MdKV.[16]

5. So what? What is the issue with MdKV?

So far, I have claimed that Aristotle on the one hand, and virtue reliabilists and Zagzebski (a responsibilist) on the other, hold notably distinct perspectives on the con-

nection between intellectual virtue and cognitive achievement. While Aristotle offers a robust characterization of diverse kinds of intellectual achievements without referring to or grounding such characterizations on the concept of intellectual virtue, contemporary epistemologists surveyed in this paper do exactly that, presenting their very definitions of knowledge referring to, and grounding knowledge on, intellectual virtue — and thus subscribing to the thesis of the metaphysical dependence of knowledge on virtue. The question that comes up is: so what? Why does it matter that virtue theorists construct the relation between intellectual virtue/cognitive achievement differently than Aristotle's framework? And what exactly is the problem with subscribing to the MdKV?

One central issue is that holding the MdKV thesis has a potential risk of vicious circular reasoning in their account of knowledge. As I have shown, despite their very different views on the attributes that amount to intellectual virtue, both reliabilists and Zagzebski characterize intellectual virtues as traits that issue in epistemic goods (particularly knowledge), while they define knowledge explicitly in terms of intellectual virtue:

Account of intellectual virtue:

> *Virtue reliabilists*: cognitive ability (CA) the exercise of which, in the right conditions, *produces* knowledge (K).
>
> *Zagzebski*: cognitive ability (CA) plus a motivation (M) the exercise of which, in the right condition, *produce* knowledge (K)
>
> > *Intellectual virtue (IV): a kind of CA (or CA plus M) that produces K.*

Account of knowledge:

> "[Knowledge is a belief's] aptness, i.e., its being true *because* competent" (Sosa 2007, p.23).
>
> "[Knowledge is present when] S has a true belief, S's belief is formed by cognitive ability and S has a true belief *because* her belief is formed by cognitive ability" (Greco 2019, p.273).
>
> "Knowledge is [true] belief *arising out* of acts of intellectual virtues" (Zagzebski 1999, p.109).
>
> > *K: true belief produced by IV*
>
> Possible Circularity:
>
> > *IV*: a kind of CA (or CA plus M) that *produces K*
> > *K*: true belief *produced by IV*

It may be a matter of necessity. As Duncan Pritchard puts it, "it may turn out that cognitive abilities need to be defined as those belief-forming traits which are knowledge-conducive" (2010, p.34), and, conversely, it may be the case that knowledge needs to be defined as a special kind of cognitive achievement that issues from, or is produced by, certain cognitive abilities, whether such abilities be understood in reliabilist or responsibilist fashion. However, it is certainly not the case that knowledge needs to be defined in this way, as the recent history of epistemology has shown many different accounts of the concept of knowledge making reference not to intellectual virtue, but to other concepts such as justification, causation, sensitivity, evidence, among others (for a good overview, Alston 2005).

Another claim may be made that, while there are other theoretical options, none is better than those theories which link the concept of knowledge to that of cognitive virtue, and thus the resulting circularity does not need to be seen as a type of *vicious* circularity. As Pritchard explains, if the best possible theory of knowledge entails this circularity, it would not be a failure, "for we would surely have learnt something important about the nature of knowledge by recognising the truth of this theory, even if ultimately we were not presented with a fully reductive analysis" (Pritchard 2012, p.104). It is surely a matter of intense debate whether virtue-type epistemic theories should be preferred to others. But, for my aim in this paper, it suffices to state that, as I will point out in the last section, there are other options of virtue-like accounts which do not make the connection between knowledge and intellectual virtue a direct, grounding-like, type of connection.

While I do not intend to argue that the reliabilists' and Zagzebski's definitions of knowledge are necessarily cases of vicious circularity, this circularity should, at a minimum, raise concerns on the reach of their explanatory power and nudge us to look at other possibilities among virtue theories that avoid any circularity whatsoever. Aristotle's intellectual virtue theory, as I have explained, has the quality of offering a central role to intellectual virtues in the cognitive life while providing robust accounts of various epistemic achievements without appealing to, or grounding them on, the intellectual virtues exercised to produce such achievements.

