ARISTOTLE ON THE VIRTUES OF THOUGHT
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Aristotle thinks that there are two kinds of beings: those whose first principles (archai) 'admit of being otherwise'; and those whose first principles do not (EN VI 1 1139ª6-8). He thinks there are such things as first principles, because he thinks that (true) sciences mirror the structure of the world, and that such sciences themselves have a particular structure: they consist of syllogistic deductions (sullogismoi) from first principles, which are necessarily true definitions of the essences of the beings with which the sciences deal (11 1143ª36-ᵇ2). Finally, he thinks that this divide among the beings and sciences must itself be mirrored in the structure of our souls. Let us accept his own terse explanatory formula without much probing the largely arcane account it summarizes: 'it is through a certain similarity and kinship' with their objects that parts of the soul have knowledge of them (1 1139ª10-11). The part of the soul that cognizes beings with necessary first principles is the scientific part (epistêmonikon); the part that cognizes beings with contingent ones, the calculating part (logistikon). Each is a sub-part of the part that has reason (logos) (1139ª3-15).

The function or work (ergon) of these parts is reliably to cognize truth (EN VI 2 1139ª29). In the case of the scientific part (or of the contemplative thought it enables), the truth in question is (plain) truth. In the case of the calculating part (or practical thought), it is practical or action-related truth, which is 'truth agreeing with correct desire' effective in producing appropriate action (EN VI 2 1139ª29-31). When we see why this is so, we will be well on our way to understanding the virtues of thought — theoretical wisdom (sophia) and practical wisdom (phronêsis). For, since 'virtue relates to proper function', these are — pretty much by definition — simply the states that enable the rational parts to discharge their functions in the best possible way (1 1139ª14-15).

1. The Scientific Part of the Soul

'If we must speak exactly and not be guided by [mere] similarities', we will not class anything as a genuine science unless it gives us knowledge of what 'does not admit of being otherwise' (EN VI 3 1139ᵇ18-24). At the same time, 'scientific knowledge is of what holds… for the most part (hôs epi to polu)' (Met. VI 2 1027ª20-21) and what holds for the most part does admit of being otherwise: 'nothing can happen contrary to nature considered as eternal and necessary, but only where things for the most part happen in a certain way, but

may also happen in another way' (GA IV 4 770ᵇ9-13). 'What admits of being otherwise' covers two quite different spheres, however: 'what holds for the most part but falls short of [unqualified] necessity' and 'what happens by luck, since it is no more natural for this to happen in one way than in the opposite' (An. Pr. I 13 32ᵇ4-13). In the former case, scientific knowledge is possible within the sphere; in the latter, it isn't: 'There is no scientific knowledge through demonstration of what holds by luck; for what holds by luck is neither necessary nor does it hold for the most part but comes about separately from these; and demonstration is of either of the former' (An. Post. I 30 87ᵇ19-22). Since 'demonstration is a necessary thing', it follows that what holds for the most part must also hold by some sort of necessity, even if not by the unqualified sort applying to things that do not 'owe their necessity to something other than themselves' (Met. V 5 1015ᵇ-11) and neither come-to-be nor pass-away (EN VI 3 1139ᵇ23-24).

The realm of necessity, qualified or unqualified, is the realm of scientific knowledge in the broad, or non-strict sense. The division within it is mirrored within science itself (Met. VI 1). Theoretical sciences — theology, astronomy, mathematics — deal with what is unqualifiedly necessary; natural sciences — physics and biology — with what is qualifiedly so. The underlying explanation for the division is, again, arcane. No natural science has a perfect model (just as no physical theory in our way of thinking has a perfect physical model), because sublunary matter — air, water, fire, and air in some combination — is 'irregular', 'not everywhere the same', and 'capable of being otherwise than it for the most part is' (GC II 10 336b21-2, Met. VI 2 1027a13-14). Theoretical sciences, by contrast, do have perfect physical models. For they deal either with abstract, immaterial objects (mathematics), or with superlunary material ones (astronomy, theology), whose matter — ether or primary body — is as uniform and invariant as Euclidean space (Cael. I 2 268ᵇ26-3 270ᵇ31).

If we want to know why or whether bird meats are healthy, then, the relevant Aristotelian science might answer as follows:

1. All light meats are healthy

2. All bird meats are light

3. Therefore, all bird meats are healthy.

This answer will be correct if — among other things — (1), the major premise, and (2), the minor, are both necessarily true, and (3), the conclusion, follows validly from them.

Though we cannot grasp first principles by demonstrating them in this way from something yet more primitive, they must, if we are to have any scientific knowledge at all, be better known than anything we demonstrate from them (An.

Post. I 3 72^{b}18-23). Such knowledge is provided by understanding (nous) (EN VI 6 1141^{a}7-8). Induction (epagôgê) is the process by which universals come within its purview (3 1139^{b}29-31, An. Post. II 19).

Induction begins with (1) the perception of particulars. In some animals, such perception gives rise to (2) retention of perceptual contents or memory. When many perceptual contents have been retained, animals with understanding (3) 'come to have an account from the memory of such things' (An. Post. II 19 100^{a}1-3). This account, or the unified set of memories from which it arises, is experience (100^{a}3-6). Then 'for the first time there is a universal in the soul' (100^{a}16). Finally, (4) it is through experience that craft knowledge and scientific knowledge arise, 'when from many notions gained by experience one universal supposition about similar objects is produced' (Met. I 1 981^{a}1-8).

The universal appearing at stage (3) is characterized as 'indeterminate', and 'better known in perception' (Phys. I 1 184^{a}24-5). It is the sort experience enables us to grasp. The universal at stage (4) is reached when an indeterminate universal, which is better known or more familiar to us, is analyzed into its 'elements and first principles' (184^{a}16-23), so that it becomes intrinsically clear and unqualifiedly better known (EN I 4 1095^{b}1-4). These analyzed universals are the first principles of the (rationally) teachable sciences and crafts (VI 3 1139^{b}25-7, Met. I 1 981^{a}28-30, ^{b}7-10).

