3 Making Sense of *ingenium*

Translating Thought in Twelfth-Century Latin Texts on Cognition

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To think about how translation works and what it entails is to think about language's limits and about how, or even whether, it can adequately convey meaning. When the material being translated comprises writing about experience, another level of complexity is added. The texts translated have themselves already translated the non-linguistic into language. As testified by the oft-cited Italian dictum *traduttore, traditore* (translator, traitor), any translation necessarily involves a certain slippage from the source text to which it claims loyalty, through distortion, subtraction, or addition. A perfectly faithful translation between different linguistic systems and cultural contexts is simply not possible, even as translation more broadly is nonetheless both possible and necessary for the transfer of knowledge and ideas.[1]

Attention to translation can, in fact, make us sensitive to the slippages in meaning that take place within the same language, between texts or different language users as they attempt to make sense of technical or scientific terminology. Expanding "translation" to encompass acts of semantic transfer not only between different languages—interlingual translation—but also within what is ostensibly the same language—intralingual translation—brings to light changes in meaning that occur when trying to make sense of unfamiliar terms, a problem that necessarily besets human communication. That phenomenon is especially pronounced in texts that discuss processes of cognition.

Other pieces in this collection deal with the concept of experience as something rooted in the evidence of the senses, from which inferences can be drawn. When discussing internal mental processes, however, the experience in question comes not from empirical data but from the internal phenomena of thought. This cannot be faithfully replicated for confirmation in laboratory conditions or elsewhere, nor can it be understood or analyzed by an external observer, except once it has been translated into language. Finding the language (and, especially, finding a common language) for such unobservable experience is not easy.

I will be considering the specifics of attempts to build a scientific language to discuss cognition in texts written in Latin, principally in twelfth-century Italy, France, and England. My case study is the term

ingenium—meaning "ingenuity," "intelligence," "craftiness"—as it is used to refer to a mental faculty, power, or act by which a person arrives at a solution to a problem or intuits a theoretical truth.[2] The term describes a mental process by which non-empirical experience and learning can occur independently of the external senses. It is impossible to make a judgment about how much the authors and translators I discuss draw on their own experience of thought when attempting to translate its terminology, except to say that attempts to make sense of an account of the processes of thinking necessitate acts of comparison between the account and what goes on in one's own head. Reading and interpreting explanations of cognition, then, entail another kind of translation: one between accounts of mental activities and one's experience of them.

By and large, the twelfth-century Western European accounts of mental activities that I discuss were overshadowed by the subsequent translation into Latin of the eleventh-century *Liber de anima* of Avicenna (Ibn Sīnā) and Aristotle's *De anima*. The more systematic models of perception and cognition in those texts came to dominate psychology from the early thirteenth century onwards, as part of a wider intellectual movement involving the rise both of universities as institutions and of Aristotelian philosophy. In the twelfth century, however, different clusters of thinkers—around the medical schools at Salerno, the church school of Chartres with its interest in natural philosophy, and the more theologically minded Cistercian and Victorine monastic circles—still taught from different textual authorities with different terminologies.

Concepts and terms transferred between local academic spheres can at times be traced to individual moments of reading or translation.[3] The incredibly small number of actors in this earlier, twelfth-century context, more isolated from each other than in later periods, makes them a good case study for examining the kinds of translative and hermeneutic activities that are just as present, if harder to detect, in more networked and systematized communities of knowledge-making. This is not to say that in the thirteenth century the terminology of cognition suddenly becomes wholly stable and transparent—far from it. Rather, the inherent instability in scientific terms across periods and in different cultures is revealed especially clearly in the study of twelfth-century translation, through the attention to semantic change that translation demands at a time when authors themselves are so clearly wrestling to understand the terms they use.[4] This essay will consider several specific moments of translation to see what the choices made by individual actors reveal about their negotiations between different languages and different epistemological discourses.

