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## What Intellectual Ethics for Contemporary Science? Perspectives of Virtue Epistemology

Notorious and, sadly, frequent cases of unethical incidents in the world of science (plagiarism, proliferation of junk publications, pseudoscience, unclear policy of awarding degrees, grants and academic positions, etc.) have raised in recent years the question of intellectual ethics and its possible shape.<sup>1</sup> The common approach has been constructing professional deontologies, that is formulating basic principles and values to be observed. In the same time, there were important shifts within contemporary epistemology that, in face of the post-Gettier crisis and naturalist reductionism, has taken steps to redefine itself. Two movements within the contemporary epistemology in particular have raised the issues that has the direct bearing on the living science: social epistemology<sup>2</sup> and virtue

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<sup>1</sup> See Pascal Engel, *Les vices du savoir: essai d'éthique intellectuelle* (Marseille: Agone, 2019); Roger Pouivet, *L'éthique intellectuelle: une épistémologie des vertus* (Paris: Vrin, 2020).

<sup>2</sup> See Miranda Fricker, *Epistemic Injustice: Power and the Ethics of Knowing* (Oxford: Oxford University Press); José Medina, *The Epistemology of Resistance: Gender and Racial Oppression, Epistemic Injustice, and Resistant Imaginations* (Oxford: Oxford University Press, 2013).

epistemology<sup>3</sup> that has fully re-embraced normative dimension of epistemology.<sup>4</sup>

The present paper focuses on intellectual ethics understood in epistemological terms that is concerning a desirable *modus studendi* for the present scientific world. It argues that advantages of virtue epistemology make it more attractive than other models of intellectual ethics (deontology, in particular). Even if the virtue approach poses a greater challenge in implementation, because of its long-run strategy, its advantages outweigh the difficulties and the problems of implementation can be properly addressed.

To that purpose, in the first section, I review possible models of intellectual ethics. Then, I present a critique of the deontological approach, highlighting advantages of the virtue approach. Next, I analyse which features of virtue approach can be particularly valuable for intellectual ethics. Finally, I ask how to promote the virtues and propose a multi-factor response, with the crucial role of exemplars.

## 1. Intellectual ethics

The understanding of intellectual ethics is not clear at the departure point. In fact, some would question its very existence. Thus, in that section, I will argue in what sense can we speak about intellectual ethics. To that purpose two things should be addressed: 1) relation between ethics and epistemology; 2) the structure of the ethics and normative epistemology. They will be treated in turn.

Traditionally, ethics and epistemology were treated as separate disciplines: epistemology exemplified theoretical philosophy and ethics – practical. The well-known classification goes back to Aristotle and

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<sup>3</sup> See Robert Roberts, Jay Wood, *Intellectual Virtues: An Essay in Regulative Epistemology* (Oxford: Clarendon Press, 2007); Jason S. Baehr, *The Inquiring Mind: On Intellectual Virtues and Virtue Epistemology* (Oxford–New York: Oxford University Press, 2011) among others.

<sup>4</sup> In order to complete that picture, the vice epistemology should be made explicit as well, usually included in virtue epistemology, but – given its development – it seems more accurate to interpret it as a fusion of the two aforementioned epistemologies: virtue and social, and so to, perhaps, treat it as a discipline (approach, school) *in se*. See Ian J. Kidd, Heather Battaly, Quassim Cassam (eds.), *Vice Epistemology* (London–New York: Routledge, 2021). For the purposes of the present work, vice epistemology shall be treated as a sub-discipline of virtue epistemology.

corresponds with distinction between belief and action. In the extreme version (though it would be found at most among some critics), only actions would be subject to valuation and normativity. Beliefs are just a matter of correspondence with reality. However, even on that point, the non-normative character of cognition (and, consequently, epistemology) can be questioned. Are not the mere truth and falsity already forms of normative evaluation?<sup>5</sup> And this is quite a modest exigence, even in comparison with the standard analysis of knowledge as justified true belief. Therefore, a more robust independence thesis about ethics and epistemology could be formulated in the following way: epistemology, however theoretical and concerned with beliefs, is not limited to the pure analysis of epistemic goods and procedures, but is eligible to evaluate and dictate norms concerning cognition, but – to keep the distinction – they are not moral, only epistemic.