Induction thus includes two rather different sorts of transitions from particulars to universals: the broadly perceptual and non-inferential process by which we reach (3) unanalyzed universals from the perception of particulars, and the other, obviously more intellectual and discursive one, by which we proceed from unanalyzed universals to (4) analyzed ones and their accounts. The latter are the first principles from which deduction then proceeds.

When a science has identified first principles from which all its theorems can be demonstrated, it falls to dialectic to defend them against various sorts of attack. This defense consists in a discussion of them 'through the endoxa about them' (Top. I 2 101^{a}36-^{b}4) — endoxa being opinions accepted by 'everyone or by the majority or by the wise, either by all of them or by most or by the most notable and reputable' (1 100^{b}21-3, 11 104^{b}32-4).

Discussing first principles on the basis of endoxa is a matter of going through the problems (aporiai) 'on both sides of a subject' until they are solved (Top. I 2 101^{a}35), since 'if the problems are solved and the endoxa are left it will be an adequate proof' (EN VII 1 1145^{b}6-7). Thus the hypothesis for dialectical investigation might be: is happiness pleasure, or not? A competent dialectician will be able to follow out the consequences of each alternative to see what problems they face, and to go through these and determine which can be solved and which cannot (Top. VIII 14 163^{b}9-12). In the end he will have concluded, if

Aristotle is right, that happiness is not pleasure, though pleasure is intrinsic to it (EN I 8 1099^{a}7-21). Along the way, many of the endoxa on both sides will have been modified or clarified, partly accepted and partly rejected (Top. VIII 14 164^{b}6-7), whereas others will have been decisively rejected. These he will need to explain away (EN VII 14 1154^{a}22-5). If most of the most compelling endoxa remain standing at the end of this process, that will be an adequate proof of the philosopher's conclusion, since there will be every reason to accept it and none not to.[1]

By defending a first principle against all dialectical objection, then, we show how it, and so the theorems that follow from it, can be knit into the larger fabric of our unproblematic beliefs. This gives it a kind of intelligibility, credibility, and security it would otherwise lack (EN I 8 1098^{b}9-12, X 1 1172^{a}34-^{b}1, 8 1179^{a}20-2). What dialectic offers us in regard to the first principles of the sciences is no problematic knots — no impediments to knowledge and understanding (EN I 7 1097^{b}22-4, VII 2 1146^{a}24-7).

2. Theoretical Wisdom

Given this picture of science, we can readily understand why theoretical wisdom, as the virtue or excellence of the scientific part of the soul, must deal with universal and unqualifiedly necessary truths: other sorts are less sure and less general. We can see, too, why it must comprise not just knowledge of what follows from a science's first principles, but a grasp by understanding of those first principles themselves: 'theoretical wisdom is understanding combined with scientific knowledge; scientific knowledge — having a crown, so to speak' (EN VI 7 1141^{a}18-19). Failure to know first principles, after all, is an obvious epistemic liability (Plato, Republic VI 510c-511d). At the same time, however, we are bound to feel that theoretical wisdom is very limited in scope, restricted as it is to such sciences as theology, astronomy, and mathematics.

The feeling is unlikely to be much diminished by Aristotle's own reason for thinking it misplaced. In his view, God, as sole unmoved mover, is the final or teleological cause of everything else in the universe (Met. I 2 983^{a}8-9, XII 7 1072^{a}25-7), and so enters as an explanatory factor in all the other sciences (e.g., An. II 4 415^{a}26-^{b}7). Since a science, S, is more exact than another science, S*, if (among other things) S offers demonstrations of the first principles of S*, it follows that theology is the most exact science (An. Post. I 27 87^{a}31-5, Met. VI 1 1025^{b}1-18). That, in essence, is why it gets identified with primary (or first)

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[1] For a fuller and more nuanced account, see Reeve (1998).

philosophy, the most universal science of being qua being (Met. VI 1 1026ª13-32). But as most universal, its scope is, of course, greater than that of any other science. Since god is also the best or most estimable thing, theology, which deals with him, is both the best or most estimable science (Met. XII 9 1074ᵇ34, 10 1075ª11-12).

When Aristotle, not unreasonably, requires theoretical wisdom to be 'the most exact of the sciences', then, he is requiring its unqualified universality; when he tells us — almost as an afterthought — that it must deal with 'the most estimable things', he is identifying it with theology, which he already believes to alone have the former trait (EN VI 7 1141ª16-17, 19-20).

3. The Calculating Part of the Soul

Outside the sphere of the necessary and scientifically explicable lies the sphere of what admits of being otherwise in the second sense of happening by luck. This is the sphere within which production (poiêsis) and action (praxis) operate (Phys. II 6 197ª36-ᵇ3, EN VI 4 1140ª17-20). For what happens by luck is the sort of thing that might be 'an outcome of thought', but isn't (Phys. II 5 196ᵇ21-2). So, for example, there is no explanation in any Aristotelian theoretical or natural science for the fact that (as it happens) this tree is at such-and-such a place. Since the tree is just where I would have put it in planning my garden, however, it is lucky that it is there. If, on the other hand, I had actually planted it there, it would be where it is because of my voluntary actions and the beliefs and desires that gave rise to them. So I would be the first principle of its being there (EN VI 2 1139ª31-ᵇ5). Still, from the point of view of Aristotelian science, it remains in the sphere of luck in either case.

Because what is in that sphere is outside the sphere of necessity, and so cannot be an object of strict scientific knowledge (epistêmê), cognition of it is always simply just belief (doxa): 'belief is about what is true or false but admits of being otherwise' (An. Post. I 33 89ª2-3). Hence the calculating part is also referred to as 'the part that forms beliefs (doxastikon)' (EN VI 5 1140ᵇ25-8, 13 1144ᵇ14-15).

