

OLD HABITS DIE HARD: THE ROYAL SOCIETY, THEOPHILUS GALE AND THE INTELLECTUAL VIRTUES¹

Daniel ANDERSSON*

Abstract. There were several English attempts to rethink ideas about cognition in the wake of the new attention and status given to natural philosophy in the seventeenth century. This article focuses on one of them, that of the Hebraist and ejected minister Theophilus Gale. After a brief look at some English sources for the ‘intellectual virtues’ of Aristotelianism, it emphasizes the strangeness of the categories of mimesis and experience in Gale’s account in his work *Philosophia Generalis*. The traditional close connection between the intellectual virtues and the five grades of Porphyry’s logic tree was, it is suggested toward the end of the piece, a convenient way of limiting the potentially rather large category of intellectual virtues. The subsequent history of ‘cognitive virtues’ (and their profusion in an author like Baumgarten) shows, just as the strange expansion of their number in Gale, the wisdom in finding some way of controlling the descriptive exercise of explaining what goes on in cognition.

Keywords: Aristotelianism, Cognition, Experience, Gale, Habitus

Introduction

The book reviews penned by members of the Royal Society and found in the *Philosophical Transactions* have not occasioned much comment. That is a pity. Of one learned work the reviewer wrote (with perhaps the faintest hint of irony) ‘[t]he business of the book is, to derive all arts and sciences from the Hebrew Church.’² The book was a volume by the ejected preacher and academic Theophilus Gale (1628-1679), a figure who is conspicuous by his absence in discussions of the scientific revolution.³ Yet as his discussion of the intellectual virtues shows, this arch-Hebraizer and Renaissance *polyhistor* was sensitive to other strands than the antiquarian in the intellectual life of his time.⁴ We should begin to bracket him with his Cambridge namesake, the engaging antiquarian and philologist Thomas Gale (1636-1702), a man with whom earlier secondary literature sometimes confused our Gale, who was elected a fellow of the Royal Society in 1677. Although critical attention has focused, naturally enough, on the role that the virtues play in the thought of John Locke (1632-1704), an interesting, though hitherto neglected, discussion, published a few decades before Locke, on the topic of the Aristotelian cognitive (or ‘intellectual’) virtues in seventeenth-century England tells us much about the progress of philosophy in that country, and the styles of knowing that remained the common currency for thinkers of the period. The piece, by Theophilus Gale, is found in his bulky work *Philosophia Generalis*.⁵ This book shows in its *eruditio* similarities with Gale’s contemporary, Ralph Cudworth (1617-1688) (though Cudworth’s *True Intellectual System* was not published until 1678), and this rich inheritance of late humanist erudition impacts on the main focus of this article, namely how Gale used and developed the Aristotelian schemata of epistemology.⁶ In order to sketch this story, we will look at some of Gale’s Elizabethan and early Stuart predecessors, which will show *evidentius* his amalgam of Neoplatonic and contemporary scientific influences. This article, then,

*Oxford University, Wolfson College (Oxford, OX2 6UD) and History Faculty, e-mail: Daniel.andersson@gmail.com/daniel.andersson@history.ox.ac.uk

attempts to put forward some new evidence to explain such a confluence in the *obiter* course of tracing the transformation⁷ of the Aristotelian *habitus mentis* in seventeenth-century England.

**

Translations, both of place and cultural empire, were the intellectual axis about which the career of Theophilus Gale pivoted. He arrived from the small coastal town of Teignmouth, Devon in 1647 at Magdalen College, Oxford, where he graduated *magister artium* in 1652; He found a position at Winchester, but was ejected over the Act of Uniformity 1661. After a stint accompanying the sons of Lord Wharton to a Protestant academy in Caen, his most lasting translation was to London where he pursued various theological and philosophical studies in Newington Green, that famed nest of dissenters and intellectual radicals in the seventeenth-century London. A large part of Gale's purpose in writing the *Philosophia Generalis* (an international Latin work which developed the earlier and vernacular Court of the Gentiles) was to eradicate the various errors of medieval thought (obviously this drive has confessional roots). Its alternative model is a Hebrew Church that taught what we find in the writings of Plato. He was particularly exercised by mystical theology, the thought of the canonists and scholasticism. His notion of Plato and the particular form of divine omnipotence underscores this: On Gale's account, Platonic teleology (whether mystical or moral) is the road to the experiential transcendence of the mystic, it is not the legalistic authority under which all things have their juridical essence of the canonists, and it is not the Scotist notion of unbounded power. It is rather a global plan for salvation, and as such is indebted to the various plans for universal Reformation that are a feature of the century of Jan Amos Comenius or John Dury. It is a moral plan through which greater things about the nature of God will be revealed: 'That same love by which man is subjugated to serving god- that is, his servitude – is his liberty, which Augustine calls his *vera libertas*, his true freedom'.⁸ This (highly Kantian, one might add) notion of the interpenetration of the moral and the transcendental, is also a notion rooted in the belief in the educability through appropriate practice of man: all men can get to a point in their lives where they will be able to see the workings of this Platonist Calvinist god, and hence be saved. So much for the questions of the purpose of the disciplining of the mind; now we turn to the question of the nature of the functioning of this process of cognitive discipline, and of the particular building block of Aristotelian *bricolage* that Gale employed for this task: the virtues.

The virtues are a subset of a larger category of psychological description: the habit. Habitual actions or ways of being affected by something. There are habits of the moral life (what we would call virtues), and there are habits of the mind. These habits of the mind are called traditionally 'the intellectual virtues'. These are properties of mind in virtue of the correct exercise of which one may come to a proper account of reality. How did this come about? The problem from which the discussion of the intellectual virtues, the *habitus mentis* derived (and hence to understand its place in the philosophical tradition to which Gale was indebted) was that hoary Platonic dilemma of the proper division of labour between reason and experience in cognition.⁹ The main locus of this discussion came, however, not from Platonic sources but from the Aristotelian texts that were the core of tuition in the Renaissance arts course.¹⁰ One of the debates that flowed from this issue intimately connected the number of the intellectual virtues with the fashionable topic of the status of logic, thereby ensuring a wide dissemination of the question. (Is logic one of the intellectual virtues? Or is it merely something that serves these intellectual virtues?) This discussion was already found in Iacopo Zabarella, who is cited by our first English author, fellow of Jesus College, Oxford, Griffith Powell (1561-1620). The final chapter of Powell's commentary on the *Posterior Analytics* (the first published in England) is given

over to this reason v experience issue.¹¹ Aristotle, says, Powell asks two questions: first how it is that we have knowledge of ‘principia’ (by which he means the various principles used in the demonstrative syllogism) and secondly, what sort of *habitus* is it that achieves this cognition of principles?¹² The first part of the *Posterior Analytics* had, in rather thorny fashion, established the notion that the process of syllogistic reasoning requires certain things to be already in place in the mind.¹³ Is this habit innate or is it acquired? To this stark disjunction Powell refuses to bow.¹⁴ Either alternative produces, he says, absurd results.¹⁵ He resolves to tread a middle path, he says, which involves the faculty of sense.¹⁶ But if sense is shared with beasts, what distinguishes, returns the interlocutor, man from other animals?¹⁷ The answer given is the capacity for rational thought, beasts only having memory of previous sense images.¹⁸ Powell continues with his account of how human understanding operates. Experience comes from the memory of the repetition of (different sorts of) sense data.¹⁹