Concerning epistemology, the independent thesis<sup>6</sup> would reconstitute the normative dimension of epistemology after the age of a naturalist criticism. The analysis of knowledge serves to 1) evaluate candidate beliefs for knowledge; 2) promote practices that contribute to gaining epistemic goods; 3) facilitate the settlement of disputed cases. In that way, the conceptual analysis (supported by relevant empirical disciplines) could improve the cognitive life.<sup>7</sup> That project is purely epistemic, however, so the aforementioned evaluations and precepts have no moral significance.<sup>8</sup>

On the other hand, there would be a sort of ethics of intellectual practices that responds to the moral goods and harms within the cognitive domain. In that way, plagiarism will be blameable as theft, junk publications and pseudo-science – as deception, unclear policy of awarding degrees, grants and academic positions – as harms against justice, etc. However, this evaluation would be purely moral (so non-epistemic). In

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<sup>5</sup> See Putnam's critique of the third dogma of empiricism. Hilary Putnam, *Words and Life*, ed. James Conant (Cambridge–London: Harvard University Press, 1994), 154.

<sup>6</sup> See Baehr, *The Inquiring Mind*, 207.

<sup>7</sup> It seems that would be the program for "Regulative Epistemology" advocated by Ballantyne. Importantly, his epistemic normativity is essentially corrective, and thus negative. As fundamentally imperfect inquirers, we need guidance to overcome our intellectual shortcomings. See Nathan Ballantyne, *Knowing Our Limits* (New York: Oxford University Press, 2019).

<sup>8</sup> Baehr rightly observes that the only consistent way to differentiate that kind of evaluation and normativity from ethical one (and so separate the moral and epistemic) is to think of epistemology as a domain of prudential in the Kantian sense. See Baehr, *The Inquiring Mind*, 220.

that sense, these crimes would not be against epistemic goods and norms, but against different (personal) goods on the occasion of some cognitive activities. They would be no more questions of epistemology, than a case of a murder in a stable was a matter of equitation.

The pragmatist turn in epistemology has played an important role in erasing the demarcation line between cognition and other types of action. For Peirce, the paradigmatical form of cognition (if not cognition *tout court*) is inquiry.<sup>9</sup> That implies: the fundamental place of agency (far from being a passive receiver, a subject interacts with an object of inquiry), the dynamics and complexity of the cognition (typically intermediate and extended over time), and thus a number of activities for which choice, adjustment, and performance the agent is responsible. The inquiry is one activity among others and both from the normative point of view the differences between belief and action are negligible. That conviction, though not shared with the majority of epistemologists at the time, and popularised more in fallibilist philosophy of science (Popper, Kuhn, Feyerabend), reemerged with neopragmatism (Putnam in particular) and has found fertile ground on post-Gettier soil. Unsurprisingly, the founders of responsibilist virtue epistemology – Lorraine Code and James Montmarquet – made important references to Peirce's logics of science, James' ethics of belief and Lewis' pragmatist account of knowledge.<sup>10</sup> Consider Code's position:

In their various ways, James, Dewey, Peirce, and Lewis all put forward textured accounts of the way knowledge emerges in *lives*, in the context of specific concerns and purposes, and in interaction with the environment and with other knowledge seekers. The view I am putting forward here is, in many respects, compatible with central aspects of these versions of pragmatism. My emphasis upon *responsibility* and its significance throughout epistemic life, however, distinguishes my position from pragmatism in its separate elaborations.<sup>11</sup>

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<sup>9</sup> For that reason, given the substantial richness of procedural inquiry vis-à-vis belief, Hookway rightly observes that epistemic evaluation should be rather ethics of inquiry than ethics of belief. See Christopher Hookway, "Cognitive Virtues and Epistemic Evaluations", *International Journal of Philosophical Studies* 2, no. 2 (1994): 211.

<sup>10</sup> See Lorraine Code, *Epistemic Responsibility* (Hannover–London: University Press of New England, 1987), 48–50, 78–83, 91–95, 130–131, 134–135; James A. Montmarquet, *Epistemic Virtue and Doxastic Responsibility* (Lanham: Rowman & Littlefield Pub Incorporated, 1993), 56.

<sup>11</sup> Code, *Epistemic Responsibility*, 27.

Thus, if epistemic agency is just a sort of agency, the relation between ethics and epistemology can be raised anew. Drawing from Baehr's discussion of intellectual and moral virtues, there are two options to consider: reductive thesis and subset thesis.<sup>12</sup> According to the former, the normative epistemology is reducible to moral philosophy as there is no significant distinction between two sorts of agency. Ethics of belief is just a part of practical philosophy equated with ethics *simpliciter*. On the other hand, the subset thesis points out that, even if it were difficult to determine substantive criteria for purely moral matters, it is possible to build up a substantial account of intellectual matters by reference to epistemic goods. In that way, intellectual ethics would constitute a proper subset of general ethics (with a moral counterpart determined in negative terms). It seems that, despite its limitations, the approach based on epistemic goods is satisfactory. Thus, normative epistemology raises questions that have both epistemic and moral bearing. This indicates, in turn, two supposedly rival criteria of evaluation: the epistemic success-factor (reliability) and moral rightness-factor that may be framed within different forms of ethics.