When we believe that something in the sphere of luck is thus-and-so, we either like that it is (luckily, the tree is just where I want it), or we don't (unluckily, it isn't). Our desires and feelings are positively or negatively engaged. That is why the realm is precisely one of luck: how we see it is determined, in part, by how we feel about it. Which raises the question of how (normatively) we should see it. And that is a two-part question: how should our desires and feelings be, so that we will see it correctly? and — since it is alterable through our actions — how should it be?

What makes an item in the realm of luck a piece of good, rather than bad, luck is its relationship to happiness: 'when it [good luck] is excessive, it actually impedes happiness; and then it is presumably no longer called "good" luck, in that the limit [up to which it is good] is defined in relation to happiness' (EN VII 13 1153ᵇ21-5). Since happiness 'is what we all aim at in all our other actions' (I 12 1102ª1-3), our desires and feelings will be as they should — they will be 'correct' — when they are for, and so represent as good luck, what will in fact promote our happiness. Since the virtues of character alone ensure that we feel the right things 'at the right times, about the right things, towards the right people, for the right end, and in the right way' (II 6 1106ᵇ21-3), we will see correctly in the realm of luck only if we possess these virtues. That, in a nutshell, is why 'virtue makes the target correct' (VI 12 1144ª8) — it makes us see as happiness-promoting what is in fact happiness-promoting.

The desiring part of the soul (orektikon), whose virtues the virtues of character are, is not fully rational, because it cannot give reasons or construct explanatory arguments as the rational part can. Nonetheless, because it can 'listen to reason and obey it' as a child can its father, it 'shares in reason in a way' (EN I 13 1102ᵇ13-1103ª3). What enables it so to listen is rational wish (boulêsis) — a desire specifically for the human good or happiness, and hence responsive to the rational part's prescriptions regarding it (III 4 1113ª22-33, An. III 10 433ª9-26). Since the division between the scientific and calculating part is made 'in the same way' (VI 1 1139ª5-6) as that between the rational part and the desiring one, we should expect the calculating part, too, to listen to the scientific one on matters to which it has no autonomous access. These are universal necessary truths, which are objects of scientific-knowledge but not of belief — truths that are 'coincidentally useful to us for many of the things we need' (EE I 5 1216ᵇ15-16). If we want to know whether this particular bit of bird meat is healthy, for example, the scientific explanation we looked at in Section 1 will help us decide.

Armed with the knowledge, provided by the scientific part, that all bird meats are healthy, and the (as we may suppose) true belief that this is bird meat, the calculating part does some reasoning of its own:

1. All bird meats are healthy

2. This is a piece of bird meat

3. Therefore, this meat is healthy.

But this reasoning has, as yet, no prescriptive force: 'thought by itself moves nothing' (EN VI 2 1139ª35-6; also An. III 9 432ᵇ26-10 433ª30). It is to drive this very point home, indeed, that Aristotle distinguishes practical wisdom, which is 'a prescriptive capacity (epitaktikê)', to which the desiring part should

listen, from sound judgment (eusunesia), which is critical but not prescriptive (EN VI 10). For a sound judge might argue in this way in order simply to evaluate critically someone else's reasoning or course of action. When such reasoning occurs in a hungry person, however, who is trying to decide whether to eat the piece of meat in question, the conclusion gains prescriptive force, not from his hunger, but from his rational wish for happiness: 'deliberate choice will be a deliberate desire to do an action that is up to us; for when we have judged, as a result of deliberation, [that it is what we should do] our desire to do it is in accordance with our rational wish [boÊlhsin]' (III 4 1113^{a}10-12).

(3) takes on prescriptive, wish-backed force for a hungry person, then, because he believes (as we may imagine) that healthy food is happiness-promoting food, and so is led to conclude:

4. I should eat this.

But suppose he lacks the virtue of temperance, so that his appetites for such things as food, drink, or sex are not in a mean. Then his hunger for the fat-saturated, unhealthy Big Mac may be stronger than his wish for the lean and healthy bird meat. If so, he will succumb to akrasia and not act as he should. For him, therefore, (4) is not a practical truth, since though his thought (the calculating part) asserts it, his desiring part doesn't act on it. But just as what one believes is what one asserts in the calculating part of one's soul, what one believes in a practical or action-related way is what one both asserts there, effectively desires in one's desiring part, and so pursues (EN VI 2 1139^{a}21-7).

We can now see why the function of the calculating part is to cognize specifically practical truth, rather than contingent truth in general, and why, because the sphere within which it operates is the sphere of luck, it must involve correct desire, and so the virtues of character (EN VI 13 1144^{b}30-2).

What is bound to surprise — and somewhat disappoint — is that Aristotle has so little to say about deliberative reasoning per se. But that, as we are about to discover, is very largely because of the extremely narrow sphere he assigns to it.

4. Deliberation and Ends

Happiness (eudaimonia) or doing well in action (eupraxia), which is the best human good, is the (teleological) first principle of practical wisdom, the goal, end, or target at which unqualifiedly good deliberation aims (EN I 4 1095^{a}14-20, 13 1102^{a}2-3, VI 9 1142^{b}16-22, 12 1144^{a}31-3). Since happiness is a universal of a sort — something with many instances — we reach it, as we do all universals, by induction from the understanding-involving perception of particulars. These particulars, therefore, are the 'first principles of the end in view' (VI 11 1143^{b}4-5) — the starting points of our induction.

But what particulars are they? People generally agree that happiness is the highest practical good, and so accept a formal but somewhat empty characterization of it as what 'all by itself makes life choiceworthy and lacking in nothing' (EN I 4 1095^{a}18-20, 7 1097^{b}14-16). They acquire their different concrete conceptions of what happiness actually consists in, however, 'from their lives' (I 5 1095^{b}14-16) — that is to say, from what, as a result of their acquired habits, they have come to be pleased or pained by. If they have been brought up with good eating habits, for example, they will take pleasure in, and so judge as promoting happiness (formally conceived), things like bird meats. If they have been brought up with bad eating habits, they will find bird meats unpleasant, preferring instead the non-happiness-promoting Big Macs.