If the argument is so far granted, it has not yet provided us with proof of the *cognition* of the principles (cognition, let us recall, being that which separates man from the beasts). This Powell does through a metaphor: once battle has been commenced, and the army had been turned to rout, if one should stand firm and return to the field and another and then another and so on, eventually the entire army is restored to battle. In a similar way, the soul is able to gather from many instances a universal, which is the beginning of every science or art.²⁰ The resort to metaphors suggests a key problem for Aristotelianism. The *Posterior Analytics* argues that the human mind is so related to the world that it is able to grasp the basic categories and kinds existing in reality. For some scholars, the text displays an intuitionist interpretation of non-demonstrative knowledge of first principles and universal concepts; for others, natural kinds cause humans to know them through sense-experience and induction. But it remains mysterious *how* they are able to do this. The discussion of the strange act of intellectual intuition necessary for this, the foundation of his epistemology, required him to elaborate the other cognitive capacities in relation thereto, and against the general background notion that life was the pleasurable exercise of our natural faculties.

After some philosophical badinage about the precise way to word this mysterious process, Powell then asks the question how one proves that it is the intellect (*intellectus/intelligentia*) that is the correct habit of the mind which effects this management of the perception of singulars. To this he gives the rather perfunctory response that there are four habits (*logismus, opinio, scientia, intelligentia*), since neither *opinio* nor *logismus* nor *scientia* is at issue, the only one left is intellect.²¹ This, given the importance attached in Protestant theology to conscience, left some questions unanswered, as we shall see. Less resolutely scholastic and Aristotelian in his presentation, Andrew Willet went over similar ground in his earlier *De animae natura et viribus*, a work that Powell may have read.²² Willet suggests, in the copious and elegant Latin typical of this work, that both the luxuriant world of the Platonic teaching on the soul and the arid *tabula rasa* notion of Aristotle are inaccurate.²³ Syncretic in tendency, Willet faces squarely the problem of how to reconcile the Aristotelian account with the Protestant necessity for those seeds of moral cognition that go by the name of conscience (not an Aristotelian concept).²⁴ The obvious implication that conscience is also a habit is not discussed in Willet, a point to which we shall return, providing one of the many sources for the notion ‘innate ideas’ that was to flourish in the next century. (The various attempts in recent secondary literature to give Ramus an important role in this story of the ‘new logics’ must be nuanced to the extent that considerable Ramist energies were spent in the 1580s and 1590s on the tortuous metalinguistic issue of deciding that judgements involving the *habitus mentis* were judgments, *in fondo*, about logic)

We are clear, then, on the epistemological and anthropological origins of the virtues. The natural or human virtues (I am excluding what are called the supernatural virtues) have three

characteristics: they are habitual in the sense that they are only acquired through practice, they are displayed by the subject, and they have a recursive relationship to the object of enquiry or field of activity (and they later became opposed to the infused supernatural virtues that derived from a Christian God).²⁵ These virtues divide into the moral and the intellectual, though perhaps clearer terminology for the two would be ethical (because they relate to character) and cognitive (clearer since intellect carries the wrong set of connotations for a virtue such as *ars* or *prudentia*). For present purposes, we shall omit discussion of a third grouping, the virtues of the will, though one may find reference to them in the Elizabethan scholastic John Case (?1539-1600), since it may well be that they became progressively less important in the seventeenth century.²⁶ In the same orthodox way, following the footsteps of an (Oxford-based?) author of an early seventeenth-century manuscript on logic, we shall consider as nonsensical the notion of an instrumental habit (such as logic was supposed by some to be).²⁷

The reception of the philosophical virtues, both in the late antique period and the Middle Ages, was skewed toward an emphasis on the moral virtues at the expense of the cognitive or intellectual sort.²⁸ So marked was this asymmetry that the word 'virtue' (replicating the Romans domestication of *hexis* as 'virtus', which, through its association with 'vir' and manliness, lost the cognitive element it had, to some extent, possessed in the Greek) in the medieval vernaculars simply meant 'moral virtue'. Aristotle's key discussion of his virtues occurs in the *Nicomachean Ethics*, where Renaissance commentators on a particular passage did mention the intellectual virtues in order to solve an exegetical problem. That exegetical problem was, *prima facie*, a simple one: how to reconcile the number of the intellectual virtues given in the *NE* VI.3 with the different number given in the famous last chapter of the *Posterior Analytics*? At one level, this was simply a task requiring an ability to explain away the difference through contextual analysis. Powell, for example, explains this away in precisely terms of local context.²⁹ Alternative explanations to that adopted by Powell had been canvassed in the sixteenth century, but Powell is far from idiosyncratic, as a glance at some contemporary commentaries on Aristotle shows.³⁰ The problem, however, that I have termed exegetical is also conceptual: who decides how many virtues and states of certainty there are? For a long time, of course, the innate conservatism of the commentary traditions provided a certain degree of inertia, limiting the amount of traction that questions could have on the traditional arrangement. An analogous development (namely toward the expansion in the number of virtues) took place in the field of the moral virtues, though there the profusion of virtues as the sixteenth century moved into the seventeenth century was far more marked. Since, however, the virtues were not viewed (rather like Juan Luis Vives's conception of *spiritus*) as parts of the brain to which one could point, but rather more akin to cognitive functions, it was natural to ask what counted as such a virtue. Some residue of this debate (as to what did and did not so count) may be discovered in the basic work of Robert Sanderson (1560-1625), who reasserts the fivefold model of the intellectual virtues (*sapientia, intelligentia, scientia, prudentia, ars*), but also comments on what kinds of state or habit are not to be numbered amongst the number of the virtues.³¹ Excluded from the definition of the intellectual virtues are 'infused habits' (divine faith), because they are the result of a one-off intuition and not acquired over time; moral virtues (for obvious reasons) and 'error-laden habits' (such as opinion, suspicion and human faith). Sanderson has a paragraph on the number of the virtues in which he gives a division based on the nature of their object (whether the reasoning is about principles or conclusions, and whether the object is speculative or operative), but does not go into detail.³²