This leads to the second question concerning the structure of normative epistemology. In building analogy between ethical and epistemological theories, Linda Zagzebski<sup>13</sup> indicates three general models of ethics that have their counterparts in epistemology: (a) deontological model (in epistemology: questions concerning epistemic duties, rules, rights, wrongs, etc.), (b) teleological model (reliabilism), and (c) virtue model. Recently, Pouivet reprised that distinction in discussing how to understand normativity of intellectual activity. Drawing from both authors, I will initially characterise the intellectual ethics as conceived by each approach. The next two sections will develop further (a) and (c). Some comments on reliabilism will be given while discussing virtue epistemology in Section III.

In its simplest form, deontological intellectual ethics is based on the same principles that the proponent of the independence thesis embraced. However, a failure to respect epistemic norms becomes here ethically reprehensible. The epistemic normativity is no more ethically neutral. In this sense, Pouivet argues that to believe on the basis of insufficient evidence, and more broadly: to disregard epistemic principles, is morally wrong, regardless of the effect that may or may not come.<sup>14</sup>

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<sup>12</sup> See Baehr, *The Inquiring Mind*, 206–207.

<sup>13</sup> See Linda Zagzebski, *Virtues of the Mind* (Cambridge: Cambridge University Press, 1996), 7–15.

<sup>14</sup> See Pouivet, *L'éthique intellectuelle*, 54–55.

Reliabilism (as epistemological consequentialism) gains moral value in analogical way. If the criterion of a proper knowledge is reliability (of the method, of the process, of the source of information, etc.), it is reliability that bears moral value. The very beneficial consequences of having a genuine knowledge constitute moral goods.<sup>15</sup> Thus, the success-factor justifies human practices and distinguishes between desirable and undesirable: sources of information, cognitive procedures, reasoning, etc.

While the preceding models of intellectual ethics were act-based theories,<sup>16</sup> the virtue theory is agent-based. The moral value is not reduced to an epistemic prize or to being right with one's obligations (even if the both elements are present here), but is derived from a fuller personal worth of the agent. The success-factor is relativised and its statement extends in time. On the other hand, the epistemic obligations gain motivation. Being conscientious, honest, coherent and excellent fulfils the obligations imposed by intellectual deontology and pays off, at least in the long run, but – more importantly – it constitutes an excellent agent.

Two things should be remarked here. First, given variety of virtue theories, a concrete shape of virtue intellectual ethics will depend on particular metaphysics (and anthropology). Contrary to Pouivet's position, despite all the attractiveness of the concept that human nature is directed towards intellectual goods,<sup>17</sup> Aristotelian-Thomistic metaphysics is by no means the only proposal, even if the project is of a universal, rich intellectual ethics.<sup>18</sup> One might even think of building a bottom-up virtue epistemology, i.e. without preconceived metaphysical foundations, but based on case studies and shared intuitions. It is not so unrealistic, as the very diversity of virtue theories leaves place for convergence in the virtues' catalogue. Interestingly, because of the stronger role of the success-factor in epistemology than in ethics, people could agree more about good and blamable intellectual practices and virtues.

Second, the very understanding of the value of virtue can go in two directions, as Zagzebski reminds.<sup>19</sup> It may be either good-based (in Aristotle), or motivation-based (in Slote). In a way, these options reflect an unstable equilibrium that any virtue theory faces: pending either towards teleology or deontology. In that sense, in good-based theory, the value of

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<sup>15</sup> Ibidem, 57.

<sup>16</sup> See Zagzebski, *Virtues of the Mind*, xiii.

<sup>17</sup> See Pouivet, *L'éthique intellectuelle*, 69–73.

<sup>18</sup> Here I must limit myself to referring to Nancy Snow (ed.), *The Oxford Handbook of Virtue* (Oxford–New York: Oxford University Press, 2018), where competing ethical theories built on radically different anthropologies can be found.

<sup>19</sup> Zagzebski, *Virtues of the Mind*, 80–84.

virtue is explained in teleological terms as constituent of a good life (in more modest, Aristotelean version), or means to a good life (in overtly teleological version). On the other hand, in motivational-based theories, the value of virtue is not reduced or explained in terms of any other good. Virtue is worth having for itself. Unsurprisingly, that type of theory shall inherit all the problems of deontology. Thus, it may be said that in good-based theories virtue is good, because it contributes to the goodness of human person; while in agent-based theories a human person is good, because she instantiates specific virtue.