At the same time, more general scientific theorizing about themselves and the universe of which they are a part may have led them to conclude that their happiness must consist in rational activity that is in accordance with 'the best and most complete virtue' (EN I 7 1098^{a}16-18). But this conclusion cannot simply trump their inductive experience: 'Arguments about actions and feelings are less credible than the facts; hence any conflicts between arguments and perceptible facts arouses contempt for the arguments and undermines the truth as well as the arguments' (X 1 1172^{a}34-^{b}1). We must always evaluate a theory of happiness, 'by applying it to what we do and how we live; and if it harmonizes with what we do, we should accept it, but if it conflicts, we should count it mere words' (X 8 1179^{a}20-2; also I 8 1098^{b}9-12). The experience gained from reflective living, therefore, is by and large the evidentiary bottom line in Aristotelian ethics. Theory can illuminate and deepen experience but cannot go too much against its grain without undermining itself. In this respect, Aristotelian ethics is no different from Aristotelian natural or theoretical science.

It is the conception of happiness emerging from this two-pronged process that practical wisdom takes as a first principle — as something given. For practical wisdom is primarily a deliberative capacity (EN VI 5 1140^{a}25-8, 30-1), and 'we deliberate not about ends, but about what promotes ends (tôn pros ta telê)' (III 3 1112^{b}11-12). That is why someone can be a good deliberator in regard to any end whatever. But if he is to be an unqualifiedly good one, his end must be the unqualifiedly good end — happiness (VI 2 1139^{b}1-4).

While deliberation is restricted to what promotes ends, it is not restricted to what promotes them in the way external means do — intrinsic constituents or components can be deliberated about, too (Met. VII 7 1032^{b}18-29). We can also, of course, deliberate about relative ends — ends that are means to other ones. What we cannot deliberate about is just our unqualified end. For 'what we

deliberately choose would seem to be what is up to us' (EN III 2 1111^{b}29-30). But that happiness is our end is determined isn't up to us, since, as something determined by our function or essence (I 7 1097^{b}22-1098^{a}20), it doesn't admit of being otherwise.

Deliberation about some more restricted ends is excluded for a parallel reason. A doctor, for example, 'does not deliberate about whether he will cure, or an orator about whether he will persuade, or a politician about whether he will produce good order, or any other about the end (EN III 2 1112^{b}12-15). For medicine is a craft partly defined by its end or goal — health. In so far as that craft dictates our actions, therefore, we necessarily pursues health. (In the same way, oratory is defined by persuasion, politics by good order, and other such things by their defining ends.) The point, then, is not that no one can deliberate about whether to cure or to persuade or to produce good order, but rather that just as human beings cannot deliberate about their unqualified end, so too the doctor qua doctor, the orator qua orator, and the politician qua politician cannot deliberate about theirs.

When deliberation is said not to be about ends, therefore, all that is being absolutely excluded as a topic of deliberation is happiness. And even in its case, it remains possible, first, to deliberate about constitutive means, and, second, to engage in dialectical clarification of what happiness actually is (Section 1). Much of the Ethics, indeed, though practical in intent, consists in precisely the latter (EN I 2 1094^{a}22-6). Aristotle does not consider such clarification to be deliberative, but this is perhaps more a matter of terminology than of substance.

5. Deliberation, Practical Sciences, and Perception

The sphere of luck is delimited by the sphere of necessity — although, as we saw, the sciences dealing with the latter are coincidentally useful within it. Also useful are some other bodies of knowledge that Aristotle classes as sciences. These include practical sciences, such as household management, legislative science, and political science, which deal with action (praxis), as well as crafts (technai), such as medicine and building, which deal with production (poiêsis) (EN VI 7-8). Aristotle talks about first principles in the case of these sciences, too, and refers to deductions and demonstrations within them, but it isn't clear just how closely they conform to the paradigm established by the theoretical sciences.

What is clear is that, like the natural and theoretical ones, these sciences further delimit the sphere of deliberation:

> those things that come about through us, although not in the same way on every occasion, about them we do deliberate, for

example, about those in the sphere of medicine or wealth-acquisition, and more so where navigation is concerned than where physical-training is, to the extent that the former is less exactly worked out, and similarly where the remaining ones are concerned, but more so where the crafts are concerned than where the sciences are, since we are more in two minds about them. Deliberation occurs, then, where things for the most part happen in a certain way, but where the outcome is unclear and the correct way to act is undefined. (EN III 3 1112^{a}34-^{b}9)

Hence, even within the sphere of luck, the practical sciences or crafts often tell us exactly what to do — how to make a letter alpha, or miter a joint, or trim a topsail, or cauterize a wound. It is when they don't that deliberation comes into play: we 'speak of people as practically wise in some [area], when they calculate well about what promotes some good end, concerning which no craft exists' (VI 5 1140^{a}29-30).

In between the cases where a science or craft tells us exactly what to do and those where no craft or science exists lie two other sorts of cases: first, where the relevant universal laws, like all those in natural sciences, hold only for the most part, and so with less than unqualified necessity; second, where the laws are incomplete or inexact 'owing to the endless possible cases presented, such as the kinds and sizes of weapons that may be used to inflict wounds — a lifetime would be too short to make out a complete list of these' (Rhet. I 13 1374^{a}26-^{b}1). For example, it is a natural law that all adult males have hair on their chins, but it holds only for the most part (An. Post. II 12 96^{a}9-11). Hence, if having a beard is used as a legal test for adulthood, we will face disputable cases, where deliberation is needed. Similarly, it may be unclear whether a ring, or a professional boxer's fist, is or is not a deadly weapon, given the incomplete specification contained in the law. When an assault involves such things, deliberation will again be required in order to determine how the law applies to them.

The sphere of deliberation is delimited at the other end, too, this time by perception: we do not deliberate 'about particulars — for example, about whether this is a loaf or is cooked as it should; for these are questions for perception, and if we keep on deliberating at each stage, we shall go on indefinitely' (EN III 3 1112^{b}34-1113^{a}2).