This period saw a huge increase in translations from Greek and Arabic into Latin, and different translators often reached for the same terms to render concepts from quite different languages that cannot be mapped precisely onto each other. The material under discussion here exemplifies that: the same term in Latin replaces terms from Greek and Arabic

contexts that are non-identical in meaning. Such linguistic overlap counts as its own subgenre of the kind of semantic betrayal one might expect in translation, a phenomenon of linguistic slippage proper to the activity. I want, though, to stress the importance of another, secondary but intimately related phenomenon: not just interlingual translation, between languages, but intralingual translation, between the same language— what we might call *rewording*.[5]

For Jacques Derrida, certain phrases silently announce such rewording, such as *en d'autres mots* (in other words) or *autrement dit* (put differently), auto-deictic acts that signal an attempt to translate the sense of one sentence into another sentence in the same language.[6] The need for translation *within* a language demonstrates a real or potential failure of communication, which the rephrasing seeks to remedy, due to an uncertainty in the meaning of terms or phrases themselves. If a term were transparent, it would not need glossing, and such glossing amongst authors' giving accounts of the different powers of the mind or soul indicates that they lack a fixed set of terms that can be understood in the same way to talk precisely about the processes of cognition. The words themselves then must be remade or redefined almost every time they are used if they are to be meaningful. Individual words themselves must be repeatedly reworded. Because words needed to be found in Latin to translate terms from Greek and Arabic that entailed different accounts of cognition and perception, existing Latin terms themselves became even more opaque, contradictory, or equivocal than they had already been.

The twelfth-century philosopher John of Salisbury studied with some of the most influential philosophers and theologians of his time, Robert of Melun, Peter Abelard, William of Conches, and Gilbert of Poitiers, and was well placed to give a view on competing versions of the powers of soul. While in some of these versions the soul is one substance carrying out different actions in thought (memory, judgment, etc.), in others it has different qualities:

> But there are many who, in contrast, assert that the soul is indeed one substance in quantity but that it is formed of different qualities and, just as it is subject to different passions, so it can use many powers. And I indeed might believe there to be more of them than are expressed in books, since the soul, while it strays from the Lord, most ignorant of its origin, hardly recognizes its own powers.[7]

Not only does John note scholarly debate over how thinking happens, he asserts, in the theological language of his time, the limits of the soul (which we moderns might translate imperfectly as 'mind') that prevent it from grasping its own powers. The debate arises in no small part because we have so little understanding of how we understand. In

premodernity and even in modernity, evidence for how thinking works is for the most part experiential but not empirical—that is, not available to external sense-perception—and thus very hard to describe factually, which undercuts Roman Jakobson's certainty that "all cognitive experience and its classification is conveyable in any existing language. Whenever there is deficiency, terminology may be qualified and amplified by loanwords or loan-translation, neologisms or semantic shifts, and finally, by circumlocutions."[8]

Although it is possible to find terms and circumlocutions to translate words for tools or objects, for example, texts on cognition and the models and terms they put forward cannot themselves adequately transport the experience of cognition into a discursive domain of verbal articulation and reasoning. We have all, I assume, experienced that "eureka" moment, finding a solution to a problem, that lightbulb moment (and the metaphor of electric illumination is a good example of the figurative language needed to account for an experience that is literally indescribable). Attempting to describe how that solution was found, what it felt like, or what happened in our mind to arrive at it demands imperfect translation, translation that both succeeds and fails to put it into words. This uncertainty in understanding and in description gives rise to a host of competing models and terms for mental acts, faculties, powers, processes, activities (we moderns are not short of such terms)—all of them incomplete, labile, and equivocal. The result is that, in this context especially, talking about thinking requires continual acts of intralingual translation, rephrasing, definition, or explanation to make sense of it. That making sense, that translation, that putting things into our own words or into different words, is an epistemic activity: attention to translation, between languages or within a language, brings out the active, world-making nature of interpreting scientific texts and making them meaningful. As Lydia Davis puts it: "To read is to translate, and to translate is to write, to write to read, to read to write."[9] The necessary/impossible task of the translator and the necessary/impossible task of the theorist or of the premodern scientist can be mutually illuminating.

With these considerations in mind, I would like to turn to the word *ingenium*, often translated into modern English as "wit" or "ingenuity."[10] It is not possible to give an account of all the different models of cognition written or circulating in this period, and I will keep to a restricted number of case studies to follow the fortune of this one word in specific acts of translation, as it is used in mediating between Latin, Greek, and Arabic.