The later seventeenth century had the convenient *vade mecum* of Rudolph Goelenius the Elder (1547-1628), whose dictionary of philosophical terms provided a sturdy, indeed sometimes stolid, conceptual cartography. The entry for *habitus* has a subdivision on hypolepses.³³ These are of two sorts: uncertain (conjecture, opinion and presumption) and certain. The certain (if not

composite) divides again into noetic non-inferential or dianoetic discursive, which result in intellect for the former and a further subdivision into necessary and contingent for the latter. The composite certain results in *sapientia*. This forms a steady backdrop to most seventeenth-century discussions of the topic, but it was only an outline. Much greater sophistication than Goclenius or Sanderson is in evidence in the work of the Christ Church, Oxford academic, Barten Holyday (1593-1661).³⁴ Holyday's *oratio* was something of a set piece of academic display, from its opening nod to the most famous of Cicero's *Verrines* (*Quousque tandem, Stagirita, jamae tuae patientia abutemur?*) to the pointed attempt on its closing pages to take seriously the notion of a republic of letters (*militastis fortiter stricta acie & denso agmine pro literarum republica contra grassantem ignorantiam*).³⁵ A study of Holyday's sources (and his precise position on the nativist vs. acquired cognition controversy) must be kept for another place, but suffice to say that he raises the level of discussion on this topic in England considerably.³⁶ He keeps the number of the virtues at five, which enables him to connect one of the five orders of logical entity with one each of the virtues. Thus he pairs *Intelligentia* with *Genus*, *Scientia* with *species*, *Differentia* with *Sapientia*, *Prudentia* with *Propria* and finally *Ars* with the individual accidentals. Clearly excluded from the intellectual virtues are *fides humana*, *opinio* and *experimentalis cognitio*.³⁷

When, therefore, we turn to Gale, we are surprised by the number of *habitus mentis* that he finds space for. There are nine: *opinio*, *experientia*, *imitatio*, *fide*, *sapientia*, *scientia*, *arte*, *prudentia*, *intelligentia*.³⁸ A further and greater surprise is the inclusion of *experientia* (akin to Holyday's *experimentalis cognitio*) and *imitatio*, which we will turn to shortly. Since I have suggested Gale's transformation of the intellectual virtues is 'humanist', it would be as well to back up that claim. At the lowest level, there is the very extensive usage of Greek sources to bolster points.³⁹ Related to this emphasis on Greek sources is the desire to construct a NeoPlatonic heritage, as a natural way of restoring a sense of continuity with the dead pages of Plato, an impetus which in its historicism is also humanistic. Naturally, as the sixteenth century moved into the seventeenth, history became not so much one discipline among many, but rather *prima inter pares*.⁴⁰ One scholar has recently bemoaned that '[o]ur inability to engage with the imposing, and often frustrating, complexity of late Aristotelian psychological texts mens that we know relatively little about how the domain of knowledge about the soul was expanded and refigured in that tradition'.⁴¹ One agrees heartily, although a measure of differentiation is required for Gale and more traditional 'late scholastic' authors. At first sight, Goclenius and Dandinus look as if they provide an argument supported by evidence; Gale, by contrast, and in more 'philological' mode, appears to have passed, or outsourced, much of the argumentative content of his work to the supporting array of Greek *testimonia*. One could, therefore, easily conclude that what Gale is engaged in is nothing more than a series of footnotes. We do him a injustice if that is how we read his work. In order to see why, we need to look both back to the origins of the history of *pia philosophia* movement and forward to the eighteenth-century notion of intellectual progress. Briefly, we need to position Gale as occupying a pivotal (if not vastly significant) moment between an esoteric notion of a NeoPlatonic philosophical tradition and the more secular notions of the 'unfolding' of history toward progress which were so marked a feature of the intellectual life of the century of the French Revolution. For it was mostly as history of philosophers that the discourse of the history of philosophy as understood; whereas, with ample qualification, the word-centred historicist method encouraged the Cambridge Platonists, with the pious philosophers behind them, to view the relevant unit of explanation in the history of philosophy the system or the concept or the word. This doubtless reflects the fact that the chief model in the Middle Ages and the sixteenth century for philosophical historiography was Diogenes Laertius, whose emphasis is firmly doxographic. Only with a proper appreciation of this role of philology in the shift in conception of the genre can we begin to understand the purpose, both partner and product of the

humanist method. The immediate genealogy, furthermore, of this 'humanist method' is with the English Polyhistor, such as Edward Stillingfleet's *Origines Sacrae* (1663), and their attempt to domesticate the 'universalist humanism' of their continental predecessors.

More idiosyncratically, it is a feature of Gale's generously syncretic vision that, through judicious silence or seeming similarity, he is able to place together the conceptually disparate. We return to his discussion of experience. The second degree of cognition he deals with is experience or *empeiria*. Although in some undefined measure less certain than 'opinion' (which can be true or false), it plays, Gale avers, far from the least role in his philosophy. Plato says many fine things about it, Aristotle too, particularly in the *History of Animals*. Democritus was well versed in 'philosophia experimentalis' and it is through experience that Epicurus has his deserved place in philosophy.⁴²

And finally in our own century, thanks to the many different and innovative experiments that men have designed, the new philosophy that we embrace has been fruitful, even if, in some other aspects, it has certain disadvantages, not least that it could lead men to Atheism and Epicureanism.⁴³

We begin to see that there is a slide, endemic in the early modern literature, between the sense of experience and experiment, and that by *empeiria* and *experientia*, Gale is thinking of the experiments suggested by such reformers of natural philosophy as Francis Bacon. What precisely does he mean? He says that he is adopting the definition of Timaeus of Locri (really, of course, that of Plato), who said that it was the entry point for singulars to be introduced into the intellect. Since each habit of mind must have a corresponding object, Gale notes that the proper object of experience is singulars. Faith deals with the supernatural and the revealed, reason deals with the 'natural universals' and 'sensus' deals with natural singulars.⁴⁴ It is the senses, chiefly eye and ear, that serves the habit of experience; it is they that frequently places boundaries on our *scientia*, and this is particular privilege.⁴⁵ Rather than look for sources in Aristotle, Gale wishes to emphasize the Platonic character of the value placed on sense perception and so finds, *contra spem*, some quotes from the *Timaeus* and the *Protagoras* to the effect that all knowledge comes from aesthesis.⁴⁶ The praise of experience continues: its object is the more achieved and more perfect by reason of its universality and presence. Nothing in this world of sense, from technology to social organization, does not have its experiments.⁴⁷ Others dealing with mere sterile and empty shadows, the experimentalist deals with the things themselves. Since another term for the habits is virtues, a convenient linguistic slide is allowed Gale when notes that the Italians call such people 'virtuosi'. The large-spirited and sharp wits of this century, he notes with a glance at the Royal Society, have devoted themselves to these pursuits in their Academies.⁴⁸ In common with recent scholarship on the Royal Society, and on the interconnectedness of social and intellectual criteria for truth-telling, Gale emphasizes the personal qualities of the men who have undertaken to organize themselves in this way.⁴⁹ Finally, confirming either the breadth of his syncretic vision or the depth of his intellectual waywardness, Gale sees the roots of the fine qualities of the men of the Invisible College in Plato.⁵⁰

