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ARISTOTLE ON THE ROLE OF PRACTICAL INTELLECT IN DETERMINING THE ENDS

by

KERONG GAO

Under the Direction of Tim O'Keefe, PhD

ABSTRACT

In this thesis, I argue that an Aristotelian virtuous person not only reasons about the means of her action but also the ends of her action. A person who has been well habituated but never reflects on her ends is not yet virtuous. To be virtuous, the person needs to apprehend and may revise her apprehension of the ends that have been given to her in her habituation, such as apprehending what it is to be generous. I argue that to arrive at what it is to be generous, practical induction and reflective equilibrium are needed. Both practical induction and reflective equilibrium are exercises of practical intellect. Once the person apprehends what it is to be generous, she would be in a good position to determine a generous action as the appropriate end for a situation and justify why a particular action is generous.

INDEX WORDS: Aristotle, Practical intellect, Ends, Practical induction, Reflective equilibrium

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DEDICATION

To my parents, Pengfei and Niuniu.

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1 INTRODUCTION

For Aristotle, actions have a means-end structure, as is shown in *Nicomachean Ethics* (*EN*).¹ According to Aristotle, actions are what we perform after deliberation in order to realize some end (*EN* III.3).² Deliberation is thinking about how to realize some end (*EN* III.3). For instance, if the end is providing financial support for people who are suffering from an earthquake, then deliberation should figure out how to realize this end. However, it is unclear how people determine which ends to aim for. In this thesis, I will focus on *correct* ends, i.e., the ends of the virtuous person. A key text for understanding Aristotle’s opinion on how people determine which ends to aim for is

(T1). ἡ μὲν γὰρ ἀρετὴ τὸν σκοπὸν ποιεῖ ὀρθόν, ἡ δὲ φρόνησις τὰ πρὸς τοῦτον (*EN* VI.12 1144a8-9, VI.13 1145a5-6).

Virtue makes the goal correct, and practical wisdom makes what leads to it correct.³

Aristotle divides virtue into virtue of character and intellectual virtue (*EN* I.13 1103a5). Generosity, justice, temperance, etc. are virtues of character. Practical wisdom, skill or craft, scientific knowledge, etc. are intellectual virtues. According to T1, virtue of character allows us to determine the correct ends.⁴ Practical wisdom, which is an intellectual virtue, allows us to determine the correct means to realize the correct ends. Μὲν and δὲ are a pair of conjunctions typically used to

¹ Cf. Broadie (1991), Chapter 4, IX End and Means in Deliberation.

References to the texts will be made using the following abbreviations:

Posterior Analytics (*APo.*) *On the Soul* (*De Anima*) (*DA*) *Nicomachean Ethics* (*EN*) *Metaphysics* (*Met.*) *Topics* (*Top.*)

² People often act without conscious deliberation, which happens when the means are straightforward or they have deliberated on the means in the past. When asked why they acted in a certain way, they can in principle (and typically) reconstruct the past deliberation.

³ All translations in the paper are from Barnes (1991). Some scholars use “what is toward the end” or “what leads to the end” instead of “means” in the context of debating whether the first two are more inclusive than the last. I will not touch on the debate and treat them interchangeably.

⁴ Juan Piñeros Glasscock (2019) brings up several possibilities to interpret the construction “x makes y correct”. (1) x makes y correct by finding the correct y; (2) having found which y is correct, x makes y correct by settling on y as the thing to do; (3) having settled on which y is correct, x makes y correct by carrying it out in a correct way; (4) x gives one an appropriate understanding or appreciation of y such that one acts guided by such an understanding; (5) some combination of these or any number of other possible interpretations (Piñeros Glasscock 2019, pp. 396-397). Piñeros Glasscock (2019) takes (5). Moss (2011) takes (1) and (2). Moss (2011) is my target article in this thesis. She uses the phrase “supplying the ends” for the phenomenon of “determining which ends to aim for”.

make a contrast between two things. A common translation of them is “on the one hand, ...; on the other hand, ...” or “..., but...” (Hansen & Quinn 1992, pp. 55-56).⁵ Hence, a straightforward way of interpreting T1 is that virtue of character exclusively allows us to determine the correct ends, while practical wisdom exclusively allows us to determine the correct means. Jessica Moss (2011), following Walter (1874), is a proponent of this straightforward interpretation. Other scholars (Burnyeat 1980, Piñeros Glasscock 2019, Sorabji 1974, Taylor 2008, Wiggins 1980), however, claim that practical intellect, by means of practical wisdom, allows us to determine the ends together with virtue of character.⁶ Holding that virtue of character exclusively allows us to determine the ends is a non-intellectualist view. By contrast, holding that both virtue of character *and* practical intellect allow us to determine the ends together is an intellectualist view. In this paper, I will argue in favor of the intellectualist view. If we take an intellectualist view, this still leaves open the question of *how* practical intellect allows us to determine the ends. I argue that it does so through a process of practical induction akin to the process of theoretical induction. Among those intellectualists above, only Sorabji (1974) mentions practical induction. Nonetheless, his discussion is underdeveloped. I will spell out what the process of practical induction would be that allows us to determine the ends for action.

Intellectualists and non-intellectualists agree that practical wisdom allows us to determine the correct means for achieving our ends. The debate is about whether we require practical wisdom or practical intellect in general to allow us to determine correct ends together with virtue of character. Moss does not think that it is necessary. Her argument is roughly that

- (1). To have virtue of character is just a matter of being correctly habituated.

⁵ Ross’ translation “..., and...” seems loose according to the typical use of $\mu\epsilon\nu$ and $\delta\epsilon$.

⁶ Practical intellect, namely, practical reason, is the rational part of the soul that is related to practical matters. Because scholars, especially Moss, often use practical intellect, I will stick to that term as well. Practical wisdom can be roughly taken to be the best state of practical intellect (*EN* VI.11 1143b15).

(2). Correct habituation exclusively allows us to determine the correct ends that a virtuous person pursues.