The overall picture, then, is something like this: Perception provides us with such information as that this meat is bird meat; natural science tells us that bird meat is healthy; the craft of culinary science (aided perhaps by that of medicine or dietetics) tells us that bird meat is cooked as it should when the juices run clear; perception tells us that these juices are clear. In this case, there may be no

need for deliberation at all, so that the bird meat is simply eaten straight off. But when there is a gap between what science and craft tell us about universals, on the one hand, and what perception tells us about particulars, on the other, deliberation is required.

We see the effects of this way of conceiving the sphere of deliberation most clearly, I think, in Aristotle's discussion of the ways in which deliberation may be incorrect. He appears to recognize just two of the these: first, we may deliberate well about how to achieve an incorrect end — something that doesn't promote happiness; second, we may reach the correct end 'by a false deduction, that is, reach the thing that should be done, but not why, the middle term being false' (EN VI 9 1142^{b}22-4). So suppose the deduction in question is:

1.   All bird meats are healthy (happiness-promoting)

2.   This is bird meat

3.   This is healthy (happiness-promoting)

The first error lies in one's conception of happiness, and so in what promotes it: this error the virtues of character correct. The second error lies in believing falsely that the middle term, 'bird meat', applies to this particular bit of meat. This is an error in (a sort of) perception. But what about the other errors Aristotle omits — namely, the possible falsity of (1) and the possible invalidity of the inference? The most plausible answer is that these are omitted because neither is narrowly deliberative. The first is a scientific error; the second a logical one.

The following somewhat difficult text suggests that this is precisely what Aristotle has in mind:

[A] The error may be about the universal in deliberation or about the particular; either [in supposing] that all heavy types of water are bad, or that this particular one is heavy. [B] But that practical wisdom is not scientific knowledge is evident. [C] For… practical wisdom concerns the last thing, of which there isn't scientific knowledge, but rather perception — [D] not the [perception] of special objects, but the sort by which we perceive that the last thing among mathematical objects is a triangle, since there too will come a stopping-point. And it is more this perception that is practical wisdom [≤ frÒnhsiw], but it is a different kind from the other. (EN VI 8 1142^{a}20-30)

(A) acknowledges that a deliberator may be in error about the universal premise, (1). But (B) quickly excludes this as being an error in practical wisdom (which is quintessentially a deliberating capacity, as we saw), attributing

jurisdiction over (1), and the like, to scientific knowledge. (C) restricts the sphere of practical wisdom to particular premises, such as (2), which are matters of perception. (D) then gives a laconic characterization of the sort of perception involved, saying that practical wisdom consists more in it than in knowledge of such things as (1). For though practical wisdom must be concerned with universal premises (VI 7 1141^{b}14-15), it gains its knowledge of them at second hand from the scientific part. Practical perception of such things as (1), by contrast, is its own unique contribution.

With practical perception, then, we come to the very heart of deliberation. But what exactly is it? (D) analogizes it to a sort of perception involved in a mathematical construction — an analogy filled out slightly in an earlier passage: 'a deliberator would seem to inquire and analyze in the way stated as though [analyzing] a diagram (for apparently all deliberation is inquiry, but not all inquiry — for example, mathematical — is deliberation), and the last thing in the analysis is the first that comes to be' (EN III 3 1112^{b}20-4). The mathematician, apparently, is trying to figure out how to construct a complex figure, using, for example, a pencil and set square. He analyzes this figure until he reaches simpler ones (triangles, in Aristotle's example) that he can readily draw with such implements. These figures are the last things reached in the analysis, but the first ones that come to be in the subsequent construction.

Similarly, in practical matters, a plan of action couched in universal terms — 'Confiscate all lethal weapons. Imprison all adult males.' — has to be broken down into terms we can act on directly, because we can apply them on the basis of perception: 'Confiscate all sharp, pointy metal objects. Imprison all those with hairs on their chins.' However, the relevant sort of perception is not perception of colors, shapes, or sounds (special objects). That isn't, as we would say, theory-laden enough. Instead, it is the desire-infused perception, appropriate to the sphere of luck, which the virtues of character make correct.

A timorous person does not just overreact to danger, he misperceives minor dangers as major ones that fully justify his reaction, 'so that even from a very slight resemblance he thinks that he sees his enemy…, and the more emotional he is, the smaller is the similarity required to produce this effect' (Insom. 3 460^{b}3-11). Think of what would happen if we sent him out to collect weapons! The perception of the practically wise man, by contrast, since his fears are in a mean, neither over-estimates nor underestimates the dangers he faces. In the last analysis, in fact, his perceptions set the very standard of correctness: 'the good man judges each thing correctly and the truth in each matter appears [so] to him… since he is a sort of standard and measure of these things' (EN III 4 1113^{a}29-33; also X 5 1176^{a}15-19).

6. Deliberation and Time

Virtuous actions must be deliberately chosen (EN II 4 1105^{a}28-33). Actions done 'on the spur of the moment are… voluntary, but not [done] by deliberate choice' (III 2 1111^{b}9-10). 'What is without prior deliberate choice is what is without prior deliberation' (V 8 1135^{b}10-11). 'One deliberates for a long time' (VI 9 1142^{b}3-4). Apparently, then, all virtuous actions must be the result of lengthy, explicit, prior deliberation.

Just how implausible this view would be, is revealed by Aristotle himself. Suppose the hungry agent in Section 4 knows that in order to be beneficial to him the bird meat must be eaten within ten minutes. Then his deliberation will be defective, if it takes longer than that. So taking a long time to reach a decision may make one a bad deliberator, not a good one (EN VI 9 1142^{b}26-8). Sometimes, indeed, the need for instantaneous action precludes prior deliberation altogether: 'someone who is unafraid and unperturbed in a sudden alarm seems more courageous than someone who stands firm in dangers that are obvious in advance… For if an action is foreseen, we might deliberately choose to do it also by reason and rational calculation, but action done on the spur of the moment expresses our state of character' (III 8 1117^{a}18-22). Moreover, when something is just plain obvious, we do not deliberate about it either: 'if walking is good for a man, reasoning does not waste time on the fact that he is a man. That is why whatever we do without calculation, we do quickly' (MA 8 701^{a}26-9). Presumably, then, in cases where everything is obvious, no deliberation is required.