Thus, although there is nothing problematic *per se* in disagreeing with Aristotle in any matter whatsoever, it seems that the critical divergence between Aristotle and virtue reliabilists (along with Zagzebski) in terms of the role of intellectual virtues in the cognitive life favors Aristotle for not subscribing to the MdKV. This is because he is capable of richly describing different cognitive achievements without resorting to intellectual virtues as the main source of such descriptions.[17] Aristotle, it seems, is right in arguing that virtues are good in so far as they are human competencies that enable their possessors to achieve something valuable; however, for him, the nature of achievements in general, and cognitive achievements in particular, is not explained by appealing to the capacities that generate them.

6. Autonomous virtue epistemology as a less ambitious alternative

Not every contemporary virtue epistemologist subscribes to the thesis of MdKV. As a matter of fact, the field of virtue epistemology comprises a diverse array of approaches, with substantive differences in goals and theoretical frameworks.[18] Mapping the field, Jason Baehr suggests that one way to divide the field of virtue epistemology is between conservative and autonomous approaches (Baehr 2011). Conservative virtue epistemologists are those who develop their virtue theories to deal with traditional 20th-century epistemic problems and issues, such as providing an analysis of knowledge immune to Gettier cases and dealing with the value problem. Autonomous virtue epistemologists are those who argue that intellectual virtues are relevant in their own right, who venture into new epistemic questions and inquiries, and who are not concerned with using the concept of intellectual virtue to offer an account of knowledge.[19]

From Baehr's map, Sosa, Greco, and Zagzebski — despite the first two being dubbed 'reliabilists' and the latter 'responsibilist', as she adds a strong motivational component into her characterization of intellectual virtue — are all "conservative" virtue epistemologists. In the terms employed in this paper, it seems that there is a relation between being a conservative virtue epistemologist and being committed to the MdKV thesis. Autonomous virtue epistemologists, on the other hand, conceive the relation of intellectual virtue and knowledge in more nuanced, or even indirect ways. For instance, Robert Roberts and Jay Wood, who are distinguished representatives of autonomous virtue epistemology, claim that the project of furnishing a definition of knowledge — they call it *e-defining* — is inherently equivocal and doomed to fail. As they say,

> We have seen that recent virtue epistemologists have tried to use the concept of a virtue to answer routine questions of late twentieth-century epistemology, especially in formulating definitions of justification, warrant, and knowledge [...] It appears to us that the reason why simple definitions fail is the complexity and diversity within the concept of knowledge. (Roberts and Wood 2007, p.19)

Roberts and Wood, thus, by giving up on providing an analysis of knowledge, free themselves to investigate the role that individual virtues bear in the epistemic life of agents.[20] For them, intellectual virtues are traits that aid one to produce, distribute, and apply the epistemic goods, may these goods be propositional knowledge, understanding, wisdom, or some other epistemic good (2007, p.83). They offer detailed descriptions of how different intellectual virtues contribute to an intellectually flourishing life, the specific abilities and motivations imbued in them, and the psycholog-

ical profiles of agents who display the virtues in their epistemic practices. Further, by emphasizing that intellectual virtues "contribute" to the intellectual goods, instead of using verbs such as "produce" or "issue in", they make the link between epistemic trait and epistemic end laxer, circumventing the risk of vicious circularity.

Jason Baehr, for similar reasons, resists linking cognitive achievement and intellectual virtue as conservatives do. Instead of discussing the sufficient and necessary conditions for knowledge, he characterizes intellectual virtue with no reference to knowledge or other cognitive achievements. He instead argues that intellectual virtues are those traits that make their possessor intellectually praiseworthy — regardless of their efficiency to reliably generate true beliefs and avoid false ones. He says, "intellectual virtues just are character traits that make their possessor good or excellent in the relevant intellectual-cum-personal way. They are personal intellectual excellences" (2011, p.93).[21] One interesting example provided by Baehr is open-mindedness. He points out that it is not the case that its exercise will always result in the production of some intellectual good; and it is even possible that, in certain occasions, a virtuous agent, by employing open-mindedness, ends up losing some item of propositional knowledge. Think, for instance, of a subject S who possesses a certain knowledge p, and then who interacts with some other person who presents counterevidence E to p; it may be the case that, by opening his mind to E, S loses his confidence in p, and therefore loses the knowledge that p. Even in the face of this kind of situation, open-mindedness' status as an epistemic virtue remains, since its possession makes its possessor intellectually praiseworthy (Baehr 2011, p.152).