Therefore,

(3). Virtue of character exclusively allows us to determine the correct ends that a virtuous person pursues (Moss 2011, pp. 207-241).

For Moss, habituation works on the soul's non-rational part (Moss 2011, p. 228). I will follow her understanding of habituation. I agree with her that correct habituation is necessary for having virtue of character. However, I do not think that it is sufficient. In response to Moss, I will start by arguing that correct habituation is just the initial stage of, and thus not sufficient for, having virtue of character, which refutes her premise 1. I will then argue that reasoned reflection on what is good and why it is good is also needed to reach the final stages of having virtue of character, which refutes her premise 2. Afterward, I will develop an account of how practical intellect is supposed to help establish the correct ends.

2 INITIAL STAGE OF MORAL DEVELOPMENT

Aristotle's description of who will benefit from his ethical lectures, and how they will benefit, shows that habituation is not sufficient for developing virtue of character. Instead, reasoned reflection on what is good and why it is good is also required.

In the latter part of *EN I.3*, Aristotle talks about who the proper listeners for his lectures are. He says that young people are not the proper listeners (*EN I.3 1095a2*). His lectures are about actions, but young people have not yet experienced many actions (*EN I.3 1095a3*), and they follow their passions when they act (*EN I.3 1095a9*).

(T2). For to such persons, [i.e., the young], as to the incontinent, knowledge brings no profit; but to those who desire and act in accordance with reason, knowledge about such

matters will be of great benefit. (*EN* I.3 1095a10-11)

Knowledge should be what his lectures will convey. For Aristotle, his proper listeners are people who desire and act in accordance with reason (*κατὰ λόγον*), not people who merely act in accordance with passion.⁷ Thus, young people are not his intended listeners. Then how can people come to desire and act in accordance with reason instead of passion in order to become his proper listeners? Aristotle says in the following chapter that people can become so by receiving a good upbringing, as T3 shows.

(T3). Hence anyone who is to listen intelligently to lectures about what is noble and just and, generally, about the subjects of political science must have been brought up in good habits. (*EN* I.4 1095b3-5)

People who are brought up well have good habits. Good habits make people desire and act in accordance with reason. Aristotle explains that he requires that his listeners have good habits because they must start with something evident to them when they come to his lectures (*EN* I.4 1095b3-4).⁸ Good habits provide them with a good starting point that is evidently available to them. Then what is the starting point that good habits provide? Aristotle says that “the fact is a starting point (*EN* I.3 1095b5).” According to Ross (2009, p. 205) and Burnyeat (1980, pp. 71-72), the fact which acts as a starting point is that some actions are noble and some actions are not noble, the knowledge of which is provided by good habits. This interpretation is backed up by T4, where Aristotle comes back to the proper listeners in *EN* X.9.

(T4). While argument and teaching, we may suspect, are not powerful with all men, but the soul of the student must first have been cultivated by means of habits for noble joy and noble hatred, like earth which is to nourish the seed. For he who lives as passion directs will not hear argument that dissuades him, nor understand it if he does; and how can we persuade one in such a state to change his ways? And in general passion seems to yield not to argument but to force. The character, then, must somehow be there already

⁷ Passions *after* correct habituation can direct one to the same thing as reason. However, according to the context, Aristotle here refers to young people’s undisciplined passions.

⁸ As I will come back later, it is a characteristic of Aristotle’s epistemology that all teaching and learning derive from what is already known (*EN* 1139b26; *APo* 71a1).

with a kinship to virtue, loving what is noble and hating what is base. (*EN* X.9 1179b24-30)

In line with T2 and T3, Aristotle repeats here that his target listeners are supposed to have good habits. And good habits make people disposed to desire and do what is noble. They desire noble actions because they believe those actions are noble and avoid base actions because they believe those actions are base. Hence, it is evident to people with good habits *that* some particular actions are noble and some base. Even though people with good habits know that some actions are noble and some actions are base, they do not know what it is to be noble and why they are noble, which is what Aristotle's lectures intend to teach. Thus, it is reasonable to infer that Aristotle thinks that good habituation is crucial in preparing one's inchoate disposition to virtue, just as soil is crucial in nourishing the seed. At the same time, just as soil alone is not sufficient for the seed to grow fully, neither are good habits sufficient for producing a mature virtuous disposition. Furthermore, Aristotle says in T4 that the disposition brought about by good habits has a *kinship* to virtue of character. That is, the disposition is not virtue of character itself. Then the argument and teaching in T4 should be used to help the inchoate disposition become mature. If Aristotle thought that it was mature, then his listeners would already be virtuous. There would be no need for them to come to his lectures, which aim at helping people become virtuous, as Aristotle says that "we are inquiring not in order to know what virtue is, but in order to become good, since otherwise our inquiry would have been of no use (*EN* II.2 1103b28-29)."

Another piece of evidence that the disposition brought about by good habits is not virtue of character is that when Aristotle talks about his proper listeners in T2, he says that they desire and act *in accordance with* reason. Nonetheless, in *EN* VI.13, he claims that "it [virtue of character] is not merely the state in accordance with correct reason (*κατὰ τὸν ὀρθὸν λόγον*), but the state that implies the presence of correct reason (*μετὰ τοῦ ὀρθοῦ λόγου*) (*EN* VI.13 1144b24-25)." That is,

people who desire and act merely in accordance with correct reason are not yet virtuous. After all, they can desire and do what is right by following others' right guidance, without considering themselves whether and why it is good. Especially, if we follow Moss in treating habituation as working on the soul's non-rational part, the disposition brought about by good habits is not a result of developing reason. Although the exact meanings of "in accordance with correct reason" and "implying correct reason" are unclear so far, it should be clear that the latter is more demanding than the former. To be virtuous, they also need to desire and act in a state that implies correct reason. Thus, I think that Aristotle would not regard people with good habits as already virtuous.