All this seems right, yet it is in some degree of tension with the picture of virtuous action as requiring explicit prior deliberation that Aristotle often seems eager to convey. There are, however, some resources available to him by which that tension might be reduced. If, like the courageous person in a sudden alarm, we see right off what to do, it would just be silly for us to deliberate. But it would be wrong to conclude that we do not then act without prior deliberation. A weak-willed person, for example, has a state of character of the sort required for deliberate choice (EN VI 2 1139^{a}33-5, 9 1142^{b}18-20). It isn't a virtuous state, of course, since his appetites and feelings, not being in a mean, oppose his rational wish. But since it may not be unchangeable or incurable (VII 8 1150^{b}29-35), he can deliberately choose to try to change his appetites. If he succeeds and becomes virtuous, he will have his virtuous state in part because he has deliberately chosen it. Actions done on the spur of the moment from that state will then be – indirectly – the result of prior deliberation and deliberate choice.

What is true of the weak-willed person, however, is also true of all fairly decent but non-saintly people, whose habituation has not succeeded in completely harmonizing their rational wish with their appetites and feelings (EN X 9 1179^{b}16-20). For they, too, can plan and deliberately choose to become more internally harmonized, less weak willed. If they succeed, they will have their states of character in part because they have deliberately chosen them. When they act on the spur of the moment out of such states, therefore, their actions will be – indirectly – the result of deliberate choice.

It is difficult to be sure that this is how Aristotle would reconcile his picture of virtuous actions as deliberately chosen with the facts of human experience. But it has, at least, the virtue of honoring the underlying motivation of that picture, namely, to ensure that the virtuous agent performs virtuous actions willingly, in full knowledge of what he is doing, and because he values such actions for themselves (EN VI 12 1144^{a}11-20).

7. Practical Wisdom as Political Science

Practical wisdom is the same state of the soul as political science (politikê), so that what the former accomplishes in relation to the individual, the latter accomplishes in relation to the city (polis): ethics is politics for the individual; political science, ethics for the city or state (EN I 2, VI 8). The individual citizen's exercise of practical wisdom, as a result, typically takes place under the legislative authority and architectonic guidance of that of his community's rulers: 'political science… prescribes which of the sciences ought to be studied in cities, and which ones each class in the city should study and to what extent they should study it… Furthermore, it uses the other practical sciences, and legislates what must be done and what avoided in action' (EN I 2 1094^{b}4-6; also VI 8 1141^{b}22-3).

The extent of such authority and guidance is, moreover, extremely large. For the aim of political science is to make citizens virtuous, and so happy, by enacting and enforcing the appropriate universal laws (EN V 10 1137^{b}13-15, Pol. VII 1-3). And though 'to legislate about matters that call for deliberation is impossible' (Pol. III 16 1287^{b}22-3), nonetheless, these laws must be sufficiently complete and detailed as to leave as little as possible to 'so unreliable a standard as human wish' (II 10 1272^{b}5-7). Ideally, in other words, the scope of deliberation should be minimal; that of universal law maximal.

Deliberation may be the avatar par excellence of Aristotelian so-called particularism — the place at which guidance by universal laws gives out and the individual agent must come to his own virtue-aided conclusions. If so, political science is surely the avatar of Aristotelian universalism. To see practical wisdom correctly, we must keep both its aspects in mind — something we will be more

likely to do if, as Aristotle intends, we read the Nicomachean Ethics as a prelude to the Politics.

8. Practical Wisdom as Theoretical Wisdom's Steward

The exercise of theoretical wisdom in contemplation is 'complete happiness' (EN X 7 1177^{a}17-18, 8 1178^{b}7-32, 1179^{a}22-32); that of practical wisdom itself, happiness of a secondary sort (X 7-8 1178^{a}4-10). Hence among the universal laws practical wisdom (political science) enacts are those pertaining to the education of (future) citizens in the virtues of character and thought (Pol. III 9 1280^{b}1-8, VIII 4 1338^{b}4-8, 14 1333^{b}8-10), and to the external goods and leisure needed for virtuous activities (VII 8 1328^{b}2-23, 15 1334^{a}18-19, EN I 8 1099^{a}32-^{b}8,).

Some virtues, such as courage and endurance, (1) 'fulfill their function' exclusively in un-leisurely activities or work, such as war or politics; some, such as theoretical wisdom,(2) do so exclusively in leisurely activities, such as contemplation; and some, such as justice and temperance, (3) do so in both work and leisure activities, though primarily in the latter (Pol. VII 15 1334^{a}11-40). Since leisure is the end aimed at in work, as peace in war (EN X 7 1177^{b}4-6), the virtues in (2) take teleological precedence over those in (1) and (3): 'reason and understanding constitute our natural end. Hence they are the ends relative to which procreation and the training of our habits should be organized… But supervision of desire should be for the sake of the understanding, and that of the body for the sake of the soul' (Pol. VII 15 1334^{b}15-28). Practical wisdom, therefore, which has as concomitants the virtues in (1) and (3), is 'a sort of steward of theoretical wisdom, procuring leisure for it and its function by restraining and moderating the feelings' (MM I 35 1198^{b}17-19).