Roberts and Wood, Jason Baehr, and other autonomous virtue epistemologists, in short, avoid the MdKV thesis either by (1) denying that we can provide a complete account of knowledge and/or (2) making the relation between cognitive achievement and intellectual virtue into a softer relation.[22]

Critiques of the analysis of knowledge project have come from other theoretical sources as well. Timothy Williamson, in his groundbreaking *Knowledge and its Limits* (2000), launched a whole new approach to epistemology, encapsulated in the program of *knowledge-first* epistemology. In brief, he and the followers of his approach argue that knowledge itself is not an analyzable entity, but it is a basic epistemic notion from which other epistemic and cognitive concepts may be explained (Carter, Gordon, and Jarvis 2017, pp.1-2). More recently, proposals of knowledge-first virtue epistemology have emerged (Kelp 2018; Miracchi 2019), defending the role of epistemic virtues (in a reliabilist vein) in inquiry while not subscribing to the MdKV thesis: since knowledge is not a definable concept, there is no circularity involved in its understanding. Christoph Kelp bluntly says,

> It is easy to see that this version of VE [virtue epistemology] will not yield a so-called 'reductive analysis' of knowledge. That is to say, it does not provide an analysis of knowledge in terms of a non-circular set of individually neces-

> sary and jointly sufficient conditions for knowledge. After all, if the epistemic abilities required for knowledge are abilities to know, any account of knowledge in terms of epistemic abilities will violate the non-circularity constraint (Kelp 2017, pp.229-30).

Kelp argues that his knowledge-first version of virtue epistemology does not aim at providing any kind of analysis of knowledge in terms of more basic concepts, such as true belief plus justification, warrant, or other normative property. He adds, interestingly, that any definition in these terms would violate the non-circularity constraint, as long as the epistemic abilities used to generate knowledge would be part of the very definition of knowledge. Kelp's argument resembles one of the arguments developed in this paper, that a commitment to the MdKV — to define and characterize knowledge fundamentally appealing to the concept of intellectual virtue — may succumb to a kind of vicious circular reasoning.

These diverse approaches — both the many "autonomous" virtue epistemologies and knowledge-first virtue epistemology — despite major differences, have the feature of not reducing the understanding of knowledge to a cognitive achievement that is the result of an intellectual virtue. They insist that intellectual traits have indeed an important — not to say central — role in allowing their possessor to produce true beliefs and avoid false ones, to produce and distribute understanding and other intellectual goods, and to succeed in inquiry, without assigning the metaphysical priority of virtue on knowledge. Avoiding the MdKV thesis, they circumvent the possibility of vicious circular reasoning, and of delimitating the rich notion of knowledge (or other cognitive achievements) to a sum of true belief plus an intellectual trait. The so-called neo-Aristotelians, many of whom have developed their virtue epistemologies inspired by Aristotle's account of knowing, deviate in important ways from Aristotle himself, who in turn provides rich accounts of each cognitive achievement apart of, and independently from, the intellectual competencies exercised to achieve them.

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Notes

[1]The works of Aristotle are cited using the standard Bekker numbering.

[2]Aristotle acknowledges that individuals may perform virtuous actions without having a fully developed virtue (NE II.4, 1105a17-33; VI.12, 1144a13-20). Indeed, he contends that the process of practicing a virtuous action is a condition *sine qua non* for the very possibility of one's developing a virtue. For the scope of this paper, though, we can ignore such process of habituation and focus on actual virtues.

[3]As Gartner put it, "for Aristotle, there is a tight correspondence between objects in the world and our capacities or states: certain objects are suited to actualize specific capacities, or, to put it the other way, subjects of awareness are constitute such that they possess different faculties for apprehending different things in the world" (2021, pp.126-27).