A knock-down Aristotelian response to the inclusion of this category within the number of the intellectual virtues would be to insist on its redundancy. After all, experience is a crucial feature to all the virtues; they are habits, involving practice. Or, as we have already observed Robert Sanderson note, experience does not provide knowledge in the Aristotelian sense. Gale does not deal with the first objection, but to the second it is clear that experience adds something to the traditional forms of knowledge. Particularly worth attending to is Gale's account of the impact that this *habitus mentis* has on the quality of the cognitive content to which it gives rise,

the ideas: ‘ejus ideae sunt magis *congeneres&naturales*.’⁵¹ The first adjective emphasizes the notion that there is a natural order behind the appearances of reality, a notion that the second adjective confirms. This strain of thought is stressed again when he calls the experimental notions ones that are the more ‘connatural’ in their ability to enlighten to imperfect state of the intellect (here, presumably, understood in the sense of the *habitus mentis*).⁵² The underlying notion that experimental knowledge is more secure continues in the assertion that, unlike other forms of knowledge, they are intimately united with, not merely stuck on to, the intellect. A telling metaphorical aside (that these notions are almost seen) testifies to the force of this experimental knowledge, though it is this seductive metaphor that precisely makes us question exactly what kind of epistemology is operative, whilst allowing us to see why it is so attractive.⁵³ Despite its status as metaphor, Gale builds on the argument it suggests to note, as his final proof in a list of why experimental knowledge is superior to other sorts, that they have a more intimate union with the soul.⁵⁴

Not only, however, Gale continues, are the results better but the very style of cognition is better (‘*ex modo cognitionis*’).⁵⁵ The particular language in which he couches this praise of the mode of cognition shows how far Gale’s conception of the role of experience in the intellectual virtues has travelled from someone like Barten Holyday. This kind of cognition, he notes, is intuitive and not abstractive.⁵⁶ The routes of the notion of ‘*cognitio intuitiva*’ are in the medieval period.⁵⁷ What kind of knowledge does a human need of the world in order for that knowledge to be convincing (to himself? to others?). Since there was a long scholastic tradition affirming that God did not need to go through the steps of human cognition, but could, through *cognitio intuitiva*, understand all through particulars, the question is what kind of model of knowledge is this for humans? To repeat, the role of the supernatural realm in deciding questions of human cognition could not be abandoned in a Christian culture. What sort of perception angels had had been a topic for scholastic disputation for as long as scholasticism.⁵⁸ It is most tempting to imagine that the nominalist (and behind the nominalists, Scotus) tradition of the *cognitio intuitiva* had not only an impact on Calvin. The possible influence on John Mair on Calvin is disputed, but even if influential (albeit silently so) on his notion of a certain inner conviction that confers knowledge, it cannot be maintained as a discrete unit of historical analysis for those in the generation after Calvin.

The difficulties in tracking an evidential trail from the Scotists and the nominalists to Theophilus Gale are avoided by the convenient expedient of a sixteenth-century reflection of this debate. This may be found in the many editions to which the Julius Caesar Scaliger’s (1484-1558) *Exercitationes* on the *De subtilitate* of Cardano ran.⁵⁹ Ever since the endlessly recycled Elder Scaliger had placed centre stage the problem of how one could know substances from the accidents conveyed through a mere species (itself a rehearsal of earlier nominalist worries found chiefly in William of Ockham), the issue of what the scope of such non-inferential knowledge of essences through accidents continued to appear, though not always in precisely either Scaliger’s or Ockham’s terminology. Whether or not, of course, man was capable of such intuitive knowledge of God was a matter of dispute, but the logical undergirding set the terms of the debate. Another Cambridge man, and fellow the Royal Society, John Pearson, eventually Master of Trinity (1612-1686), was fully indebted to this tradition in scholastic theology (and the analogy with vision) when he set down his account of why to the ‘intellectual eye’ God was invisible.⁶⁰ The *virtuoso* of the Royal Society becomes, like God, someone who can see all at once from the particulars (and their substantial form) alone. This has been influential in the recent book on Descartes by Carriero.⁶¹ The dizzying vertigo one might feel in such a situation perhaps accounts for another reason that Gales in defence of the kind of knowledge that experience brings, namely, that is

more liable to have an impact on the emotions: 'est magis affectiva' (and hence more practical, for effecting the affects will result in action).⁶² One might compare Thomas Browne:

For the eyes of God, and perhaps also of our glorified selves, shall as really behold and contemplate the World in its Epitome or contracted essence, as now it doth at large and in its dilated substance. In the seed of a Plant to the eyes of God, and to the understanding of man, there exists, though in an invisible way, the perfect leaves, flowers, and fruit thereof; (for things that are in posse to the sense, are actually existent to the understanding.) Thus God beholds all things, who contemplates as fully his workes in their Epitome, as in their full volume; and beheld as amply the whole world in that little compendium of the sixth day, as in the scattered and dilated pieces of those five before.⁶³

The mind can be as emotional as the heart. Naturally, given Gale's inclination to discover in Plato what is distinctive about the philosophy of the empiricks, we find this aspect too backed up with a slew of references to Platonic dialogues.

Now returning to the central issue, it is the role of the sensitive soul to pass information to the rational soul, so there is a deep connection in Aristotelianism between the two aspects of cognition. How closely they work with each other varies from thinker to thinker, but there are instances of a seventeenth-century concern about whether or not to expand the range of sensibles (the *sensibilia* in Aristotelian terminology) that may have some relation to cognition.⁶⁴ Whether this is part of a general shift in favour of the rehabilitation of the sensibles (including related problems of animal speech and animal cognition), just as with Gale's attempted rehabilitation of experiential ratiocination, or whether each 'rehabilitation' is better explained by more local factors is a fruitful avenue for further research.⁶⁵ An important signpost on the route to such research is that what has shifted here is the abandonment of the substantial form, or the Aristotelian sense of form generally. This generates a fundamental problem: If the real distinction between divine intellect and human is that God has access to the forms and essences of things, we only to their accidents, there is motive there for shifting the idea of the best knowledge from the knowledge of universals, forms, etc., to the knowledge of qualities, accidents, although Gale's interest in 'virtuosi' are another 'local' explanatory factor.

A similar rehabilitatory departure in Gale's account of the intellectual virtues is the place accorded *imitatio*:

The third degree of cognition is Imitation, which is called eikasia or mimesis by Plato. It follows upon experience in hardly any other fashion than a shadow follows its maker. For just as the sense receive within themselves ideas, based on experience and having objective reality, of singular things, so the fancy, which is the most mimic and imitator of Nature, contemplates those same ideas it has received and paints of them in the most lively colours its fancies or other images, whence emerges the imitation.⁶⁶

Put crudely, for *Imitatio* Gale intends almost any form of symbolic representation: the Egyptian hieroglyphs (which often featured in accounts of artificial languages), the parables of Christ and the sacraments of the Christian Church are just three he mentions.⁶⁷ This is presumably a nod, inter alia, to a well-known passage of Francis Bacon on parables and hieroglyphs on the nature of philosophical writing, but it is strange that it should be here interpreted as an intellectual virtue by itself.⁶⁸ Here again we see how, without the clear schema

of the five logical *vores* to tie the five intellectual virtues to, the notion of what counts as an intellectual virtue can sprawl, go forth and multiply. After all, early modern anthropology tended to consider man under one of two essential aspects, as a speaking animal and as a thinking animal. Man, however, as a symbolic or sign-making creature, though well-established in the esoteric literature, found less purchase in arts course philosophy, whether in England or elsewhere. Why Gale should have included *imitatio*, however, is related to his elevation of the concept of *experientia*. It is *prima facie* surprising to discover that the highly derivative ontology of Platonic mimesis should have a role in the cognitive faculties, but the emphasis on learning by doing, by the virtue of habitual training of hand and eye, makes it essential for the strange set of intuitions Gale wants to accommodate. Although the seventeenth century saw a rise in the interest, sometimes philosophical, at others practical, of artificial languages which generated thought on the relation of mind to language, the elaboration of an intellectual virtue in these terms, rooted in a deeply eirenic and humanist historical account of the *pia philosophia*, is another example of the transformations wrought in the forms of cognition by the broad attention to philosophy's past that was one part of the long legacy of the *Quattrocento* grammarians.