The goal at which practical wisdom aims in designing a constitution (at any rate, in ideal circumstances) is leisure, then, and the leisured activities, such as contemplating in accordance with the virtue of theoretical wisdom, that are impossible without it (EN X 7 1177^{b}1-18, EE VIII 3 1249^{b}9-25, Pol. I 7 1255^{b}37, II 7 1267^{a}12). This explains why practical wisdom's relationship to theoretical wisdom is analogized to that between medicine and health: practical wisdom 'doesn't have authority over theoretical wisdom or the better part (just as the craft of medicine doesn't over health); for it doesn't use it, but sees to its coming-into-being: it prescribes for its sake, therefore, but not to it' (EN VI 1145a6-9). Medicine prescribes for the sake of health, as practical wisdom for the sake of leisure and leisured activities. But it doesn't prescribe about how such-and-such a healthy activity is to be performed. Similarly, practical wisdom doesn't prescribe to theoretical wisdom about how to carry out the leisured activity of contemplation.

Given practical wisdom's stewardship role, and the un-leisured nature of its exercise, to aim at maximizing that exercise would be like aiming to maximize the amount of fighting or working we do. We should maximize the cultivation of our characters, because 'a happy life for human beings is possessed more often by those who have cultivated their character and mind (dianoia) to an excessive degree' (Pol. VII 2 1323^{b}1-3). But, when it comes to activities, it is on the leisured ones that we should aim to spend the greatest possible amount of time: 'the more excessively someone engages in contemplation, the more happy he is' (EN X 8 1178^{b}29-30). Just how that aim is best achieved is another matter.

Unlike a god, a human being needs friends and other external goods if he is to have a happy life; he cannot survive on a diet of contemplation alone (EN X 8 1178^{b}33-5). If he is to contemplate successfully, moreover, his appetites and feelings must be in a mean, since otherwise they will distract and importune. A strategy of starving them, therefore, is bound to be wrecked by its own success — though 'it is the best limit for the soul to be as aware as little as possible of the part of the soul that lacks reason as such' (EE VIII 3 1249^{b}21-3). Hence, at the level of character design, an habituated readiness to sacrifice external goods for contemplation would not promote a happy life nearly as well, if Aristotle is right, as having the virtues of character. Once one is virtuous, however, one will not be tempted to try to maximize one's leisure time for contemplation come hell or high water, since one will have practical knowledge that this is not the optimal strategy in the long-term: 'Insofar as someone is human, and so lives together with a number of other human beings, he deliberately chooses to do the actions that are in accordance with virtue' (EN X 8 1178^{b}5-7).

It is a mistake, nonetheless, to treat the demand that one develop and act on the virtues of character as simply overriding. For in Aristotle's view, practical wisdom (political science) should develop in people those states of character that suit them to be good citizens under the constitution of their own political system (Pol. I 13 1260^{b}8-20, VIII 1 1337^{a}11-21). And these will be the full-blown virtues of character in only a very few cases (Pol. III 18 1288^{a}37-9, IV 7 1293^{b}5-6). In an oligarchy, for example, what one develops as justice will not be the unqualified justice that promotes true happiness, but an analogous state of character that promotes the wealth-acquisition oligarchs conceive of as happiness (Pol. III 9 1280^{a}25-32, V 9 1309^{a}36-9, VII 9 1328^{a}41-^{b}2). What is absolute from the point of view of practical wisdom isn't virtue of character, in other words, but whatever state of character will, in one's actual political circumstances, make one's life go best. This may involve compromises not just on what promotes one's end, then, but on what one takes that end itself to be. Virtue ethics, as one might put it, is the preferred system of states of character and thought in the abstract, as contemplation is the preferred end, but neither is

the system or end that practical wisdom must, in all circumstances, promote if it is to do its job.

The practically wise man possesses a complex array of well-entrenched and stable capacities to be richly aware and effectively responsive to all the good and bad things salient in any situation, and all the considerations bearing on them. But there is no requirement on him, as there is on a so-called direct-aim maximizer, such as an egoistic act-utilitarian, to see all goods as commensurable. At stake in the situation may be the values of friendship, family, honor, and personal pleasure, and there may be no uncontroversial way to weigh these against one another. Rather, sensitive to all of them, and aware that no deliberation can result in their value being simply cancelled or trumped by another, he tries to figure out how to be true to them. This task cannot be made routine. Universal laws come significantly into play, certainly, but as other factors to which he must be true in his deliberation, not as saving solutions.

Unlike the direct-aim maximizer, moreover, the practically wise man aims 'not at some benefit close at hand, but at benefit for the whole of life' (EN VIII 9 1160^{a}21-3). His primary aim, in other words, is to choose from among life plans the one that, when psychologically realized, will result in his living the happiest life possible in the political community of which he is a citizen. Happiness is not just to be maximized, then, but appropriately distributed throughout a life that is itself sufficiently long (I 7 1098^{a}18-20, X 8 1177^{b}24-6): 'no one would count happy' someone, such as Priam, whose life was initially happy but came to 'a miserable end' (I 9 1100^{a}5-9), or someone whose happy life is cut prematurely short. But distribution of happiness, like just how long a life needs to be to count as happy, seems to be fixed by nothing more precise than the requirement that the overall life should be choiceworthy and lacking in nothing.

Also included among the laws practical wisdom (political science) enacts for a city are laws about the distribution of priesthoods, the location of temples, and other things pertaining to the public service of the gods (Pol. VIII 9 1329^{a}27-34, 10 1330^{a}11-13, 12 1331^{a}24-30). These are for the sake of the gods, ensuring their proper honor and worship. But we do not, for this reason, think that the gods are subject to these laws, or to political science (EN VI 13 1145^{a}10-11). So we should not think that theoretical wisdom is subject to them either. The part of the soul in which such wisdom is located — nous (understanding) — is 'something divine' (X 7 1177^{b}28), after all, and practical wisdom legislates to provide leisure precisely for it: 'The god… is that for the sake of which practical wisdom prescribes… So if some choice and possession of natural goods—either goods of the body or money or of friends or the other goods—will most of all produce the contemplation of the god, that is the best, and that is the finest limit.

But whatever, through deficiency or excess, hinders the service and contemplation of the god is bad^2' (EE VII 15 1249^{b}14-21).