Ingenium's etymology hints at its status as a something innate or inborn (*in* + *genitum*, from *gigno*: I beget, give birth to) and in Classical Latin means either something like talent, natural personality, or character, or intelligence in a fairly general sense.[11] In the early Middle Ages, it becomes used by Neoplatonist writers to mean a more specific mental capacity, an activity of the rational mind for seeking out truth. John Scotus Eriugena,

in his gloss on Martianus Capella's *De nuptiis Philologiae et Mercurii*, describes the *naturale ingenium* as follows:

> Just as fire invisibly penetrates every corporeal creature, so natural *ingenium*, which is common to everything with a rational nature, is distributed individually to each mortal person born in this world, so that they would not be completely deprived of knowledge of their creator and of their natural dignity but, always illuminated by an interior light, they seek out themselves and their God through the assiduous search for the truth.[12]

Ingenium is some kind of power, activity, or function that leads to the discovery of new things. This explains why, when the Salernitan theologian and medical doctor Alfanus translated Nemesius of Emesus's turn-of-the-fifth-century *Peri physeōs anthrōpou* (*On Human Nature*) from Greek into Latin as *De natura hominis* in the late eleventh century, he chose to render the Greek concept *physikē ennoia* (natural thought) as *naturale ingenium*.[13] Nemesius's account of cognition, which Alfanus rendered accessible to medieval students of medicine, put forward a Galenic model of the brain in which the imagination (*imaginatio*) or fantasy (*phantastica/phantasia*) is in the first of three ventricles; it processes sense-images to be judged by the reason or intellect in the brain's middle ventricle (*ratio* or reason),[14] and these are finally stored in memory (*memoria*) in the rear ventricle. However, Nemesius invokes Plato as an authority for a process of understanding intelligibles or abstract conceptions, which do not come from the external senses and are stored by and recalled using a different function: not *memoria* but *rememoratio*. And these intelligible principles or truth are not processed by imaginative faculty located in the front of the brain:

> Non enim ex praecedente phantasia est intellegibilium receptio, sed ex disciplina vel naturali ingenio.

> The receiving of intelligibles does not come from the preceding *phantasia*, but from teaching or from natural *ingenium*.[15]

Nemesius holds that intelligible, abstract concepts are present inside us naturally, so that—in Alfanus's version at least—the *ingenium* is a power by which Platonic ideas are recalled (i.e., learned) absent any perception.[16] As Harry Austryn Wolfson has noted, this distinction between memory—*memoria* in its Latin translations—from sense-data and the recollection of ideas, *rememoratio*, is not original to Nemesius. It can be found in Plotinus's *Enneads*, 4.3.29 and Aristotle's *De memoria et reminiscentia*, 1, 450a.[17] In these accounts, transmitted by Nemesius, abstract intelligibles are acquired (or recollected in a specifically Platonic sense) through teaching (*mathēsis*) or natural thought (*physikē ennoia*),

rather than through sensory experience processed through the imagination and the intellect. The Greek version that Alfanus translated reads:

> ou gar ech proēgēsamenēs phantasias ē tōn noē tōn anagēpsis, all'ech mathēseōs ē physikēs ennoias.

> The receiving of intelligibles does not come from the preceding *phantasia*, but from teaching or from natural thought.[18]

Ingenium, then, is what allows us to understand principles *without* the experience of sensory things. There is a difference, however, the next time that Alfanus translates *physikē ennoia*:

> Naturali vero ingenio adinventa dicimus, quae firmiter omnibus insunt, ut esse deum. Hanc autem Plato rememorationem esse dicit ideae.

> We say things to be discovered through natural *ingenium* when they are things firmly implanted in all of us, for example the principle that God exists. Plato calls this the recollection of ideas.[19]

For comparison, here is Nemesius's Greek version, which clarifies that he is referring not to a mental power but to something known innately:

> physichas de legomen ennoias tas adidachtōs pasi prosousas hōs to einai theon.

> We call natural thoughts those things present to all without teaching, such as that God exists.[20]

Whether deliberately or accidentally, Alfanus gives a new version. Whereas in the first instance, *physikēs ennoias* was a genitive singular— "of natural thought"—in the second, *physichas ennoias* is an accusative plural—"natural thoughts." Alfanus has rendered both as the singular faculty of *naturale ingenium*. In this second case, Nemesius is saying that the natural thoughts are in us, whereas Alfanus says that these principles are *recognized by* the power of *ingenium* that is in us. It is not hard to understand why Mark D. Jordan categorizes Alfanus's translation as "partial and defective."[21] For the matter at hand, however, the question of the correctness of the translation may be less interesting than the work Alfanus is doing as he tries to make sense of a potentially ambiguous account of the learning or recollection of ideas that do not come from any previous sense-perception processed through the imagination. He has made Nemesius's account fit with earlier Latin models of intuition through an act or a power called *ingenium*, an act of discovery by the rational mind. This implies a model of cognition distinct from the Galenic one increasingly available to his colleagues in Salerno through the translations

of Constantinus Africanus, especially the latter's *Pantegni*. As Alfanus's problems show, haunting the problem of the translation of psychological terms is the underlying difficulty of giving any kind of secure account or model of how we grasp intellectual principles.