## 2. Deontological model of intellectual ethics

Professional deontology is such a typical approach to professional ethics that it has become its synonym. Thus, it seems to be a starting point also in providing an intellectual ethics for contemporary science. In the present section, I analyse the essential characteristics of that approach in order to argue why it cannot satisfy our needs and why virtue approach defended in the paper outweighs it.

In general, professional ethics take the form of codes of conduct that formulate the basic principles and values to be observed by professionals. Although based on custom and shared intuitions, deontologies so understood are contractualist and reactive in their genesis. The purpose of deontology is to respond to professional misbehaviour: to protect threatened goods and persons, and to correct inappropriate, yet statistically present behaviour. In that way, universities and research centres promulgate codes of values and good scientific practices. Analogically, a candidate for a grant should address ethical issues concerning her research, and the experts evaluating her proposal are bound by some ethical rules, designed in particular to safeguard the impartiality of evaluation. In that sense, deontology protects threatened assets and provides a tool to combat current bad behaviour. It also safeguards the institution itself against accusations of tolerating malpractices. The common view seems to be that the procedural approach, pervasive as it is, is a good and proven option to regulate intellectual ethics. However, a closer analysis of how deontology works shows that, apart from its undeniable advantages, it is burdened with serious drawbacks which virtue theory deals with better.

The first and most common objection to deontology is its formality: it instructs what should and what should not be done, but it lacks motivational component (for that reason, the codes are usually supplied by sanctions) and, as Anscombe famously argued in "Modern Moral

Philosophy," its main notions lack content.<sup>20</sup> In contrast, virtues exemplify what Bernard Williams calls 'thick' moral concepts that express union of fact and value; their application is determined by the world (the descriptive component), but they involve evaluation and prescription.<sup>21</sup> What is also important in the present considerations, as Williams remarks, they usually provide reasons for action (motivational component). The mere procedures and rules lack it.

The second objection follows the first and concerns the rule-governing. As Zagzebski points out, more and more philosophers are convinced that morality is not strictly governed by rules.<sup>22</sup> The case is even clearer in epistemology, as it was set in the Rylean analysis of knowledge-how. No practice can be governed exclusively by a finite set of rules. In Locke's words:

No body is made any thing by hearing of rules or laying them up in his memory; practice must settle the habit of doing without reflecting on the rule, and you may as well hope to make a good painter or musician extempore by a lecture and instruction in the arts of music and painting as a coherent thinker or strict reasoner be a set of rules shewing him wherein right reasoning consists.<sup>23</sup>

Procedures may be a helpful tool, especially with complex, though standardisable, circumstances. However, they will never substitute for agency, as, even if they set up many things, they leave agent with choice of rules, their appropriate application and, finally, the performance itself. Even the most scrupulous formulation of rules leaves space for their interpretation and correct application. If an infinite regress of heuristic rules is to be avoided, the rules need to be based on some other, preferably agent-related grounds. In contrast, virtues are excellences of the agent that help her perform actions (including cognitive ones). Irreducible to any set of rules, they assure the needed base, also for a proper rule-following. In what concerns knowledge, the issues that cannot be rule-governed are, to name the most important, context sensitivity, correct approximation and decision making within complex inquiry. In fact, even apparently

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<sup>20</sup> G. E. M. Anscombe, "Modern Moral Philosophy", *Philosophy* 33, no. 124 (1958): 8.

<sup>21</sup> Bernard Williams, *Ethics and the Limits of Philosophy* (Abingdon: Routledge, 2011), 143–144. See Zagzebski, *Virtues of the Mind*, 20.

<sup>22</sup> Zagzebski, *Virtues of the Mind*, 18.

<sup>23</sup> John Locke, *The Conduct of the Understanding*, § 4 (Cambridge: Printed by J. Archdeacon, 1781), 14, access 25.08.2021, <https://archive.org/details/yconductofunders00lockuoft>.



simple epistemic faculties, as perception, depend from higher epistemic desiderata (understanding), that in turn are far from being rule-governed. As Roberts and Wood remark, in order to gain the simplest perceptual knowledge an agent has to correctly recognise its deliverances and so interpret appropriately the given within conceptual context.<sup>24</sup>