Conclusions

The early twentieth-century historian of philosophy, Karl Eschweiler (1886-1936), more informed about Renaissance philosophy than most, wrote:

Die breite Diskussion über den Charakter der Logik bietet das mächtige Material dazu, aber nicht das ganze; denn das Denken hat nur als eine besondere Art des Produzierens und die Logik nur als Spezies der ars (techne) bzw. des usus organicus (instrumentalis) gegolten. Der überlieferte Locus communis von den *Quinque habitus intellectivi* (sapientia-scientia-intellectus-ars-prudentia) ist dabei als wichtiger Fundort zu beachten, an dem die Wandlung des aristotelischen Wissenschaftsbegriffs in der doppelten Richtung des konstruktiven Rationalismus wie des pragmatistischen Positivismus sehr oft zum Vorschein kommt.⁶⁹

He had in mind something rather different from what we see going in with Gale, and yet he was right to see the cognitive *habitus* of the Renaissance scholastics as central to the task of mediating the logical and the epistemological, and to see how a shift in these virtues could result in an important shift in the overall character of one's philosophical system. As we have seen, it is important to find some way of anchoring their number in some stable external, such as the five orders of logical entity referred to by Porphyry (as with Holyday, and others). One strategic almost fortuitous factor that limited the number of the intellectual virtues is their clear connection with a clearly hierarchy of grades of knowledge. Certainly, however, once this connection between the human virtue and its object of enquiry or field of activity was severed, a situation similar to that described for the moral virtues arose: a mushroom-like profusion of virtues. Once admits the principle that virtues are good things, where does one stop? When the German philosopher Alexander Gottlieb Baumgarten (1714-1766) came to write his enormously influential textbook *Metaphysica*, he devotes a section entitled 'perspicacia' to covering what is a general cognitive virtue, which has its corresponding habit 'acumen'.⁷⁰ By this time, however, the intellectual virtues had been reduced to merely good qualities that one could ascribe to a person's thought, and epistemology had already become a discipline that was concerned with being able to find reasons for believing in the existence of objects rather than a training in cognitive and oratorical fluency, such as was provided by the interrelated arts of the trivium in the Renaissance.⁷¹ One might almost say, with a measure of exaggeration, that the habits of mind had

become indistinguishable from habits (in the modern sense) of style. This was a move that ensured the death of that vigorous tradition of the intellectual virtues to which figures such as Gale made their distinctive contribution.⁷² Baumgarten's greater emphasis upon sensory perception, divorced from cognitive content and epistemological value, was in time to help found the science of aesthetics. Such aesthetics, however, were far removed from an Aristotelian world in which perception and cognitive content were closely aligned.⁷³ As such, it sounded an early note in the separation of the human from the natural sciences. One doubts whether the book reviewers of so determinedly interdisciplinary an institution as the Royal Society would have approved.

Acknowledgments. I should like to thank Rhodri Lewis (who asked me to justify my stance toward the English Polyhistor) and Kathryn Murphy (who suggested I look at Thomas Browne) for their constructive comments, together with the anonymous reviewer.

References

- ¹ This was performed orally at the Birkbeck College, London, EMPHASIS seminar, and I am grateful for the participants' comments. Rhodri Lewis asked me to justify my stance with respect to Gale as one of the English *Polyhistor*, and Kathryn Murphy encouraged me to look at Thomas Browne.
- ² "An Account of Some Books", in *Philosophical Transactions of the Royal Society* (London, 1671), vol. VI, 2231.
- ³ 'A Discourse Touching the Original of Human Literature, Both Philosophy and Philology, 1669 and 1671' is how the book is described. The correct title is *The Court of the Gentiles. A Discourse Touching the Original of Human Literature, Both Philologie and Philosophie*. The attempt to place the Cambridge Platonists (with whom Gale bears affinities) in the context of developments in the natural philosophy of the time started in the Anglophone world with Rupert Hall, A., *Henry More and the Scientific Revolution* (Cambridge: CUP, 1990).
- ⁴ On the notion of the polyhistor, see Grafton, A., "The World of the Polyhistor" in *Bring Out Your Dead: The Past As Revelation*, ed. A. Rupert Hall (Princeton: Princeton University Press, 2001), ch. 9.
- ⁵ Gale, Th., *Philosophia Generalis...in duas partes determinata* (London: Robinson and Hancock, 1676) - see pars I.2 for the section dealing with the virtues. On Gale, see G. Santinello, F. Bottin and C. W. T. Blackwell, eds., *Models of the History of Philosophy: From its Origins in the Renaissance to the Historia Philosophica* (Dordrecht: Kluwer, 1993), 303-28; Pigney, S.J., "Attitudes to Philosophy's Past in the 17th century: Theophilus Gale and his Continental Precursors", unpublished PhD dissertation, The Warburg Institute, University of London, 2000, and *DNB subnomine* (though the first chapter of Dr. Pigney's dissertation is a fuller biographical study).
- ⁶ The most recent essay dealing with the question of *eruditio* within a scholastic context is Edwards, M., "Digressing With Aristotle: Hieronymus Dandinus' *De corporeanimato*", *Early Science and Medicine* (2008): 127-70.
- ⁷ 'Transformation' is perhaps too strong: development might be better were it not for its Whiggish overtones, and 'tinkering with' is as defeatist as inelegant.
- ⁸ This ground has already been well covered by Santinello, G., (1993), 293, from whom the quotation derives.
- ⁹ Above all from the *Memo*.
- ¹⁰ There is an oceanic bibliography on the topic of cognition in the Renaissance, though there remains no satisfactory treatment. The following works are, however, helpful: Merlan, P., *Monopsychism Mysticism Metacosciousness: Problems of the Soul in the Neoaristotelian and Neoplatonic Tradition* (The Hague, 1963) (a reference I owe to Crofton Black); N. Kretzman et al., eds., *Cambridge History of Later Medieval Philosophy* (Cambridge: CUP, 1985), 595-601; Ch. Schmitt et al., eds., *Cambridge History of Renaissance Philosophy* (Cambridge: CUP, 1986); Spruit, L., *Species Intelligibilis: From Perception to Knowledge* (Leiden: Brill, 1994-5), 2 vols.; Hadfield, G., "The Cognitive Faculties", in *Cambridge History of Seventeenth-Century Philosophy*, ed. D. Garber and M. Ayers (Cambridge: CUP, 1998), ch. 12; Black, C., "From Kabbalah to Psychology: the Allegorizing *Isagoge* of Paulus Riccius, 1509-1541", *Magic, Ritual and Witchcraft*, II.2 (2007): 136-68.