It is notable that when Nemesius's text was translated into Latin a second time, by Burgundius of Pisa in the 1160s, the translator more accurately rendered the first instance in the genitive singular *physikēs ennoias* as *naturale intentio* and the second in the accusative plural *physichas ennoias* likewise as the accusative plural in Latin: *naturales intentiones*. In his first mention of the reception of intelligibles, Burgundius translates Nemesius as follows:

> non enim ex praecedenti phantasia intelligibilium resumptio, sed ex disciplina vel **ex naturali intentione**.

> for the recovery of intelligibles does not come from the aforementioned *phantasia* but from teaching or from natural *intentio*.[22]

"Ex naturali intentione" means something like "from a natural [i.e., innate] concept," which holds also for his second translation of *ennoia*:

> **naturales** autem dicimus **intentiones** quae sine doctrina omnibus adsunt, ut esse Deum.

> we call them natural concepts because they are present to all people without teaching, for example, the existence of God.[23]

Intentiones continued to mean mental concepts throughout the Middle Ages, as it did for Roger Bacon in the thirteenth and Jean Buridan in the fourteenth century, but all the terms involved are polysemous, slippery, and ambiguous.[24] *Ennoia*, for example, can mean an act of thinking, a concept or conception, an intent, or the meaning of a word.[25] *Ingenium* and *intentio* themselves have multiple meanings, and all three words are being used to convey a process that cannot be perceived by the senses and is hard to pin down in language.[26] Burgundius's and Alfanus's problem is the problem of every translator of models of cognition in this period (and every philosopher, theologian, or medical doctor who wrote a model of cognition is a translator in the intralingual sense proposed above): How can one make sense of different, ambiguous textual accounts of thinking in the absence of any empirical evidence beyond one's own opaque experience of thought? Attention to the problems of trying to capture precise meanings in new language brings the epistemological and discursive uncertainties of psychological writing into clearer focus.

Alfanus's translation choice was to prove influential, and the various attempts to make sense of it are illuminating, for example that of the English natural philosopher Adelard of Bath (c. 1080–c. 1152), grappling with the Galenic model of the human brain and its relation to thinking

that he found in Alfanus's Latin rendering of Nemesius. In his *Quaestiones naturales*, Adelard combines the imagination (the capacity to create images) and the *ingenium* (the capacity to intuit or perceive an idea):

> In cerebro enim [anima] utitur **fantastico** motu, id est **ingeniali**; rationali etiam, id est iudicio; set et memoriali, id est recordatione.

> In the brain [the soul] uses the movement of **imagination**, that is of the *ingenium*; rational movement, namely, judgment; and also the memorizing movement, namely, recollection.[27]

Adelard's account is confused, or confusing, from the point of view of the Galenic model, in which the imagination is situated in the front cell of the brain, its role being to process the sense data brought to it by the senses. Adelard himself seems to follow this model in a shorter work, *De eodem et diverso* (*Of the Same and the Different*).[28] In Alfanus's version, Nemesius defines the *phantastica* as a power of the irrational soul whose operation is caused by the senses ("virtus irrationalis animae per sensus operativa").[29] Where Alfanus's translation distinguishes *ingenium* as a power that, unlike the imagination, does not deal with sense-data, Adelard has brought them together. He has done something similar in the case of memory, bringing memory and recollection (as *recordatio*) together as one power.

What prompted this decision? What does fantasy or imagination mean now that it has been merged with *ingenium*?[30] Is there something about imagining—picturing non-existent objects—that is similar to the conceptual or intuitive leap carried out in or by *ingenium*? I raise these questions not to resolve them, but to suggest that they are at stake for writers and readers, medieval and modern, trying to make sense of what thought is and how it works to adjudicate between ambiguous terms and their own experience of thought.