9. Aristotelian Practical Reason

On what we may call the Simple Humean Model, practical reasoning consists exclusively in instrumental means-ends inferences and (ultimate) ends are determined by desire (broadly construed) alone. So practical inferences have the following (simplified) form:

A: X has a desire for e

X believes that f-ing will bring about e (or will better bring it about than anything else he can do in the circumstances)

Therefore, X fs.

On this model, nothing can be a practical reason for X to f unless either X desires to f or f-ing is a means to some end X desires.

On the Iterated Humean Model, X, motivated by his desire for ends $e_1, \ldots, e_n$, has done $f_1, \ldots, f_n$ on a number of occasions and found that while doing them promotes these ends doing $f_{m+1}, \ldots, f_n$ does not. By repeated 'experiments in living' of this sort, he discovers what the reliable means to his various ends are. (This is the sort of information that X might bring to bear in forming the belief that figures in the second premise of A.)

Inter alia, however, X also discovers that achieving $e_1, \ldots, e_m$ makes his life pleasant or satisfying, makes it go better, more worth living, whereas achieving $e_{m+1}, \ldots, e_n$ does not. On the natural assumption that pleasure engenders desire, X will come to have a desire that supports his desires for the former ends, not the latter. This new desire is rational in the following sense: it is based on inductive evidence bearing on pleasure or satisfaction and on inferences from it. There is no guarantee, of course, that it will always be effective in causing action. By the time X makes his discoveries his desires for $e_{m+1}, \ldots, e_n$ may have become too deeply ingrained in his character or motivational set for that.

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^{2} The phrases tên tou theou theôrian ('the contemplation of the god') and ton theon therapeuein kai theôrein 'the service and contemplation of the god' could refer to (1) the god and his contemplation, (2) to human understanding (as a divine thing) and its contemplation or to its contemplation specifically of god. (1) is ruled out, however, by the fact that while practical wisdom does prescribe for the sake of human contemplation, it cannot prescribe for the sake of the god's contemplation, and that while things can hinder our contemplation, nothing can hinder god's, since he is necessarily and eternally contemplating (Met. XII 7 1072^{b}13-30).

We can now say that X has a reason to f not simply if he desires to f (or something to which f-ing is a means), but if, in addition, that desire is supported by a rational desire. It seems natural to think at this point that reason has acquired a locus in A beyond its second premise. For X can now claim to have inductive reasons for thinking that e is (or is not) desirable to him, or rational for him to desire. And this will still be true even if his rational desire is ineffective in producing actions. To be weak-willed, after all, is just knowingly to have better reasons to do something other than what one actually does.

On the Transgenerational Humean Model, X draws on what he has learned from experiments in living to shape his children's desires by rewards and punishments, so that their effective desires will be for ends that he has found — and so they, as relevantly similar to him, are likely to find — more pleasant or satisfying to pursue. On the assumption that X is a social being, he can, of course, also draw on the experiences of other similar beings, trusting those that seem to have lived satisfying lives, and such practical advice as has withstood the test of time. The ends that are sanctioned by this inductive process, we may call the (putatively) objective ends — the ones that are not merely desired by someone, or desirable to someone, but unqualifiedly desirable, and so unqualifiedly valuable. The habits that promote their achievement, we may call the (putative) virtues.

Imagine this process continuing until such time as it can be somewhat systematized into a body of laws suitable for ensuring a stable, well-ordered form of social life for beings with these objective ends and these virtues, and will result in future generations of similar people (EN X 9 1178^{a}33-1181^{b}22).

Within a community of such people, we can distinguish four groups: first, those whose desires are always in accord with their rational desires — these are the virtuous; second, those whose effective or action-producing desires are always in accord with their rational desires, while some of their ineffective desires are sometimes not in such accord — these are the self-controlled; third, those whose effective desires are sometimes not in accord with their rational desires — these are the weak-willed; fourth, those whose rational desires are not for objective ends — these are the vicious.

Relative to these four groups we may license a number of different locutions bearing on practical reasons. First, we can say that all virtuous, self-controlled, or weak-willed members of the community have a (not necessarily effective) reason to do what promotes objective ends. Second, we can say that all members of the community that are virtuous or self-controlled have an effective reason to do what promotes objective ends. Third, we can say that the vicious have no reason to do what promotes objective ends, except in so far as doing so promotes some (subjective) end of theirs.

In this model, then, we have licensed a rich array of locutions dealing with practical reasons, and a broader base for such reasons in the world. We have not, however, exceeded the resources of the Humean model of practical reasoning, merely enriched it in ways the basic version clearly permits.

Let us imagine now, not implausibly, that one of the ends sanctioned as objective in the transgenerational model is that of acquiring knowledge about the world, including knowledge about rational agents and their goals. Such knowledge would, of course, have to be a part of the best overall theory of the world as a whole. In Hume's view this theory will not be teleological or essentialist. In Aristotle's, it will be both. Suppose that Aristotle is right. Then the best overall theory may underwrite, or partially underwrite, the conclusions about ends reached in the Transgenerational Model. It might tell us, for example, that given what our nature, essence, or function is, one among these ends has a claim to be our unqualifiedly absolute end, happiness — the one for whose sake, at least in part, all other ends should be pursued. Theoretical knowledge of this fact, together with a more detailed knowledge of the nature of that end itself, will then be available to enrich practical reason, so that armed with a better understanding of our end, it will be in a better position to achieve it.

We can now license a stronger locution about practical reason than before. We can say that everyone has a reason to do what promotes his natural end, since this alone will promote his genuine happiness and satisfaction. We can then recognize the vicious person, who has no general motivation to act on such reasons, as a pathological case — as someone whose failure to be moved by them has no tendency to undermine their objectivity.

In essence, this is the picture of practical wisdom Aristotle has given us in Nicomachean Ethics VI. It might with some justification be characterized as broadly Humean, since its non-Humean elements stem not from views about practical reason in particular, but from those about the nature of reality (including human reality) and of the sorts of theories that best capture it.

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