¹¹ Powell, G., *Analysis analyticorum posteriorum sive librorum Aristotelis de Demonstratione, in qua singula capita per questiones & responsiones perspicue exponuntur adhibitis quibus scholiis...* (Oxford: Joseph Barnes, 1594), sig. X3r: “Absoluta ac pertractata omni quaestione de vi ac natura tum syllogismi tum Demonstrationis: nunc subicit qua ratione utriusque principia nobis innotescant.”

¹² Powell, G., *Analysis*, sig. X3r: “Primo ostendit Arist: qua methodo principia cognoscantur, premissis quibusdm dubitationibus. Secundo qualisnam sit habitus cognitionis principiorum declarat.”

¹³ Powell, G., *Analysis*, sig. X3r-v: “Cum non possit quispiam scire per Demonstrationem, nisi prius cognoscat prima principia immediate, ut ante dictum est in 1 lib. Cap. 2 & 3.”

¹⁴ Powell, G., *Analysis*, sig. X3v: “Existimo neutrum dici posse.”

¹⁵ Powell, G., *Analysis*, sig. X3v: “Nam si insitus sit, lateat tamen per aliquod tempus, sequitur, ut exquisitiores & nobiliores, quam Demonstrativa sit, cognitiones, quales principiorum sunt, a nobis ignorarentur, & quidem, dum eas habemus, ignorarentur: Unde res certissimas eodem tempore cognoscimus & ignoramus: quo quid absurdius? Sin vero hunc habitum acquirimus, & accipimus, cum antea non habuerimus, tum sequeretur cognitionem nostram non fieri ex praecedente cognitione: at hoc fieri nullo modo potest, sicut in Demonstratione, hoc est, in tractatu praecedente, qui de Demonstratione, diximus.”

¹⁶ Powell, G., *Analysis*, sig. X4r. The metaphors that Powell uses at this point are likely taken from the recent English discussion of the same problem Andrew Willet, *De anima*, sig. B3r.

¹⁷ Powell, G., *Analysis*, sig. X4r: “Num omnibus animalibus haec facultas, nempe sensus eadem ratione attribuitur?”

¹⁸ Powell, G., *Analysis*, sig. X4v: “nam quaedam animalia praeter sensum habent memoriam, in quibus rei sensilis absentis imago & species permanent: quaedam memoriam non habent: ut vermes, muscae, culices & huiusmodi: Et haec nullam habent cognitionem praeter cognitionem sensu, quam in ipso sentiendi actu tantum acquirunt. Nam nihil cognoscunt, nisi cum sentient, cum illa rei etiam absentis cognitionem habeant. Deinde animalia, quae memoriam habent, non unius sunt generis. Nam quaedam rationem, quae similes rerum sensilium conceptus inter se componit, & universale ex illis colligit, habent: ut homo: quaedam non habent: ut caetera bruta animalia.”

¹⁹ Powell, G., *Analysis*, sig. X4v: “ex memoria saepe rei eiusdem (non numero sed specie) facta, fit experientia.”

²⁰ Powell, G., *Analysis*, sig. X4v: “ita anima hoc ipsum, quod de exercitu dictum est, pati potest, ut ex multis singularibus colligere queat universale.”

²¹ Powell, G., *Analysis*, sig. X5r-v: “Maior patet, quia illi sunt habitus intellectuales, qui in dianoea spectantur. Minor Probat, non est opinio, aut logismus, quis hi habitus falsi esse possunt, habitus autem principiorum semper verus est, & numquam falsus: Deinde, quod non sit scientia, probari potest: primo sicut principia Demonstrationibus, hoc est, conclusionibus Demonstrationum notiora sunt & exquisitiora...ita habitus principiorum est certior & exquisitior habitu conclusionis. Ergo habitus principiorum non est scientia.”

²² Willet, A., *De animae natura et viribus quaestione quaedam, partim ex Aristotelicis scriptis deceptae, partim ex vera Philosophia, id est rationis Thesauris, depromptae in usum Cantabrigiensium* (Cambridge: Thomas, 1585) (he signs himself ‘Andreas Williattus’ in the preface)..

²³ Willet, A., *De animae natura*, sig. K1r: “Cum enim de luxuriosis Platonicis dogmatis ramis amputatum aliquid, ad sterilem interim & aridam Aristotelis assertionem adiectum quiddam voluimus, quorum uns in naturae laudibus profusior fuit, quam convenit, alter parcius, quam modestum hominem decet.”

²⁴ Willet, A., *De animae naturae*, sigs. K1v-K4v.

²⁵ For a clear sixteenth-century discussion of the virtues aimed at a basic undergraduate market and published in England, see Heiland, S., *Aristotelis Ethicorum ad Nicomachum libri decem., gratiam & usum studiosorum...per Quaestiones expositi* (London: Bynneman, 1581), sigs. G4r-H4r.

²⁶ Case, J., *Speculum moralium quaestionum* (Oxford: Joseph Barnes, 1585), chapter 9, sig. F4r: “quid moror? Amor benefici est melior, est longior, est constantior quam accipientis redamatio. Est ergo melior, quia a virtute fluit; est longior, quia in mente boni viri sedet; est constantior, quia adversae fortunae ictu non cadit. Postremo ut labore acquisita magis diliguntur, sicuti liquido constat in amore matris erga filios (quos cum dolore peperit), ita quoniam laboriosius est benefacere quam amari, non mirum est si bene merentes intentius diligant. Labor enim et dolor rem dulcem et pretiosam reddunt. Altera quaestio, nempe an

beneficentia recte definiatur, uno verbo resolvitur. *Est ergo beneficentia vel motus appetentis animi ad bene merendum de illis quos diligimus, vel habitus voluntatis quo movemur ad benefaciendum alicui cuius amore non sine prudentia et deliberatione capimur.*” (italics mine – note the hesitancy of the formulation); on Case, see Schmitt, Ch., *John Case and Aristotelianism in Renaissance England* (Kingston, ONT: McGill University Press, 1985). Behind this notion of the *habitus* of the will was the long shadow of Augustine and his development of the notion of the faculty of the will, and the *habitus* is mentioned in the context of free will by Bonaventure (*Opera*, 1885, II, p. 602). An avenue for further research is the extent to which the growth in discussion of the conscience in Reformation theology at the expense of the faculty of the will (this is the position adopted by Zachman, R.C., *The Assurance of Faith. Conscience in the Theology of Martin Luther and John Calvin* (Westminster. John Knox Press: Louisville, KY, 2005), 2) caused any change in discussion of the ‘*habitus voluntatis*’.