Third, the deontologist approach is typically negative. It is difficult (if not impossible) to formulate positive absolute imperatives. Unsurprisingly, the vast majority of rules are negative. This is due to their reactivity: the consequence of identifying a bad behaviour is prevention. Interestingly, this approach characterised also the classical theory of knowledge. It analysed the necessary and sufficient conditions of knowledge, and examined warrants to avoid epistemic luck. It pointed out when we lack knowledge (alarming often), while it remained rather laconic about how to achieve knowledge. At most, it named obstacles and looked for ways to avoid them. Analogically, its ethical counter-part, act-based, deontic ethics focuses on avoiding blameworthiness rather than on achieving moral praiseworthiness. As Zagzebski remarks, it assures “the bottom level of the moral scale”.<sup>25</sup> In epistemology as in ethics, to be justified means no more no less than to accomplish the minimum necessary to avoid the blame (moral or epistemic). It does not aim, however, at the high level of performance scale. That is what virtue ethics, and analogically virtue epistemology, can provide. Thus, blame-avoidance is subordinated to the greater desideratum of praise-achievement. In that way, virtues, unlike rules and prescriptions, are not so much corrective as formative.

Consequently, forth, as Zagzebski argues, deontology, unlike virtue approach, cannot do justice to higher epistemic desiderata, exemplified by understanding and wisdom.<sup>26</sup> By their very nature, they are not externally governed. On the contrary, they are forms of self-governance. They are less significant in standard, repetitive contexts – where automatism may assure a much higher success-rate of performance. Instead, they show up in unusual, new contexts, where the greater distance between a particular case and the overall conceptual network requires a considerable interpretation, and frequently, invention: creating new models to capture the relationships between original cases. Here, rules can secure some basic conditions, but the very achievement of these goals will depend on the quality of the agent. Also in this case, the role of virtues as personal perfections will be crucial.

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<sup>24</sup> See Roberts, Wood, *Intellectual Virtues*, 48.

<sup>25</sup> Zagzebski, *Virtues of the Mind*, 28.

<sup>26</sup> *Ibidem*, 43–51.

To sum up, deontology-based ethics (intellectual in particular) suffers from four main drawbacks: its formality (lack of internal motivation), limitation and dependence of rule-governing, reactivity and low-end orientation. In contrast, the virtue approach assures satisfactory answers to all these points. If deontological approach is not worthless, it would do much better as supplement to the basic – virtue theory. The two approaches correspond to the two kinds of regulative epistemology indicated by Wolterstorff: rule-oriented and habit-oriented.<sup>27</sup> The former was exemplified in the early modern philosophy by Descartes, the latter – Locke. The former gave procedural directions to acquire knowledge, avoid error, and act rationally. The latter described the habits of mind of an epistemically rational person and so aimed at a proper education in right intellectual dispositions. In Wolterstorff's words, the former proposed 'therapeutic medicine,' the latter – 'preventative.'

### 3. Virtue epistemology as intellectual ethics

Virtue epistemology (VE), although apparently new, has already 40 years of history and covers a fairly diverse range of positions. There is no place, nor reason to present in details its typology and discussions immanent to it. In what follows, I shall focus on the responsibilist branch of VE, as exemplified by Roberts and Wood, Baehr and Zagzebski. Concerning relation of VE to the traditional program of epistemology – i.e. whether it is a conservative VE (deriving the analysis of knowledge and its constituents from the notion of epistemic virtue as in Zagzebski<sup>28</sup> or Sosa and Greco for reliabilism), eliminativist VE (Kvanvig), or expansionist VE (Hookway, Roberts and Wood, Baehr)<sup>29</sup> – the issue of the present paper does not require taking sides neither. The solution proposed here should be consistent with any of these approaches. It seems though that the development of VE in the last decade pends towards expansionist VE, that is a study of virtues and vices as way to improve cognitive performance, and so speaks in favour of Baehr's diagnosis.<sup>30</sup>

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<sup>27</sup> See Nicholas Wolterstorff, *John Locke and the Ethics of Belief* (Cambridge: Cambridge University Press, 1996), 152–154. See also Roberts, Wood, *Intellectual Virtues*, 21–22.

<sup>28</sup> Zagzebski, *Virtues of the Mind*, 270–283.

<sup>29</sup> For more details see Heather Battaly, "Virtue Epistemology", *Philosophy Compass* 3, no. 4 (2008): 639–663.

<sup>30</sup> See Baehr, *The Inquiring Mind*, 193–205.