Moss would argue against my conclusion by insisting that correct habituation is not only necessary but also sufficient for virtue of character—her premise 1 (Moss 2011 p. 216). She refers to T5 to argue that correct habituation is sufficient for virtue of character (Moss 2011 p. 216).

(T5). We are adapted by nature to receive the virtues and are made perfect by habit. (*EN* II.1 1103a25)

She does not explain how T5 supports that correct habituation is sufficient for virtue of character. She just says that the sufficient condition is the clear implication of T5 (Moss 2011, p. 217). On what appears to me to be the most likely interpretation of Moss' implicit argument, when Aristotle discusses what makes us virtuous in T5, he does not mention anything except habit. Specifically, Aristotle says that habit makes us *perfect*. Hence, we should need nothing extra to become virtuous because habit has already perfected us.

Aristotle claims T5 in the context of discussing whether we acquire virtue of character by nature, teaching, or habit. T5 simply asserts habit, and habit even perfects us. If we take T5 at face value and in isolation, it is plausible to say that Aristotle thinks that habituation is sufficient to make us virtuous. However, when moving to T4, where he is reexamining whether we acquire virtue of character by nature, teaching, or habit, we find that his answer is more complicated. He

says that teaching is only helpful for those who already have good habits—whose character has a kinship to virtue of character, rather than merely pointing out the contribution of habit. Here he treats correct habituation as a prerequisite of effective moral teaching. In addition, Aristotle in *EN* VI.13 acknowledges the helpfulness of natural virtue in developing the virtue of character. Natural virtue is a state of character that is acquired by nature and emerges as one ages (*EN* VI.13 1144b5-6). For example, some people from birth are stronger than other people. Likewise, some people from birth have a state of character that is closer to virtue of character than that of other people. Since Aristotle in these places acknowledges the benefit of teaching or nature to acquiring virtue of character, we cannot conclude, merely according to T5, that correct habituation is sufficient for virtue of character. As for T5, it is plausible to say that Aristotle is there emphasizing—maybe overemphasizing (Sorabji 1974, p.120)—the importance of correct habituation in moral development. The emphasis on correct habituation is related to the question that Aristotle is asking here. I take Aristotle to be asking how people start to acquire virtue of character from youth, which is narrower than the comprehensive question that he asks in T5 at the end of the *EN*. People have already acquired their natural virtue once upon birth, and they cannot exert any influence on what kind of natural virtue they get. Nonetheless, they can develop whatever natural virtue they have got from birth by habituation. And teaching cannot contribute to moral development until people have got good habits. Thus, correct habituation cultivates natural virtue on the one hand and paves the way for teaching on the other hand. Then correct habituation is what people can effectively work on from youth.

Moss might push back and say that Aristotle's teaching does not aim at developing virtue of character. And insofar as teaching helps, it does so indirectly via developing practical wisdom. However, I do not think she can say so when she restricts practical wisdom to the realm of the

means, while Aristotle aims at teaching what the human good and virtue are. According to T3 and T4, people with good habits are willing to hear argument and teaching about *what is noble and just and the human good* because of their kinship to virtue. Given that the proper listeners have known by habituation that some actions are noble and some actions are base, his lectures, namely, the *EN*, are presumed to teach them something beyond that knowledge. One plausible speculation is that his lectures intend to teach what it is to be noble and why a particular action is noble. And this speculation can be verified by the content of the *EN*. As I mentioned earlier, Aristotle says that his inquiry intends to help his proper listeners become good (*EN* II.2 1103b28-29). Book I tells us that its subject matter is the supreme good that humans can achieve, i.e., *eudaimonia*, which is usually translated as happiness, well-being, or flourishing. He explores what *eudaimonia* is and its relationship with virtue. As we read through the *EN*, we find that its first book is about *eudaimonia*, and the remaining books are about virtues of character, intellectual virtues, and other things that are needed to achieve *eudaimonia*. All of them are discussed from the perspective of what it is to be, e.g., generous more than enumerating which actions are generous (*EN* IV.I). Hence, I think that Aristotle's lectures, i.e., the argument and teaching in T2-T4, intend to teach his proper listeners what virtue is and why we should become virtuous in consideration of achieving *eudaimonia*, which does not fall into the category of the means.⁹ If practical wisdom is restricted to technically working out the means, as Moss contends, and what is noble and just and the human good are not discussed in terms of the means, then what is noble and just and the human good do not fall into the sphere of practical wisdom. Therefore, I claim that Moss cannot consistently say that insofar as teaching helps, it does so indirectly via developing practical wisdom.

Then how does the knowledge about what is good to humans and why it is good help his

⁹ See Burnyeat 1980, p. 71.

listeners become good? Near the start of the *EN*, Aristotle claims that the knowledge of *eudaimonia* will help people become more likely to hit upon what is right (*EN* I.2 1094a24-25). As Aristotle notices, people agree that the supreme human good is *eudaimonia*, but they disagree on what *eudaimonia* is (*EN* I.4 1095a18-20). Thus, the clearer the *eudaimonia* target is, the more likely people will hit upon it. Aristotle shows his listeners what he thinks *eudaimonia* is (*EN* I.7 1097b21-1098a19). Moreover, right before T2 regarding his proper listeners, Aristotle says that “the man who has been educated in a subject is a good judge of that subject, and the man who has received an all-round education is a good judge in general” (*EN* I.3 1094b30-1095a1). This text presumably implies that his lectures will help his listeners to be a good judge of the human good in general, including both the supreme human good and all kinds of subordinate human goods, such as virtues and external goods. To be a good judge of the human good involves knowing what the human good is and the structure among different human goods. With what the human good is and its structure in mind, people will be more likely to achieve what is good to humans. Therefore, reasoned reflection on what is good and why it is good helps people with good habits to reach the final stages of developing virtue of character.