²⁷ A lecture course on logic, British Library, London, Lansdowne MS 969, f. 21^v: in response to the opinion ‘*habitu instrumentalem ab arte distinctum est genus Logicae*’, the author disagrees noting 1) there is no such sort of habit, 2) one should not multiply entities where there is no need for them (a principle that is not adhered to throughout the remaining two hundred pages...) and 3) genus and species should occur in the same predicament, which coexistence the introduction of this *habitus* would wreck. A word on the author of the manuscript: according to the catalogue it is John Cole, though the MS has no reference to him, so perhaps the translator John Coles who matriculated at Oxford, living from 1623/4 – 1678 (see ODNB). Palaeography is a clue: the hand is a wayward combination of secretary and italic, a combination common in Oxford in the period 1600 to 1650 when secretary begins to lose its coherence. It appears slightly more regular than the hand of the Queen’s College student Michael Hudson (who still uses the older secretary form for ‘c’, unlike the Lansdowne scribe) who is the writer of most of our manuscripts of the works of Richard Crakanthorpe, those manuscripts being written around 1623: leads one to assign the manuscript a date somewhere between 1625 and 1650.

²⁸ Fundamental to my account of late medieval scholastic views of the intellectual virtues is the work of Sister M. Rose Emanuella Brennan, “The Intellectual Virtues According to the Philosophy of St. Thomas Aquinas”, unpublished PhD dissertation, Catholic University of America: Washington, 1941.

²⁹ Enjoy the sleight of hand in Powell, G., *Analysis*, sig. K6^v: “Obiectio. Quinque sunt habitus intellectuales, in quibus tamen opinio & logismus non enumerantur. 6. Ethicorum cap. 3. Ergo sunt hi quattuor, quos hic recenset Aristoteles. Solutio. Respondet Zabarella in Ethicis verorum tantum mentionem fieri: opinionem autem & veram esse & falsam, sicut & logismum: *artem* autem & *prudentiam* hic taceri, quia actioem & effectioem respiciunt: eodemque modo *sapientiam*, quia a scientia & intelligentia simul sumptis non differt [], quippe quae, ut ibi Philosophus habet, scientia est, quasi caput habens, quod caput est intelligentia. Per *logismum* Zabarella, non habitum aliquem a ceteris, qui hic nominantur, diversum intelligit: sed communiter discursum: sub quo etiam opinio & scientia comprehendantur. Graecis tamen per *logismum* habitum a reliquis distinctum intelligere placet.”

³⁰ Other solutions: Zabarella, sig. C5^r; Crellius, sig. BB5^r; Brerewood, sig. H5^r.

³¹ Sanderson, R., *Logicae artis compendium*, ed. E. J. Ashworth (Bologna: CLUEB 1985) (originally published 1617), 332.

³² Sanderson, R., (1985), 332.

³³ Goelenius, R., *Lexicon Philosophicum*, 624.

³⁴ Holyday, B., *Philosophiae politico-barbarae specimen* (Oxford: William Turner, 1633), Liber Secundus, sigs. L3^r-Z3^r. I should like to thank Dr. R. W. Serjeantson, who encouraged me at a recent conference to read Holyday. On Holyday, see the DNB article. This lecture on the intellectual virtues was (the title page to book two announces: sig. L3^r) delivered as an opening oration before embarking on a lecture course devoted to the *Ethics* in 1620.

³⁵ Holyday, B., *Specimen*, sigs. L4^r; and Z2^v.

³⁶ A good starting point for the question of Holyday’s sources is Spruit, *Species*.

³⁷ Holyday, B., *Specimen*, sig. N2^v.

³⁸ Gale, Th., *Philosophia Generalis*, 755-895. The two most intimately related works are R. Cudworth, *the True and Intellectual System of the Universe* and the less well studied, S. Parker, *A Free and Impartial Censure of Platonick Philosophy* (Oxford, 1667).

³⁹ See, e.g., Gale, Th., *Philosophia*, 830: “*Scientia assensus debet esse firmus ac certus. Inde, definiente Phavorino, episteme est vou stasis peri to on, scientia est mentis permanentia circa ens: hic differt ab opinione, quae est*

instabilis haesitatio. Sic *Definit.* Plat. Scientia definitur, hypolepsis psyches ametapotos hypo logou, comprehensio animi immutabilis ratione: i.e. perspicax certaue cognitio, qua mens ratione omnino ineluctabili veritatem rei cuiusque immutabilem immutabiliter contemplatur.”

⁴⁰ For some comments on this –with further bibliography–, see Andersson, D.C., “Philosophy and the Renaissance Encyclopaedia: Some Observations”, in *Encyclopaedism Before Diderot*, eds. G. D. Woolf and J. Koenig (Cambridge: CUP, 2011) (forthcoming).

⁴¹ Edwards, M., (2008), 13.

⁴² Gale, Th., *Philosophia Generalis*, 763-4.

⁴³ Gale, Th., *Philosophia Generalis*, 764.

⁴⁴ Gale, Th., *Philosophia Generalis*, 764. I maintain Gale’s terminology ‘singulars’ rather than ‘particulars’ because he himself uses both.

⁴⁵ Gale, Th., *Philosophia Generalis*, 764: “Sensus autem, qui experientiae maxime subserviunt, sunt oculi et aures; qui inde sensus disciplinares iure merito nominantur. Sensus privilegium est limites nostrae scientiae imponere, nec raro est hujus Dominus & Rector.”

⁴⁶ Gale, Th., *Philosophia Generalis*, 764.

⁴⁷ Gale, *Philosophia Generalis*, 765: “Nam 1. Philosophia Experimentalis objectum habet perfectius, ratione tum *universalitate*, tum *praesentiae*. (1) Objectum ejus est universalius & magis comprehensivum. Nihil enim est in mundo sensibili, dicam etiam artificiali & politico, quod non aliquo modo sua habet experimenta.” There is a measure of overtranslation in ‘technology’ but understood in its wider sense of artificial intervention, not, I think, a fatal one.

⁴⁸ Gale, Th., *Philosophia Generalis*, 765.

⁴⁹ See the work following Shapin, S., *Leviathan and the air-pump: Hobbes, Boyle, and the experimental life: including a translation of Thomas Hobbes, Dialogus physicus de natura aeris by Simon Schaffer* (Princeton: Princeton University Press, 1985).

⁵⁰ Gale, Th., *Philosophia Generalis*, 765: “et talem solum vere sapientem & Philosophum Plato asserit, Rep. 9. Pag. 582”

⁵¹ Gale, Th., *Philosophia Generalis*, 765. I translate ‘congener’ as ‘of a piece with the natural order’. The usage of the word ‘congener’ in seventeenth-century thought and literature should be carried over (see e.g. Herbert, E., “De humani vita philosophica disquisitio”, in *Poems, English and Latin*, ed. G. C. Moore Smith (Oxford: OUP, 1923), 101).

⁵² Gale, Th., *Philosophia Generalis*, 765-6: “Imagines enim & notiones rerum experimentales, eo quod sensibiles sunt, maxime arridet statui intellectus imperfecto, & magis connaturales videntur.” The dual subject of this sentence brings it close to *species intelligibilis*.

⁵³ Gale, Th., *Philosophia Generalis*, 766: empirical “notiones *intellectui intime sunt unitae*. nec ei solum adhaerent, sed *inoculatae* quasi sunt.”

⁵⁴ Gale, Th., *Philosophia Generalis*, 766: “quia unionem cum anima intimam habent.”