As regulative epistemology, the virtue intellectual ethics (VIE) concentrates on the notion of inquiry: that is, following Baehr, “an active and intentional search” for a particular epistemic good (be it truth, justified belief, well-founded opinion, knowledge, understanding, etc.).<sup>31</sup> It aims to improve it, in face of apparent deficiencies in human epistemic conduct, but with a bigger ambition to form excellent epistemic agents. Any inquiry makes specific demands on the agent, which are answered on the one hand by specific faculties and skills, and on the other, by agent’s character. Intellectual virtues in the sense adopted here are traits of character that contribute to the agent’s cognitive success. To give an initial taxonomy and to illustrate how intellectual virtues play role in inquiry, let us evoke – after Baehr – the main challenges and virtues that answer to them.<sup>32</sup> A successful inquiry needs, first, initial motivation (to which serve inquisitiveness and reflectiveness), second, sufficient and proper focusing (attentiveness, sensitivity to detail), third, consistency in evaluation (impartiality, open-mindedness), fourth, intellectual integrity (self-awareness, honesty), fifth, mental flexibility (creativity, intellectual adaptability) and, sixth, endurance (intellectual courage, patience).

What are the advantages of VIE, apart from those mentioned in the previous section? The first, basic characteristic is that for VIE, the object of evaluation is not a single act or even a series of acts (reliability), but a person. In that sense, as Zagzebski reminds, a virtue is not reducible either to performance of right acts or to a disposition to perform them.<sup>33</sup> Thus, the relationship between virtue and cognitive success-rate is quite loose. In consequence, the value of virtue is not derived from its reliability (although it usually contributes to cognitive success), but is either intrinsic (as in motivational-based theory) or stems from its contribution to the general flourishing of person’s life (as in good-based theory). In either case, the value of virtue arises from the fact that it bears on personal worth. In Baehr’s wording, “an intellectual virtue is a character trait that contributes to its possessor’s personal intellectual worth on account of its involving a positive psychological orientation toward epistemic goods”.<sup>34</sup>

For that reason, it may turn out, as Montmarquet argues, that – in the short or even long run – a specific virtue may not lead to cognitive success, yet it still remains virtue.<sup>35</sup> Other virtue epistemologists do not go so far,

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<sup>31</sup> Ibidem, 18. I extend the definition proposed by Baehr to include various epistemic goods.

<sup>32</sup> Ibidem, 19–22.

<sup>33</sup> See Zagzebski, *Virtues of the Mind*, 15.

<sup>34</sup> Baehr, *The Inquiring Mind*, 102.

<sup>35</sup> See Montmarquet, *Epistemic Virtue*, 26–33.

opting for a moderate position along the lines of Zagzebski for whom even when the motivational component of a virtue is generally related to success, a person cannot be called virtuous if she is not reliably successful herself.<sup>36</sup> Thus, if a supposed virtue consequently failed in gaining epistemic goods (for example, in an evil-demon hostile environment), it would not be a virtue. Motivation and success, although relatively independent, are not absolutely independent: if motivation serves choosing right means to achieve cognitive success and making adequate effort, in the absence of systematic success, it may turn out that the motivation is simply too weak. In that case, both components of virtue (reliability and motivation) fail. That being said, it is important to note that the aforementioned epistemic goods are to be understood broadly enough. While many virtues do not lead directly to truth (they may even have a negative success-rate, as in case of creativity), this does not change the fact that in a broader perspective: (a) they contribute to the value of the person (b) in the cognitive domain and (c) this has implications for the overall intellectual well-being of the person (instantiated in epistemic goods) and, more broadly, (d) of the community.

That leads to the second feature of VIE: being agent-orientated, it is a long-run approach. Forming in virtues is a complex process with lots of ups and downs, and no guarantee for a long time. Cultivating virtues does not necessarily translate into individual successes either. In fact, perhaps in case of some virtues (as intellectual generosity or justice), it is only on the social level that practicing virtues pays off. That would be in line with the pragmatist approach that emphasises the social dimension of science. Thus, on the positive side, the distance concerning the virtue pay-off may be interpreted in two ways: first, virtues secure a proper behaviour in non-standard situations (however, they do not guarantee a success in extremely hostile environments); second, they contribute to the favourable social environment in which individual cognitive activities are placed. This translates indirectly into the success-rate of a scientific community. So, virtues contribute not only to personal but also to social well-being.

There are two other features of virtues that make VIE beneficial, if not necessary. Third, it has been said that a proper rule-following cannot stand on its own grounds, but needs to be agent-based. Thus, virtues are needed as personal qualities to properly choose, apply and perform rules (and to secure a proper functioning not guided by rules). However, this does not concern only rules, but in fact faculties, skills and talents as well. As Baehr

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<sup>36</sup> See Zagzebski, *Virtues of the Mind*, 177.

points out, especially in case of complex research enterprises, cognitive abilities and faculties alone may prove insufficient if adequate virtue support is lacking.<sup>37</sup> Therefore, in his view, reliabilism (pure and virtue reliabilism), apart from non-personal faculties and skills must include the cultivation of virtues. Ultimately, it is the virtues that secure cognitive success (and thus: reliability) in the most interesting cases. Significantly, it is responsibilism that does better with high-level knowledge.