[4]Contemporary epistemologists widely agree in distinguishing between, at least, these two kinds of knowledge, although they use different labels to describe them. Sosa differentiates animal from reflective knowledge (2015a), Zagzebski, low-grade from high-grade forms of knowledge (1996), and, Battaly, passive from active knowledge (2021).

[5]To illustrate his model, Sosa provides the example of archery. We can access an archer's performance by three axes. First, if her shot is accurate, i.e., if she hits the target. Second, if her shot manifests adroitness (skill) — we want to know if she is able to, consistently and reliably, and in the sound conditions, hit the target. Third, in each performance when she *de facto* hits the target, if her success is apt, i.e., it is due to her ability and not by sheer luck.

[6]Both Greco and Sosa use interchangeably, on the one hand, the terms 'intellectual' and 'epistemic', and also the terms 'ability', 'skill', 'competence', and 'virtue', on the other.

[7]For a valuable discussion of demonstration in explanation, see Angioni (2014).

[8]The same point can be made for other cognitive states, such as *nous*.

[9]The way I am employing the term 'causal' is in a weak sense: that, for both Aristotle and virtue reliabilists, an agent can only achieve knowledge through the exercise of some of her cognitive abilities. If that is true, then virtue is causal prior to knowledge in (at least) a weak sense: an agent must (1) possess an intellectual virtue, then (2) exercise it, so that she can (3) achieve knowledge. As Littlehjohn and Carter says, "cognitive virtues are stable features of our cognitive lives and count as virtues because they can reliably produce true beliefs when exercised under appropriate circumstances. Because of our visual capacities, for example, we have the ability to identify ducks by how they look under normal viewing conditions [...] What distinguishes knowledge from belief that falls short of it somehow has to do with these abilities and their exercise" (Littlejohn and Carter 2021, p.175). It is important to state that this sense of 'causal priority' does not entail a strong notion of causation by which the exercise of a virtue is the main salient factor explaining the nature of knowledge. I thank one of the reviewers for highlighting this issue.

[10]The importance of intellectual virtues for proper inquiry may be acknowledged even by epistemologists that are not themselves 'virtue epistemologists'. Alston, for instance, says, "in-

tellectual virtues count as such because their exercise tends to eventuate in the epistemically right sorts of beliefs" (2005, p.6). That is to say, the positive normative status that a belief may have, such as being justified, may have as a salient factor the exercise of an intellectual trait (independently if conceived in reliabilist or responsibilist fashion).

[11]It may be worth mentioning that, for Aristotle, the process of developing *episteme* is not primarily associated with the discovery of new facts or with increasing one's stock of true propositions. Rather, it means primarily a gain in understanding — grasping how a certain fact is caused by a certain phenomenon or object, and knowing that such cause is the salient cause of its main properties (Charles 2010; Angioni 2014; Zuppolini 2017; Bronstein 2015). As Bronstein explains it, Aristotle main concern is with "old acts of scientific knowledge" — when an agent brings to mind the content of some previously formed judgement (2019, p.165), and is able to set such proposition into a web of correlated scientific knowledges and first principles of a certain science (McPartland 2021, p.162). Notwithstanding Aristotle's concern with old, and not new, acts of scientific knowledge, what is our chief interest in this paper is the broad relation between cognitive achievement and intellectual virtue, and not how Aristotle and virtue reliabilists formulate each kind of cognitive achievement.

[12]"Almost all contemporary epistemic theories take an act-based moral theory as their model, even most of those that use the concept of intellectual virtue" (Zagzebski 1996, p.2). She further argues the disputed claim that every epistemic theory ends up framed by a certain ethical theory, what may be perceived in how epistemology borrows ethical normative terms, such as "epistemic duties", "ethics of belief", and so on (Zagzebski 1996, pp.2-3). She claims to be the first contemporary epistemologist to provide a theory of knowledge that is in fact shaped by an Aristotelian ethical theory.

[13]Speaking of Zagzebski's project, Hetherington says, "Maybe the *believer* as a whole — not merely a faculty within her — is what is being virtuous. That sounds like a more traditionally congruent way to apply the concept of virtue as such. But how can we then understand a specific piece of knowledge within the believer as present due to that 'larger' virtuousness? (Hetherington 2019, p.282).