⁵⁵ Gale, Th., *Philosophia Generalis*, 766. It is a pleasure to recall a conversation with Steven Vanden Broecke on the subject of the Renaissance *fortuna* of *cognitio intuitiva*.

⁵⁶ Gale, Th., *Philosophia Generalis*, 766: “*Intuitive non abstractivae solummodo, ut aliae scientiae. Inde Albertus Magnus: Experientia, inquit, in physicis multum plus confert, quam doctrina per demonstrationem*” The quotation (it comes from the opening of his commentary on the *Metaphysics, Tractatus 1, cap. 1*: in the standard edition of *B. Alberti Magni Ratisbonensis episcopi, ordinis praedicatorum, opera omnia*, ed. E. Borgnet et al (Paris, 1890-1899), VI, 2) is presumably second-hand, though I have not identified a source.

⁵⁷ My knowledge depends wholly on the following secondary literature: Kretzman, N., ed., *Cambridge History of Later Medieval Philosophy* (Cambridge: CUP, 1982), ch. 22; Canizzo, G., *Il sorgere del nota intuitiva all’ alba dell pensiero moderno* (Palermo: Edigraphica Sud Europa 1984), Tachau, K. H., *Vision and Certitude in the Age of Ockham: Optics and Epistemology and the Foundations of Semantics 1250-1345* (Leiden: Brill, 1995), itself dependent on Adams, M.M., *William Ockham* (Notre Dame: University of Notre Dame Press, 1987), 2 vols., II. 1036-56; Torrance, T.F., “Abstractive and Intuitive Knowledge from Duns Scotus to Calvin”, in *De doctrina Ioannis Duns Scoti* (Rome: Congressus Scotisticus Internationalis, 1968), 304-03; and the very full and detailed piece by Reina, M.E., “Tommaso di Strasburgo nella controversia sulla distinzione scotiana tra conoscenza intuitiva e conoscenza astrattiva”, *Archives d’histoire doctrinale et littéraire du Moyen Age* (1995): 37-70. The Torrance article (arguing for the importance of the transmission of nominalist ideas through the

convenient medium of John Mair at the Collège Montaigu – on the Collège, see the recent *History of Universities* special issue XXII/2, 2008, and for the alleged scholastic Montaigu influence on Vives, see Andersson, D.C., “Juan Luis Vives, A Pious Eclectic” in *Philosophers of the Renaissance*, ed. P. R. Blum (Washington: Catholic University of America, 2010), 133-47, at 133 n.5) has generated some controversy, given the absence of discussion of the concept in these terms by Calvin – as so often in the history of ideas, the issue is what hangs on the closeness or otherwise of a presumed intellectual influence.

⁵⁸ See conveniently Magnus, A., “Liber de natura et origine animae”, in *Opera Omnia*, Muenster, 1951, XII, 16. For a bold interpretation of the relationship between angels and animals in the pre-modern period, see Daston, L., “Intelligences: Angelic, Animal, Human” in *Thinking With Animals*, ed. L. Daston and G. Mitman (Columbia: Columbia University Press, 2005), 37-59.

⁵⁹ Scaliger, *Exotericarum exercitationum de subtilitate adversus Cardanum* (for ease of reference, given the number of editions, I provide the numeration system: CCCIII, 20). On Scaliger, see now Blank, A., “Scaliger on Corpuscles and the Vacuum”, *Perspective on Science* (2008): 137-15, though this concentrates on the natural philosophy rather than the problems of cognition.

⁶⁰ Pearson, J., “Lectones de deo et attributis” (a very convenient compend of middle-century scholastic terminology, available, however, only in an inferior nineteenth-century edition), in *The Minor Theological Works of John Pearson, D. D.*, ed. E. Churton (Oxford: Oxford University Press, 1857), 1-265, at 125: “Ubi observandum, duplicem esse cognitionem intellectivam; abstractivam, et intuitivam. Abstractivam cognitionem appello, quae vel praescindit ab existentiari; ut cum cogitet quis de ente possibili; vel non tendit in existentiam immediate, sed per medium aliquid. Ut ab effectu colligitur causa, ut a testimonio creditur actio. Intuitivam cognitionem voco earn, quae est cognitio rei existentis, ut existentis, quasi per modum visionis [my italics]; ut, quemadmodum objectum visus apparet oculo, ita objectum intellectus, certam sui scientiam, sine aliomedio aut motu, immediate gignat in cognoscente.” It would be good to know whether any confessional line (such as anti-Puritan) could be consistently applied to those who downgraded the value of intuitive cognition.

⁶¹ Carriero, J., *Between Two Worlds. A Reading of Descartes' Meditations* (Princeton: Princeton University Press, 2008).

⁶² Gale, Th., *Philosophia Generalis*, 766.

⁶³ Browne, Th., *Religio Medici*, LX, in *Sir Thomas Browne's Works: Including his Life and Correspondence*, ed. S. Wilkin (London: William Pickering, 1835), 3 vols, II, 74.

⁶⁴ See Salatowsky, S., *De anima. Der rezeption der aristotelischen Psychologie in 16 und 17 Jahrhundert* (Amsterdam: B. R. Gruner, 2006). I would like to thank Michael Edwards for his oral comments on this topic.

⁶⁵ See Serjeantson, R.W., “The Passions and Animal Language”, *Journal of the History of Ideas* (2001).

⁶⁶ Gale, Th., *Philosophia Generalis*, 767: “Tertius gradus cognitionis est Imitatio, a Platone *eikasia* & *mimesis* dicta; quae experientiam haud aliter quam corpora umbra consequitur. Nam sicut sensus singularium rerum ideas reales & experimentales in se recipiunt; ita *phantasia* quae optimus naturae *Mimus* & imitator est, easdem ideas receptas contemplatur, indeque *phantasmata* sive aliasve imagines vivis coloribus depingit, unde emergit Imitatio.”

⁶⁷ Gale, Th., *Philosophia Generalis*, 767

⁶⁸ Bacon, F., *The Advancement of Learning*, II.4.3, ed. M. Kiernan (Oxford: OUP, 2004).

⁶⁹ Eschweiler, K., *Die Philosophie der spanischen Spätscholastik auf den deutschen Universitäten des siebzehnten Jahrhunderts* (Münster: Aschendorff, 1928), 251-325, at 319.

⁷⁰ Baumgarten, A.G., *Metaphysica* (Halle: Hammerde, 1757), II.3 § 573, 204.

⁷¹ For a different account, see Tonelli, G., “Zabarella, inspirateur de Baumgarten”, *Revue d'esthétique* (1956): 82-92.

⁷² For a series of papers attempting to prove the continuing influence of the intellectual virtues in the eighteenth, nineteenth and twentieth centuries, see Pozzo, R., ed., *The Impact of Aristotelianism on Modern Philosophy. Studies in Philosophy and the History of Philosophy* (Washington, D.C.: Catholic University of America Press, 2003).

⁷³ See Spruit, *Species*, I, 262, for the parallel point that Renaissance authors tended not to view the *species intelligibilis* as a representation ‘distinct from the mental act and cognitive content’.