Fourth, virtue theory takes into account the volitional and emotional dimensions of cognitive action. Roberts and Wood point out that “the epistemic goods are acquired, ultimately, not by faculties but by agents”.<sup>38</sup> Virtue intellectual ethics acknowledges personal agency and addresses the question of how to shape human character in order to properly: adapt and act in the epistemic and social context of science. Human is not reduced to a knowledge-machine, but recognised as an adapting, creative and innovating agent. That approach recognises also the appetitive force of emotions, both in their receptive and motivational role. So, apart from the long-run and multi-dimensional success-value, VIE is profoundly humanistic and holistic in its approach to scientist.

#### 4. Forming in virtues

Attractive as it may appear, VIE must face the problem of implementation. Because of irreducibility of virtues to any finite list of dos and don'ts, virtues seem more difficult to form, enforce and estimate. Thus in the last part, I ask what are possible ways to promote them.

I cited before Wolterstorff and his remarks on normative epistemology in the early modern philosophy. The aim of philosophers like Descartes and Locke was the question of how our understandings should be conducted and beliefs – formed in a proper way.<sup>39</sup> The first way to improve intellectual activity and – in the context of the virtue epistemology – intellectual character is conceptual philosophical work. In that sense, the analysis results in guidance. That approach has, of course, limited bearing. A good essay can have a motivational force, that is clear, and can give some examples of how, in particular cases, some virtue works and what requirements it imposes. Certainly, theoretical path works better within

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<sup>37</sup> See Baehr, *The Inquiring Mind*, 56–60.

<sup>38</sup> Roberts and Wood, *Intellectual Virtues*, 112.

<sup>39</sup> See Wolterstorff, *John Locke*, xvi.

deontology, but for the motivational dimension it can have a significant impact in VIE as well. However, it should be regarded as derivative from two other modes of implementation that shall be analysed next: a success-factor and epistemic exemplars.

The second way to motivate formation of intellectual virtues is the success-factor. If practising virtues pays off – on epistemic grounds, but also on broader pragmatic grounds – one will be keen to put more effort into the exercise of virtues and will sacrifice short-term goals for them. The excellency of character is a capital that enables to achieve epistemic and non-epistemic goods. However, the relative independence of reliability and value of virtue will pose some problems to that thinking. The prospect of success may be too remote. Also, the goods to which virtue leads (especially social vs. personal goods) may be less attractive to an individual agent than goods to be sacrificed. Hence, success-factor will have limited importance in motivation. It will be stronger for some virtues (conscientiousness, perceptiveness, honesty) and weaker for others (generosity, patience, transparency). It is certainly a factor that constitutes virtue motivation, but it will not be sufficient for it.

Third, if inquiry is to be understood socially and if virtues have social bearing, both their analysis and review of implementation possibilities should consider their social environment. The social context may propagate or discourage formation and exercise of intellectual virtues. To that respect, the following seven factors (inspired by Kidd's analysis of epistemic corruption<sup>40</sup>) will play role in virtue-formation (the list is not closed). The first is the presence of exemplars of virtue. I will explore that point later, but the initial and shared intuition is that positive examples of practicing virtues both give motivation and guide how to be an excellent (or excellence-oriented) epistemic agent. Second, exemplars should be socially recognised and praised. Otherwise, their impact will be undermined (and even derogated). Third, regardless of success-factor, the social valorisation of virtues (and, correspondingly, vices) have to be considered. Specific attitudes and behaviours can be socially supported and rewarded with non-epistemic goods. (This will, indeed, be an impure form of virtue promotion, but at this point we see that, despite intrinsic value of virtue, epistemic life is bound up in a social hub of epistemic and non-epistemic considerations.) Fourth, as the catalogue of virtues itself is not predetermined and in spite of the fact that there seems to be a greater

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<sup>40</sup> See Ian J. Kidd, "Epistemic Corruption and Social Oppression", in: *Vice Epistemology*, eds. Ian J. Kidd, Heather Battaly, Quassim Cassam (London–New York: Routledge, 2021), 75–77.