Before moving to the next section on how reasoned reflection allows us to apprehend what is good and why it is good, I think it useful to make a distinction between three different senses of “why I should be, e.g., generous.” First, as T4 shows, people who have been well habituated know why generosity is good and why they should be generous in the sense that they know that being generous is noble and they should do what is noble. Correct habituation makes people act based on their disposition to what is noble. In another sense, Aristotle’s lectures will make them able to explain how generosity relates to *eudaimonia*, i.e., having a full and flourishing life. They thus can give an additional explanation for why they should be generous. And a third sense would be the

sort of thing I will discuss below with practical induction and reflective equilibrium. With enough experience, people who reflect on their experience through practical induction and reflective equilibrium would be able to apprehend what it is to be generous and thus able to explain why some particular action is generous. That is, they can give a reasoned justification of why, under these particular circumstances, a certain action is the right thing to do.

Noticeably, the three senses are complementary. During a good upbringing, people become disposed to do whatever they are told is noble, such as repaying their due debt. Nonetheless, they do not have a broad picture of what a full and flourishing life looks like and how these noble actions contribute to having a full and flourishing life. Aristotle's lectures are supposed to teach them such a broad picture. In order to put his lectures into practice, people are expected to figure out what a particular noble action is under certain particular circumstances. For instance, they need to take into account that repaying one's debt is not always just, as when the creditor desperately needs money back to do something bad. In this case, the debtor had better withhold the debt temporarily. Apprehending what it is to be noble will help people better figure out a particular noble action, which I will detail in the next section.

3 MY ACCOUNT: PRACTICAL INDUCTION AND REFLECTIVE EQUILIBRIUM

In this section, I will develop an account of how practical intellect is supposed to help establish the correct ends, e.g., what it is to be generous. In my account, practical intellect's work builds on correct habituation and works primarily in the form of self-reflection on practices. Regards self-reflection, I will flesh out Aristotle's idea of practical induction and draw on the recent idea of reflective equilibrium that I think Aristotle's idea of practical induction can incorporate.

3.1 Practical Induction in the *EN*

One concern that Moss has about the involvement of practical intellect in determining the ends is that Aristotle says that there is no reason (*logos*) for the first principles of actions, just as there is no reason (*logos*) for the first principles of mathematics (*EN* VII.8 1151a16; Moss 2011, p. 222). The first principles of actions are the ends, and the first principles of mathematics are hypotheses (*EN* VII.8 1151a16-17). For example, one hypothesis in Euclidean geometry is that it is possible to draw a straight line from any point to any other point. This hypothesis is accepted without demonstration and serves as a starting point in geometrical demonstrations. According to Aristotle, all scientific knowledge deductively follows from first principles (*EN* VI.6 1140b32). Thus, reason (*logos*) here should mean the deductive process from first principles to conclusions. The first principles of all scientific knowledge cannot be an object of scientific knowledge (*EN* VI.6 1140b33-34). Put differently, the first principles of all scientific knowledge are not themselves reached by deduction. However, Aristotle cannot mean that the first principles of scientific knowledge are arrived at without any intellectual activity. Rather, we arrive at the first principles of scientific knowledge by induction, which works from the particular to the universal (*EN* I.4 1095a30-31, VI.3 1139b28-31; *APo* 71a5-8). Thus, if we take the analogy between math and ethics seriously, we should not conclude that the first principles of actions are arrived at without any intellectual activity. Rather, in both cases, we arrive at first principles through a different inductive process. Therefore, the first principles or the ends of actions are arrived at by induction too.

Aristotle implies induction as the method of arriving at the ends of actions when talking about practical reasoning in *EN* VI.11. According to Aristotle, both scientific reasoning and practical reasoning proceed through syllogisms, which include a major premise, a minor premise, and a conclusion. An example of practical reasoning:

Major premise: Such and such a human being should do generous actions.

Minor premise: I am such and such a human being, and this is a generous action.

Conclusion: I should do this action/I do this action.¹⁰

In the minor premise, the specific generous action and the specific human agent are particular things. Aristotle says that

(T6). ἀρχαὶ γὰρ τοῦ οὗ ἔνεκα αὐται: ἐκ τῶν καθ' ἕκαστα γὰρ τὰ καθόλου.

For these variable facts are the starting-points for the apprehension of the end, since the universals are reached from the particulars. (*EN* VI.11 1143b3-4)

These variable facts in minor premises are different particular instances of generous actions appropriate to different situations. Different situations call for different instances, so particular instances are variable. The end in T6 is a kind of action as a universal end, such as generous actions in the major premise of the practical reasoning above. According to T6, generous actions as a universal end are acquired from particular instances of generous actions, “*since* the universals are reached from the particulars.” Thus, I think that T6 is talking about the process of how the universal end is arrived at. According to Aristotle, there are two ways of making arguments. One is from the universals to the particulars, and the other is from the particulars to the universals (*EN* I.4 1095a30-31, VI.3 1139b28-31; *APo* 71a5-8; *Top.* 105a12). The former is deduction, and the latter is induction (*Ibid.*). Thus, it is reasonable to conclude that Aristotle thinks that we can inductively acquire the universal ends from particular instances.¹¹

It is worth noting that “apprehension” seems periphrastic in Ross’ translation above because it is not in the Greek sentence. It is not in Irwin’s and Rowe’s translations, either.

¹⁰ This practical syllogism is modified from Gottlieb (2006, p. 224), cf. *DA* III.11 434a16-22.

There is a debate on whether the conclusion of a practical reasoning is a statement that I should do this action, which is followed by the actual action of doing it, or the conclusion *is* the action without the statement. See Ross (2019, p. 246). I will not touch on the debate in this paper.

¹¹ Cf. Irwin (1999, p. 250), Sorabji (1980, p. 124).

(T6'). "For these last terms are beginnings of the [end] to be aimed at." (Irwin)

(T6''). "For these are the starting points of that for the sake of which." (Rowe)

However, even if Ross' translation is periphrastic, I can still safely conclude that Aristotle thinks that we can inductively acquire the ends, since my above analysis does not involve apprehension yet.¹² That the universals are reached from the particulars explains why these variable facts are the starting points of the end. The process from the particular to the universal is induction. Hence, the particular instances are the starting points of the inductive process of acquiring the universal ends.