William of Conches (c. 1090–post-1154), one of the most influential figures of the twelfth-century Platonizing movement often referred to as the Chartrian School, is an even more revealing example of the problems of making sense of ambiguous terms and descriptions. Like Adelard, he shows the entanglement of imagination and ingenuity or, more specifically, between *phantastica* and *ingenium*. Up to this point I have been writing under the assumption that Latin writers saw no difference between the Latin *imaginatio* and the Greek *phantastica*, but William makes his own translation choices when dealing with this point, both in proposing a different understanding of the Greek loan-word and in engaging in a series of intralingual acts of rewording within his own text. We can see from one paragraph to the next how he attempts to find a terminology to make sense of the processes of cognition. In several of his works William mentions a tripartite structure of the mind, which has *ingenium*, *ratio* (reason), and *memoria* (memory). For example, in his commentary on Boethius's *De consolatione Philosophiae* (*Consolation of Philosophy*), he writes:

> Three things make someone perfectly wise: *ingenium*, which is the
> natural power to understand something quickly; reason [*ratio*],
> which is the judgment of the things grasped; and memory [*memoria*]
> of past things.[31]

The definition of *ingenium* recurs elsewhere in William's work in a more or
less identical formulation, and he also correlates the difference in people's
speed of understanding with the speed of their *ingenium*.[32] Another indi-
cation of how William intends the term can be found in a different for-
mulation of the trio of powers that cause wisdom. In his *Dragmaticon*,
they are *intelligentia* (intelligence), *ratio*, and *memoria*. Either William
has changed his mind about the different powers of the mind in this later
work or he considers *ingenium* and *intelligentia* to be interchangeable.
Ingenium here is not given the associations with the imagination that
Adelard introduces. William defines the imagination quite differently in
his gloss on Boethius immediately after his definition of *ingenium*, quoted
just above. The *imaginatio* is "a power of the soul [*vis animae*] by which
a person perceives the form of a thing not present," related not to intel-
lection and understanding, but to the forming of images.[33]

Since William does not think *ingenium* and imagination are the
same, his use of the term *phantastica* is baffling at first. William locates
ingenium in the front ventricle of the brain, using it interchangeably with
phantastica:

> In the first part of the head there is a cell of the brain in which is
> found the power of understanding that is called the *phantastica*. It
> is proved that this is so by doctors having seen someone of good
> *ingenium* to have lost their *ingenium* when wounded in that part of
> their head.[34]

The term *phantastica* is now defined to mean something in complete
opposition to Nemesius's definition. Maybe William, following Adelard,
did not realize that *imaginatio* and *phantastica* are Latin and Greek terms
for the same power; maybe he was introducing his own scheme of mental
powers; or maybe both. Instead of the production of images, William
has made the term mean the grasping of principles.[35] He gives two inter-
lingual translations for his idea of the *phantastica*, most directly as a *vis
intelligendi* but also, slightly more indirectly, as *ingenium*. As in Adelard,
the need for these terms to be defined or reworded in order to make sense
is evidence of the ambiguity that marks the discussion of cognition in this
period and beyond.

William's *Dragmaticon philosophiae* exhibits a similar pattern of
interlingual translation. Here he justifies his tripartite model of the mind
by discussing head wounds in a passage that echoes similar material in
Adelard's *Quaestiones naturales* and ultimately derives from a passage
in the *De natura hominis*, immediately following Nemesius's distinction

between the memory of things from the *phantastica* and the memory of things from the *naturale ingenium*:³⁶

> Concerning someone of sound *ingenium*, reason [*ratio*], and memory [*memoria*], doctors have recorded that such a person, receiving a blow to the first cell [of the brain], had lost the power to understand [*vis intelligendi*], but retained reason [*ratio*] and memory [*memoria*].³⁷

Though he does not feel the need to gloss "reason" and "memory," William takes the trouble to rephrase *ingenium*, testifying to the term's ambiguity. In fact, in the next passage his terminology slips, so that he first renames *ingenium* as *intelligentia*, then makes it *vis phantastica*, and then *intelligentia* again:

> Again it was seen [*visum est*] that whenever someone is wounded in the rear cell, keeping intelligence [*intelligentia*] and reason [*ratio*], they lose memory [*memoria*]. For Solinus recounts in his *Collectanea* that when someone received a wound there they became so forgetful that they did not know they have a name. Another was seen [*visus est*] to lose their reason when wounded in the middle cell, while still keeping memory and the phantastical power [*vis phantastica*]. Therefore the ancients rightly said that wisdom [*sapientia*] had its seat in the head, or that Minerva was born from the brain [*cerebrum*]: for these things, which make wisdom, namely intelligence, reason, and memory, have their seat in the head.³⁸