consensus about intellectual virtues than – moral virtues, especially in the case of social or hybrid virtues (with lower success-rate), virtues can be disguised as vices and *vice versa*. Fifth, the costs of virtues have to be taken into account. By their nature, practising virtues involves some difficulty, hence they are considered excellences and merit appraisal. These costs, however, may be higher or lower. In a corrupted scientific environment, in a close-minded group or – on the contrary – one that values radicality, originality or iconoclasm at the price of integrity and responsibility, practising particular virtues will cost more and therefore will be discouraged. On the other hand, one can think of collaborative environments, valuing open-mindedness and honesty, encouraging effort, which will promote a virtuous life. Sixth, what is said above can apply also to institutions. Structures (as opposed to communities of individuals) can encourage or discourage intellectual virtues and vices. Seventh, codes, declarations and policies can similarly encourage virtues or vices. It seems, though, that their impact is secondary.

Finally, the social considerations (institutional and policy factors in particular) should not obscure the personal factor in virtue motivation and formation, embodied in intellectual exemplars. Following Zagzebski, the moral and intellectual virtues are implemented and reinforced to the highest degree by emulating exemplars of excellence.<sup>41</sup> In that, the motivational and affective dimensions of virtue take their place. What motivates an agent to follow steps of an exemplar is an emotion of admiration. An agent perceives an exemplar as appraisable and, thus, admirable. Importantly, unlike envy, spite, and resentment, the admiration provokes a desire to emulate its object.<sup>42</sup> In order to form the admiration and to know exactly how to emulate an exemplar in the given respect, an agent has to observe the exemplar. This can – but does not have to – be through a direct contact. A direct, personal experience should have a stronger bearing and would, surely, assure a more substantial and multi-aspect acquaintance with a virtuous person, so it should be richer in guidance and stronger in motivation. Nonetheless, as Zagzebski remarks, exemplars also interact through narratives.<sup>43</sup> Their fictionality is not a hindrance as long as it properly and effectively promotes correctly identified virtues. (The aforementioned theoretical works can also play such a role.) Importantly, the emulation-model is even more agent-oriented. It does not so

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<sup>41</sup> See Linda Zagzebski, *Exemplarist Moral Theory* (Oxford–New York: Oxford University Press, 2017), 153–155.

<sup>42</sup> *Ibidem*, 53–58.

<sup>43</sup> *Ibidem*, 66–68.

much promote virtues as detached character traits, but a specific way of being a person. In this sense, virtues themselves are also derived from exemplar.

Given epistemic desiderata, faculties and virtues that contribute to them and so are praiseworthy, we can initially sketch out how a desired exemplar (let's call her a wise person) should look like. I propose that an exemplary epistemic agent should be characterised by (a) high and relevant understanding (a higher-level knowledge), (b) excellent epistemic faculties, and, notably, (c) intellectual character traits. In so, she meets the success-oriented criteria (understanding as higher epistemic state contributes to gaining epistemic goods) and achieves a personal excellence in what concerns both skills, talents and faculties, and personal character, contributing to the personal worth. In that sense, a wise person is both an ideal of intellectual life and basis for formation in VIE.

In conclusion, the present paper argued that VIE is more attractive than other models of intellectual ethics. It outweighs deontology by providing proper motivation and acknowledging human agency (and so it stands on its own grounds, in contrast with rule-governing); it is more formative than merely corrective and aims at high-level epistemic desiderata. Moreover, it is agent-oriented (constitutive for personal worth and human flourishing), long-run, socially-oriented, and holistic approach. Against VIE, it has been argued that for its indeterminacy and wide perspective, it poses problems for implementation. In response, I proposed four approaches to form in virtues. I estimated limited significance of purely theoretic and success-factor approaches, and indicated important social factors and the central role of excellent exemplars (both direct and narrative) to emulate. In so, the critique is dismissed. The conclusions of the research should transform profoundly the ways the intellectual ethics is conceptualised and promoted within the scientific world.

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## Summary

In face of unethical incidents that threaten the world of science, a question of the necessity and a possible shape of intellectual ethics has been raised. The article argues that advantages of virtue epistemology make it more attractive than other models of intellectual ethics (deontology, in particular). To that purpose, it reviews alternative models for intellectual ethics, analyses and criticises deontological approach and demonstrates the virtues of the virtue approach. As problems with implementation of virtue ethics have been put against that approach, the article

addresses the question of how to promote virtue intellectual ethics. It discusses four possible methods of formation in virtues: theoretical, success-oriented, social and based on emulating exemplars. It argues for the role of excellent exemplars (both direct and narrative) whose emulation forms virtues in agent. The conclusions of the article should transform the way we think about intellectual ethics and promote it.

**Keywords:** virtue epistemology, intellectual ethics, deontology, formation, virtue