Ross' emphasis on apprehension presumably assumes that people have already known the universal ends in some sense, but they have not yet apprehended them. For example, when they were young, their parents may well tell them that people should perform generous actions. In the sense that they were told the universal end, they knew it. But before they had any personal experience with particular generous actions and reflected on their experience, they had not apprehended it.¹³ They had not known what generosity is or what being generous consists in. To apprehend what generosity is requires going through the process of inductively acquiring the universal end from experiencing particular instances. By inductively acquiring the universal end for themselves, they also apprehend it because practical induction involves employing practical intellect to apprehend what generosity is.

¹² One worry about reading T6 as being about induction is that the reading is epistemic and thus makes it hard to explain why there is a disanalogy between the theoretical case and the practical case, namely that the aim of the former is to know whereas that of the latter is to act (*EN* VI.2 1139a26-27). I owe the worry to Juan Piñeros Glasscock. As a reply, I think that it is worthwhile to note the disanalogy and to stress that the practical case is not purely an epistemic process. Although my epistemic reading does not directly explain the disanalogy, induction and being practical are not mutually exclusive. And as I will argue in section 3.3 below, they in fact work together—it is through gaining more knowledge of the end, by using practical intellect, that an agent is able to better discern the action that she ought to perform in this particular situation.

¹³ Aristotle would either say that they do not have knowledge, or that they have knowledge, which does not mean knowing but only using language (*EN* VII.3 1147a10-24).

3.2 Practical Induction in the *APo*.

Another piece of evidence that practical induction is indispensable in Aristotle's epistemology of ethics comes from *APo* II.19. According to Aristotle, all teaching and learning derive from what is already known (*EN* VI.3 1139b26; *APo* 71a1). People acquire scientific knowledge from already known first principles. Likewise, the first principles, in turn, are supposed to be from something already known. The process of acquiring the first principles is called induction (ἐπαγωγή) (*APo* 100b4). Aristotle describes the process of induction as follows, starting from perception to memory, to experience, finally culminating in a principle (ἀρχή) of skill (τέχνη) or understanding (ἐπιστήμη).

(T7). And this evidently belongs to all animals; for they have a connate discriminatory capacity, which is called perception... So from perception there comes memory, as we call it, and from memory (when it occurs often in connection with the same thing), experience; for memories that are many in number from a single experience. And from experience, or from the whole universal that has come to rest in the soul (the one apart from the many, whatever is one and the same in all those things), there comes a principle of skill and of understanding—of skill if it deals with how things come about, of understanding if it deals with what is the case. (*APo* 99b35-100a9; see also *Meta.* 980b26-981a12)

According to T7, the inductive process of acquiring the first principles starts from a discriminatory capacity which all of us possess, i.e., perception. We are capable of seeing what is before us, for example, a cow. Also, we are capable of recalling the cow in our minds when it is not before us due to the retention of it in our memory. When we see another cow, we can remember the cow we saw earlier and connect them. As we see many cows and have many memories of them, we form the concept “cow” as a class and are capable of seeing a cow *as a cow*. We are capable of categorizing cows as members of the same class. The development of the concept of cow as a class constitutes our experience with cow. However, we do not know what a cow is so far. In order to know what a cow is, biologists need to inquire into the nature of the cow (Hankinson 1998, p. 170). After the inquiry, one can say that she knows what a cow is and acquires the first principle (ἀρχή)

of what a cow is.

Concerning the first principle, Aristotle considers two kinds of cases, namely, skill (τέχνη) and understanding (ἐπιστήμη), which correspond to the practical area and the scientific area respectively.¹⁴ The example of the cow illustrates how to acquire the first principles in the scientific area inductively. The practical area includes production and action, both of which are about how things come about. Productive activities include treating patients, building, etc. To use Aristotle's example of treating patients, a doctor had many patients with fever who were cured by a certain medicine, which constitutes her experience with fever and the medicine (*Meta.* 981a9-12). She does not acquire the first principle of treating fever until she knows what it is that makes the medicine work for fever, which requires her to know what it is that produces fever (cf. *Gorgias* 501a-b).¹⁵ That is, she needs to know that, for example, too much bile makes the patient have a fever, and the medicine reduces bile to a normal level (Johansen 2017, p. 110). Thus, the whole process of how the first principles are inductively acquired starts from perception and culminates in the first principles of skill or understanding. Notably, it is not an easy task to acquire the first principles. Both biologists and doctors take much effort to acquire them. Once the first principles are acquired, they can be used to explain certain features of things. For example, what a cow is can be used to explain some features of the cow, such as eating grass. What it is that produces fever can be used to explain the symptoms of fever and why specific medicines work to reduce it.

¹⁴ Although Aristotle further distinguishes production from action (*EN* VI.4 1140a4), both of them are about how things come about (*EN* VI.4 1140a1). Given that T7 says "of skill if it deals with how things come about" and contrasts it with "of understanding if it deals with what is the case," we can reasonably think that Aristotle refers to the practical area and the scientific area respectively.

¹⁵ An interesting connection is that Socrates says that medicine is a craft because it investigates "both the nature of the object it serves and the cause of the things it does, and is able to give an account of each of these (*Gorgias* 501a)." However, a knack, such as pastry baking, does not consider either the nature or the cause of its object (*Gorgias* 500e-501a). Notably, for Socrates, a craft pursues the good, while a knack pursues pleasure (*Gorgias* 500d).