It is significant that William, like Adelard, justifies his psychological propositions through the use of witnessed empirical experiences, real or hypothetical.³⁹ In the passage just cited, he twice signals the visual nature of the phenomena (*visum est/visus est*). The fact that he returns repeatedly to such empirical evidence—secondhand as it is—to justify his account of the processes of cognition suggests the value of experience, even (or especially) for an area of study in which sense-experience is almost impossible to come by. If experience is something that has to be narrated, that is, put into language, in order to be meaningful, the disjunction between the uncertain experience of thinking and the relative clarity of observed and narratable phenomena is illustrative. A comparison between the two throws into relief the instability of terms used to describe the invisible, yet nonetheless experiential aspects of mental powers and processes.

Danielle Jacquart has noted William's departure from medical orthodoxy and his innovation in associating the *ingenium* with *intelligentia* in the passage just cited.⁴⁰ Making these two terms equivalent to the *phantastica vis* is, here, an even more radical departure from the norm than the introduction of *intelligentia*. The term *phantastica vis* is one I myself struggle to translate. It should really mean the "imaginative power" but cannot do so here, given William's own intralingual translations in

the passage. This difficulty, crucially, puts me in the same situation as a twelfth-century cleric or doctor attempting to decode treatises on cognition. William appears to be using the term interchangeably with intelligence, a power of understanding, so does this mean he has misunderstood the loan-word *phantastica*, taken from the Greek?

Alfanus's translation is absolutely clear that "phantasia vero, id est imaginatio" (the *phantasia* is the imagination), and Thierry of Chartres, writing his *Librum hunc*, a commentary on Boethius's *De trinitate*, in the 1140s, more or less contemporaneously with William, had no problem identifying the power located in the *phantastica cellula* of the brain as the imagination of earlier authorities.[41] Thierry and William were both influential teachers of the School of Chartres and their students would have had to negotiate these competing models.

William himself negotiates between different textual authorities translated from Greek and Arabic, not to mention works in Latin that themselves require interpretation. Especially when considering intralingual translation, it is not necessarily possible to separate out the functions of the translator, the teacher, and the author. To write is to teach, to teach is to translate, and each requires complex interventions on the part of the actor. It would be a simple thing to dismiss William by saying he is confused as to what the terms meant in earlier works, but, as with Adelard, this confusion, inadvertent or deliberate, is symptomatic of attempts to talk about thinking and to negotiate between different models of thought. In the twelfth century, authors had to contend with the different models of the soul and its powers found in Augustine's *De trinitate*, 10 (*memoria*, *intelligentia*, *voluntas*), Boethius's *De consolatione Philosophiae*, 5, pr. 4 (*sensus*, *imaginatio*, *ratio*, *intelligentia*), Aristotle's *De anima* (*vegetabilis*, *sensibilis*, *rationalis*), and Galen (*imaginatio*, *ratio*, *memoria*). More broadly, such uncertainty is a fundamental problem for attempts to find a common language with which to discuss the tricky phenomena of thought.

In his *Dragmaticon*, William articulates his own tripartite model (*ingenium/intelligentia, ratio, memoria*), drawing on the Galenic model inherited through Constantinus Africanus and Nemesius while departing significantly from it. Just when we might be beginning to understand this model, however, he introduces a separate tripartite model of the soul, bringing *ingenium* back but this time as part of a different trio:

> Beyond these faculties, there are others that serve reason and the intellect, such as *ingenium*, memory [*memoria*], and opinion [*opinio*]. *Ingenium* is the natural power to perceive something quickly …. Memory, for its part, is the power of firmly retaining things known. Opinion truly is the perception of the thing with some doubt.[42]

I want to flag up how symptomatic of twelfth-century psychology this inconsistency is. It is a consequence of bringing together incompatible

terminology and models of thought, although perhaps the idea of a "model" of thought implies an account of cognition more detailed than what is actually on offer. Instead, we can observe attempts to fix in language an act or experience, in the case of *ingenium* the experience of suddenly "getting" an idea without being able to give an account of it that could be called scientific. The recourse to textual authority, the backbone of medieval knowledge production, is of limited use given the proliferation of different models and the shifting nature of the terms used in each of them. What remains are repeated attempts at translation within and between languages and, always subtending the discussion of internal mental processes, translation from the subjective experience of thought to the shared space of spoken or written discourse.