[14]As Hetherington puts it, "Zagzebski's version of virtue epistemology links epistemology with some ancient philosophy. She draws upon Aristotle's account of personal virtues. In effect, she is saying, epistemology supplies extra reasons why philosophy should not lose sight of Aristotle's account. For him, these are aspects of a person's character which embody a genuine record of success. (Good intentions are not enough)" (Hetherington 2019, p.288). From this quote is clear how Zagzebski may also be considered a neo-Aristotelian.

[15]For an account of varied responsibilist intellectual virtues, see part II of Battaly (2019).

[16]It seems convenient briefly to address the question of what is behind both virtue reliabilists' and Zagzebski's commitment to the MdKV. What has driven them to furnish a definition of knowledge in terms of the exercise of an intellectual trait? Two main factors seem to be at stake. First, they all have developed their accounts in the setting of twenty-century analytic epistemology, which had as one of its major goals to provide an analysis of knowledge able to resist Gettier-style cases (for the original paper, see Gettier (1963); for a good overview of many proposals trying do deal with Gettier cases, see Pritchard 2018). Sosa (2007, pp.94-8), Greco (2010, p.80), and Zagzebski (1996, p.298) each defend that their particular account of knowledge is immune to (or at least resistant to) Gettier-style cases — although their claims have been fiercely challenged (e.g., Roberts and Wood 2007; Baehr 2011). Second,

both virtue reliabilists (e.g., Greco 2018, p.275) and Zagzebski (2020, p.34) believe that their accounts of knowledge can adequately respond to the so called problem of value in epistemology — to explain why exactly knowledge is more valuable than mere true belief. Roughly, they argue that emphasizing that knowledge is achieved through the exercise of an agent's intellectual trait, the epistemic outcome has, beyond the truth, an additional value: it is the result of an agential performance. While Greco emphasizes the importance of an agential achievements (2018, p.274), Zagzebski argues that it is the motivational component of epistemic virtue which is responsible for the extra epistemic credit in knowledge (Zagzebski 2003, p.24).

[17]I let it open if other epistemic theories that put a strong emphasis on faculties — such as reliabilism (e.g. Goldman and Olsson 2009) and proper function theory (e.g. Plantinga 1993) may or may not be fault as well for subscribing to the MdKV.

[18]What may joint these groups together is the broad notion that intellectual virtues are qualities that makes one a better thinker (Kidd, Battaly, and Cassam 2020, p.1).

[19]Or recover ancient ones, such as the importance of understanding (instead of knowledge) to epistemology (e.g., Riggs 2003; Hookway 2003; Grimm 2019); the connection between virtue, knowledge, and wisdom (e.g., Baehr 2012; Gartner 2021), among other themes.

[20]They investigate the role that love of knowledge, firmness, intellectual courage and caution, intellectual humility, intellectual generosity, and practical wisdom bear in the epistemic life (Roberts and Wood 2007). Most 'autonomous' virtue epistemologists investigate intellectual virtues in responsibilist fashion. There is a broad discussion in the field about the relationship between moral and intellectual virtues, with no shared agreement. Some argue that there's no relevant divide between them — intellectual virtues are simply virtues that are primarily relevant for accomplishing epistemic ends (Roberts and Wood 2007); others argue that, while there is no strict line of demarcation, some virtues are clearly epistemic, such as curiosity (Baehr 2011; Miscevic 2015); some dispute the very idea of intellectual virtue (D. Sosa 2015). Zagzebski thinks of intellectual virtues as a subset of moral virtues (Zagzebski 1996), while virtue reliabilists defend a rigorous division between moral and intellectual virtues (Sosa 2015, p.34)

[21]He thinks, quite obviously, that generally, epistemic virtues do aid its possessor to attain justified true beliefs and knowledge. But these virtues can enhance the intellectual life in other ways as well, such as motivating one to engage in intellectual practices (such as reading a book), to persist in inquiry despite obstacles, and to share one's knowledge with others, among other benefits. Furthermore, Baehr contends, there are some virtues, such as open-mindedness, that it hard to attest that their exercise always ends up increasing one's stock of true beliefs (Baehr 2015).

[22](1) and (2) do not exclude each other. Roberts and Wood (2007), for instance, hold both.

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