3.3 Practical Induction and Reflective Equilibrium

If we take the analogy between scientific inquiries and practical inquiries seriously, we can take a similar route to inductively acquire the first principles, i.e., the ends, of ethics. I will spell out a picture of how the ends could be inductively acquired and thus apprehended. This picture involves the method of reflective equilibrium. “The method of reflective equilibrium consists in working back and forth among our considered judgments (some say our “intuitions”) about particular instances or cases, the principles or rules that we believe govern them, and the theoretical considerations that we believe bear on accepting these considered judgments, principles, or rules, revising any of these elements wherever necessary in order to achieve an acceptable coherence among them” (Daniel 2020). Although Aristotle does not explicitly discuss reflective equilibrium, I believe it is implicit in what he says about living a virtuous life. I will show that Aristotle’s idea of practical induction can incorporate some characteristics of reflective equilibrium, and the cases I shall draw upon to motivate the idea of reflective equilibrium are all from Aristotle’s text. I think that the picture of practical induction and reflective equilibrium also captures how we come to apprehend virtues of character today in our ordinary moral life.

When Aristotle’s proper listeners were young, their parents told them many moral truisms. One among the many might be that doing generous actions and thereby being a generous person is good. In the sense that they were told the first principle, they knew it. But before they experienced any instances of generous actions, they had not apprehended what generosity is.¹⁶ Suppose that one day Jonah and his parents encounter a homeless person. His parents tell him to give the homeless person bread because that is a generous action. Jonah thereby perceives and engages in an instance of generous action. He remembers the event and associates it with the moral

¹⁶ Cf. my footnote 12 above.

truism that his parents told him. He thinks that he will give bread next time he encounters a homeless person. Suppose that next time he does not have bread, and his parents suggest milk. Then he associates giving milk to a homeless person with his past action of giving bread and the moral truism. He thinks that generous actions do not have to involve bread and that being generous is giving *some food* to a homeless person. Thereafter, one of his classmates contracts a severe disease but cannot afford the treatment. His class is raising donations for the classmate. This time his parents suggest he donate some money because that is generous. Jonah gets confused since he has been thinking that being generous is giving *some food to some homeless person*. But his parents are now suggesting giving *some money to a classmate*. He reflects on the divergences and revises his apprehension of what generosity is.

All the instances of generous actions he engages in constitute his experience with the class of generous actions. He is able to categorize particular actions as members of the class. However, just as people who can categorize particular cows as members of the class of cow might not apprehend what a cow is, people who can categorize particular actions as members of the class of generous actions might not apprehend what generosity is. The ability to categorize things as members of a class just requires the ability to recognize the instances of the class, while apprehending the class requires the ability to grasp what it is to be a member of the class, which in turn could help better recognize the instances of the class. As I mentioned earlier, practical induction is a process of apprehending virtues of character. For Jonah, he is specifically engaging in a practically inductive activity of apprehending what it is to be generous. To apprehend what generosity is, Jonah needs to generalize instances of generous actions to see what they have in common, such as giving some food to a homeless person. Notably, when Jonah considers what particular instances have in common, he needs to pick out *relevant* features in them. Take giving

bread to a homeless person for example. He needs to discern that bread, the homeless person, the way of giving, etc. are relevant, while features like the person's gender and height, the weather, etc. are irrelevant. I would not say that the food and the homeless person are wrong features. They are relevant features. The picking out of relevant features, not any or every feature, helps him consider what these particular instances have in common. To pick out relevant features and incorporate them into the consideration of what these particular instances have in common is exercising practical intellect, not merely a matter of habituating the non-rational part of the soul as Moss (2011, p. 228) contends. Once Jonah expands his experience to donating, he would see that the things to give are not limited to food and neither are the people to give limited to the homeless. To improve his apprehension of generosity, he needs to consider what makes both food and money the right things to give and what makes both the homeless and his classmate the right people to give, which is beyond what direct experience can provide. The further consideration would then lead him to relate to the features of food and the homeless in a new way.

His apprehension of generosity influences his judgment about whether doing a generous action or some other kind of virtuous action should be the end in a particular situation. For instance, if he associates the right people to give only with the homeless, then in his classmate scenario he would not determine doing a generous action as an end. Someone might say that it is because he has not experienced giving to a classmate that he would not set doing a generous action as an end. After he has the experience, he would. Hence, it is not a matter of apprehending generosity but of enough experience. I think that even if he later starts to have his classmate included in the right people to give, whether a specific situation involving his classmate calls for a generous action relies on his apprehension of generosity at that time, including how he relates the right people to give with his classmate. Good habituation provides him with an end of doing generous actions.

Nevertheless, when the end is applicable in a specific situation depends on his apprehension of the end. He may determine doing a generous action as his end when a specific situation does not call for it, or he may not determine it as an end when a specific situation calls for it, even if he has relevant experience in the past. So far I have presented a brief example of practical induction and how one's apprehension influences one to determine an end in a specific situation.

It is noteworthy that in the course of apprehending generosity Jonah's apprehension might be fallible, incomplete, and progressive. Taking the developing feature into consideration, the process of apprehending what generosity is has to involve constant revisions and refinements. The method of reflective equilibrium can be used in revising one's apprehension. One characteristic of reflective equilibrium is that it balances the divergences between one's intuitive judgments about particular cases and judgments derived from what one believes or is committed to (Daniel 2020). Aristotle can incorporate this characteristic by settling on the divergences between intuitive judgments about moral cases and judgments derived from an existing apprehension of virtues of character. The divergences occur when new cases seem to be a certain virtue of character but are not according to the existing apprehension, or new cases do not seem to be a certain virtue of character but are according to the existing apprehension. For example, Jonah needs to balance his existing apprehension of generosity as giving food to a homeless person and his new case of giving money to a classmate. The new case of giving money to a classmate seems generous but is not according to his existing apprehension of generosity as giving food to some homeless person. The reflective equilibrium starts from the surprise at the relevant divergences between an existing apprehension and a new experience. Facing the relevant divergences, sometimes the previous apprehension needs to be revised, such as Jonah's apprehension of generosity as giving food to some homeless person before he experiences the new case of giving money to a classmate. Other

times the way of looking at a particular case needs to be revised, such as when the case is not as generous as what it initially appears. Then Jonah can stick to his previous apprehension of generosity and use that apprehension to correct his intuitive representation of the particular case. The recognition and the balance of the relevant divergences involve exercising practical intellect. The balance results in a better apprehension of what generosity is, which practical induction intends to acquire.