   John of Salisbury (1115/20–1180) would have been exposed to the theories of William of Conches. Writing in the middle of the twelfth century, he gives an account of cognition in which *ingenium* has replaced imagination in the Galenic tripartite system, so that nature first drives the *ingenium* to perceive certain things,[43] which it places in the storehouse of memory, while reason judges the things perceived. Taking a definition from Hugh of St. Victor's *Didascalicon* (and misattributing it to Isidore), John defines *ingenium* as "a certain power, placed naturally in the spirit, that functions by itself."[44] Something similar can be seen in *De anima* of the Cistercian monk Isaac of Stella (c. 1100–c. 1170):

> *Ingenium* is truly said to be a power of the soul [*vis animae*], or an intent [*intentio*], which extends itself and spurs itself towards the discovery of unknown things. *Ingenium* therefore seeks out unknown things, reason [*ratio*] judges the things that are found, memory [*memoria*] stores the things judged and furthermore offers things to be judged.[45]

It might seem that there is a stabilization in the model of cognition here, but things are not that simple. What is a *vis animae*, exactly, and how does it compare to an *intentio* (the latter term chiming with Burgundius of Pisa's contemporaneous translation of *ennoia*)? To say that the precise term does not matter—*ingenium*'s perception of ideas is just something that somehow happens: ideas are instantaneously grasped and then judged—is to accept the impossibility of adequately fixing the phenomenon it attempts to convey within a scientific taxonomy. This ambiguity, this inability to say what has happened, this need for additional terms—power, intention, and so on—to reword what is being discussed, is, though, precisely the point. For Isaac, the term *ingenium* needs redefinition or intralingual translation for it to make sense; even then, it runs up against the chasm between how thinking works, or is experienced, and how it can be described in a scientific or analytic way. Isaac continues his presentation by offering an analogy of ingestion, mastication, and rumination:

> The ingenium therefore brings what it finds to the reason, the memory recalls what it hides away, the reason truly is, so to speak, placed above present things, and as it either chews up in the mouth of the heart, so to speak, what the teeth of the *ingenium* gather in or else chews over what the stomach of memory brings back.[46]

To complicate matters, Isaac goes on to make the point that all three powers are activities but share the same *essentia* (essence), and he immediately puts forward a separate fivefold schema of cognition, along the lines of the Boethian fourfold model, so that the soul apprehends things through *sensus* (sense/s), *imaginatio* (imagination), *ratio* (reason), *intellectus* (intellect), and *intelligentia* (intelligence).

Isaac's *De anima* was addressed to another Cistercian, Alcher of Clairvaux, who incorporated much of it into his own text (misattributed in the Middle Ages to Augustine), *De spiritu et anima*, which circulated widely in monastic circles. *De spiritu et anima* is notable for its astonishing gallimaufry of models of cognition and three-, four-, and fivefold models of passions, virtues, powers, and activities of the mind, spirit, or soul. Its account of the workings of the spirit, the mind, the imagination, the intelligence, and the reason is anything but systematic. The fourth chapter repeats Isaac's claim of the unicity of the rational soul and advances his five-part scheme of mental activity running from sense up to intelligence.[47] Then, in the eleventh chapter, Alcher repeats Isaac's definition of *ingenium* after attempting to put the powers of the mind in order:

> And whatever sense perceives, imagination represents, cogitation forms, *ingenium* seeks out [or discovers], reason [*ratio*] judges, memory [*memoria*] preserves, intellect [*intellectus*] separates, intelligence [*intelligentia*] comprehends and brings it to meditation or contemplation.[48]

What exactly does *ingenium* mean here? What exactly does it mean anywhere? The term's simultaneous vagueness and overdetermination means that it needs retranslating, redefining, retranslating more or less each time it is used.