As Daniel's above definition shows, reflective equilibrium can take place more extensively when a third party gets involved, namely, theoretical considerations that we believe bear on accepting intuitions or what we believe we are committed to. Aristotle can also incorporate the extensive characteristic of reflective equilibrium when thinking about fitting in one's belief about generosity with other ethical beliefs, beliefs about politics, psychology, etc. For example, giving money to a person who lent you money before is not generous but just. Thus, apprehending generosity involves the nuanced differences between generous instances and instances that are virtuous in another way, such as just instances. Also, an example of the connection to one's political beliefs is that Jonah considers whether to advocate for some governmental plan to improve the homeless' welfare. Moreover, apprehension might relate to one's belief about psychology, when Jonah considers how to give in a fashion that is not rude, does not offend the recipient, and shows his respect for the recipient's dignity.

My introduction of reflective equilibrium should be on the right track, according to the *imprecise* nature of Aristotle's lectures on ethics. Aristotle elaborates on many kinds of virtues. For example, being generous is to "give to the right people, the right amounts, and at the right time, with all the other qualifications that accompany right giving, with pleasure or without pain" (*EN* IV.I 1120a25-27). It is crucial to bear in mind that Aristotle reiterates that his ethical lectures will

be in outline and not as precise as what a mathematician does (*EN* I.3 094b13-26; II.2 1104a1-9). Therefore, even though Aristotle points out that being generous is related to the right people, the right amounts, etc., his account of generosity is not a determinate principle that tells the agent what to do regardless of particular situations. Instead, those dimensions of rightness need to be determined by the agent on a case-by-case basis. That is, Aristotle's lectures and the agent's apprehension are complementary. The agent needs to apprehend those dimensions by filling them out in particular instances of generous actions. It is worth noting that those dimensions of rightness provide a target for the agent who is trying to apprehend generosity to work towards. The task is to apprehend what it is that makes, for example, somebody the right person to give to, such that the homeless person, the classmate, etc. in different circumstances fall under the category of the right people to give to. The apprehension of those dimensions is undoubtedly fallible and developmental. The apprehension at each point serves as a temporarily determinate point for deciding whether a new case is generous, which might be different from an intuitive judgment. When such a difference occurs, the agent reflectively equilibrates between the two sides. Notably there is a difference between the typical use of reflective equilibrium that involves a principle telling the agent what to do regardless of particular situations and my use that does not involve such a principle. Nonetheless, as far as the agent's apprehension of generosity is temporarily determinate at each point, the basic framework of reflective equilibrium is still applicable. Sometimes the temporarily determinate apprehension gets revised, while sometimes the intuitive judgment is revised. In the end, the decision from a (possibly revised) apprehension and the decision from a (possibly revised) intuitive judgment converge. Reflective equilibrium comes into play whenever the agent revises his apprehension. Hence, reflective equilibrium is presumably indispensable when one apprehends the abstract outline by carrying it out in actions. Reflective

equilibrium provides a plausible method of apprehending Aristotle's sketch of virtues of character.

The apprehension of what generosity is defines what one actually pursues, which may or may not be a genuine generous action. It occurs that people who are taught to be generous think that their end is generous but is actually vicious because their apprehension of generosity is misplaced. For example, Jonah might give food only to those who flatter him and make him feel good (*EN* IV.1 1121b6). He might think that what he does is generous because he is giving them food. But he does not realize that what he does is actually for the sake of the pleasure it affords him rather than the good of the people he is generous to (*EN* IV.1 1121b6-9). If he only habituates himself to do what a virtuous person would do on a superficial level—such as giving food to a homeless person, without the need of reflecting on the end of what generosity is, as Moss (2011) suggests—he would risk doing actions that are actually vicious and pursuing ends that are not actually generous. Habituation can even give him both an end of being generous and an end of being just. But it cannot give him a *determinate* end of being generous *or* just in cases where the two virtues of character *seem* in conflict. For example, suppose Jonah steals money to buy food for the homeless (*EN* IV.1 1121a30). It initially *seems* generous to the effect that he gives food to the homeless. However, his action is actually unjust. In this case, the demand for generosity and the demand for justice *seem* in conflict, in the sense that the former allows stealing while the latter forbids stealing. Jonah does not see that being generous and being just are actually not in conflict because being generous will not allow stealing. If he sees it allowing stealing, there must be something wrong with his apprehension of what generosity is. Whether the end should be generous or just in a particular situation relies on his apprehension of what generosity is and what justice is. Therefore, the apprehension of generosity and other virtues of character has a certain effect on the ends that one pursues. An accurate apprehension of generosity also helps one recognize and do the

real generous actions and distinguish them from fake ones.

There remains a question of how Jonah learns what counts as real and fake generosity. For instance, how does Jonah come to see that generosity does not allow stealing? It could be that someone tells him that his action of buying food for the homeless using money stolen is not generous. The feedback should strike him as surprising. He may ask that person why and start to reflect on whether and where his or that person's apprehension of generosity goes wrong. The mistake is not simply about the means. It can be traced to his apprehension of generosity. Being generous is not simply a matter of giving, but also a matter of *right* giving, which is governed by one's apprehension. It could also be that it comes to his mind that according to his apprehension of justice, stealing is not just. Then he starts to reflect on whether his apprehension of justice or generosity is out of place and revises one or another accordingly.

Therefore, according to my account, practical intellect establishes the correct ends by inductively apprehending them. The inductive apprehension needs reflective equilibrium due to its developmental feature. Becoming generous is thus not mere habituation but an intellectual process too.

Moss also touches on practical induction and the intellectual apprehension of the ends with which practical induction culminates (Moss 2011, pp. 255-256). However, she contends that the only role that practical intellect plays in practical induction is "assenting to and thereby conceptualizing (Moss 2011, p. 256)" what experience has furnished and thus "in no way alters one's view of the end (Moss 2011, p. 257)." By contrast, according to my interpretation of practical induction, practical intellect does more than merely assenting to and thereby conceptualizing what comes from experience. Practical intellect generalizes and thus goes beyond particular actions that one experiences to see what they have in common. And the generalization is fallible and subjected

to revisions with the help of reflective equilibrium. If we accept that practical intellect produces something beyond what experience provides, then we should accept that the contribution of practical intellect to the apprehension of the ends is substantial. Practical intellect is thus substantially involved in our determination of the end for a certain situation.

I will end by briefly remarking on what effect practical intellect has on correct habituation. I think that practical intellect strengthens one's inchoate disposition, transforming it into a stable state. A stable state is one of the three conditions that Aristotle brings up for being a virtuous person (*EN* II.4 1105a34). For Moss, good habits are enough to bring about virtue of character—her premise 1. She holds that correct habituation results in a non-rational evaluative attitude, which is a kind of affective or aesthetic reaction (Moss 2011, p. 254). More specifically, the correctly habituated person is “being pleased and pained in the right ways, or admiring and being disgusted by the right things” (Moss 2011, p. 254). I am concerned that a mere affective or aesthetic reaction is not as stable as an affective or aesthetic reaction examined by practical intellect. The mere affective or aesthetic reaction might be vulnerable to alterations of many external factors. For example, if the society in which one lives no longer values virtuous actions, the person might not stick to the proper ends as firmly as before. After all, she does not know why virtuous actions are valuable. She just habituates herself to enjoy and admire what she has been taught and what society or her parents want her to do.

One might object that practical intellect has the sort of effect on correct habituation on the basis of a comment that Aristotle makes on the three conditions for being a virtuous person.¹⁷ Apart from the stable state that I mentioned above, another of the three conditions is that “he [i.e., the agent] must have knowledge” (*EN* II.4 1105a31). Aristotle comments that “knowledge has little or

¹⁷ I owe this possible challenge to Juan Piñeros Glasscock.

no weight” (*EN* II.4 1105b1-2). If knowledge is worth little or not at all, practical intellect presumably does not have the important effect that I attribute to it. As a reply, first of all, I think it is unclear what Aristotle means here by knowledge, which I shall call the knowledge condition. Broadie glosses knowledge as knowing what one is doing (Rowe 2002, p. 300). Nevertheless, I think it is still unclear what counts as knowing what one is doing. Is it acting consciously, or acting with the knowledge that I am performing a generous action, or with the knowledge of how to perform a generous action or even what it is to be generous? Jagannathan has an overall review on the possible ways of interpreting the knowledge condition (Jagannathan 2017, pp. 51-54). According to him, knowing what one is doing amounts to “the no-ignorance condition on voluntary action in *EN* III.1, 1111a2–6,” which he does not think is what Aristotle means (Jagannathan 2017, pp. 51-52). Besides, he rebuts, in turn, interpreting the knowledge condition as “theoretical knowledge about the world that is useful in action” and “a virtuous person’s grasp of the particular action to be done as virtuous (Jagannathan 2017, pp. 52-54).” Instead, he proposes ethical experience as a candidate for the knowledge condition (Jagannathan 2017, pp. 54-56). I think that no matter which of the options Jagannathan presents as interpretations of the knowledge condition in this passage, none of them pose a threat to my argument for apprehension. If Aristotle were talking about apprehending things such as what it is to be generous when he was discussing the knowledge condition in this passage, that would pose a threat to my position. However, apprehending what it is to be generous is not even proposed as a possible interpretation in the scholarly debate on the knowledge condition. Therefore, I think that the effect that I attribute to practical intellect is not inconsistent with Aristotle’s comment on the condition of knowledge.

There might be an interesting connection between Aristotle’s idea of stability and Plato’s idea of stability in the *Meno* where Socrates distinguishes true opinions (*doxa*) from knowledge

(*episteme*) (*Meno* 97a-98c). Socrates claims that “they [true opinions] are not willing to remain long, and they escape from a man’s mind, so that they are not worth much until one ties them down by giving an account of the reason why [*aitias logismos*]” (*Meno* 98a). Although it is unclear what Plato exactly means by stability, the stability of *episteme* is realized by giving an account of the reason why.¹⁸ Likewise, one’s character becomes stable when one apprehends what generosity is, which accounts for why a particular action is generous. A lot of work remains to be done on this conjectural connection.

4 CONCLUSION

Correct habituation is not sufficient for developing the virtue of character. Instead, it is an important first stage of moral development. In order to reach the final stages of being a virtuous person, reasoned reflection on what is good and why it is good is also required. The practical intellect could establish the correct ends by inductively acquiring a more accurate apprehension of the ends, which involves constant reflective equilibrium and revisions. A more accurate apprehension of the ends will lead one to recognize and do the real virtuous actions rather than fake ones. The work of practical intellect also helps stabilize one’s good habits. I think that the epistemic engagement with the ends makes the agent more active in her moral development, as compared to rigidly restricted to the ends that her society provides her. And an agent who reflects on the ends exercises her reason more fully than an agent who only thinks about the means, which is congenial to Aristotle’s conception of *eudaimonia* as an active exercise of reason. With a view to contemporary moral education and development, we should be benefited from both having a good upbringing and reflectively reasoning about the ethical lessons our society gives us. For

¹⁸ Cf. Perin (2012).

instance, a community is devoted to cultivating generous offspring. The activities by which they exhibit generosity are limited to giving to people who are inside their community. Imagine that one day a person from that community sees someone from another community giving to people who are not from the same community. It is a good opportunity for the person to reflect on the moral education that she receives from her community. She might realize at some point that the right people to give to can be extended to outgroup members and ingroup and outgroup difference is not always the decisive factor in what makes somebody the right person to give to.

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