It is in this context that I wish to consider my final example of translation: the reworking from Arabic into Latin of Avicenna's *Liber de anima*, made in Toledo at some point between 1152 and 1166.[49] This case recalls another aspect of translation, that a translator's choice to select a given word as a translation sheds light on that word's meaning in the target language. Here the use of the term *ingenium* not as a faculty in the brain but as an intellective act is significant. *Ingenium* is found as a term in the Latin version of Avicenna, but in a more specific and limited sense than that used by the European authors we have seen. Avicenna uses the Arabic *ḥads* (guessing correctly, hitting on the right answer) to translate Aristotle's *eustochia* (skill at shooting at a mark).[50]

In the *Posterior Analytics*, *eustochia* is a particular kind of *agchinoia* (ready wit, sagacity, shrewdness) that enables a person to intuit the middle term of a syllogism.[51] Aristotle's examples include someone who observes that the moon's bright side always faces the sun and concludes that it draws its brightness from it, or who sees someone talking to a rich man and concludes that it is to borrow money from him. In the Latin Avicenna, *ḥads* is translated as *ingenium*, which is glossed as an "actus rationis, cuius propria vi invenitur medius terminus" (act of the rational faculty which finds the middle term [of a syllogism] using its own power). It is through finding the syllogism's middle term that intelligible or abstract things can be intuited. This act can come about through one's own *ingenium* or through teaching, which ultimately derives from the ingenious act of the first person to work it out.[52] The Latin Avicenna goes on to say that some people are endowed with such *ingenium* that they can find the middle term—reach an understanding of causes and principles—without teaching, and those people can be regarded as prophets, arriving at spiritual truths directly.[53]

Here the translation choice actually clarifies something about the term *ingenium*. Not only is it important as an authoritative model for later readers, writers, teachers, and students to follow, but the material in the source text (here *ḥads*) shows us something about what the Latin *ingenium* meant to the translator/s at the moment they put it into Latin. There is, though, an added and familiar complication. When Avicenna's *Liber de anima* came to be translated into Latin, his translator/s rendered the term *ḥads* first as *subtilitas* and later as *ingenium*.[54] Does this variation indicate hesitation or uncertainty? The moment of translation is one of both clarity and confusion.

In fact, the translation and circulation of Avicenna's *Liber de anima* and Aristotle's *De anima* transformed the discussions of cognition that were possible in the Latin West by offering a far more detailed and systematic account of how thinking happens, one in which there was no place for any part of the brain equivalent to the *ingenium*. Avicenna replaces the Galenic tripartite model of the internal senses with a five-fold model: common sense, imagination, *imaginativa*, *estimativa*, and memory.[55] *Ingenium* is absent here as a mental power or *virtus*, but it survived as a term in the context of medical theory and practice, the most obvious example being Gerard of Cremona's Latin translation of the Arabic version of Galen's *Peri Therapeutikēs methodon* (*On the Therapeutic Method*), which Gerard entitled *De ingenio sanitatis*.[56]

Ingenium did not thrive as a term in discussions of the powers of the mind after the twelfth century, although it did continue to be used as term for intelligence. In the mid-thirteenth century, Albert the Great saw it as a natural ability that allows leaps of conjecture (as opposed to more thorough rational inquiry) or else as a natural mental capacity in a more general sense, allowing for it to be fast or slow.[57] Importantly, Albert does not include *ingenium* as a power worthy of scientific discussion and

explanation, in stark contrast to the mental powers laid out by Avicenna, such as the common sense, *estimativa*, or memory, which Albert discusses in turn in his *De homine*.[58] The Aristotelian-Avicennian paradigm shift in the science of the mind, and in *scientia* more generally, left no place for *ingenium* as a term with a specific meaning that would make it susceptible to scientific analysis and system-building. While still in use, it went from being a technical term, capable of being incorporated within a reasoned account of how thinking works, to being more like a normal part of language, albeit one whose ambiguous meaning betrays its complex history of translation. (It is interesting here to speculate whether a characteristic of such "normal" or "non-scientific" language is that its ambiguities are allowed to be remain in suspension, its competing meanings still entangled.)

The success or failure of a particular term or a particular account of the mind may not, though, be what is of chief interest in this study. Instead, the struggles for meaning pursued in and through translation in the case of *ingenium* are of broader relevance to the history of science, in particular the history of cognitive science. The problems that beset the term *ingenium* are present also for the terminology of cognition in general, and in particular for words such as imagination, fantasy, common sense, and intelligence. These may present as transparent in their meaning to the casual observer, but those trying to discuss them analytically must perform continual acts of intralingual translation to make sense of them as they attempt to map the opaque processes of thought in language. This is even more the case when the terms themselves mask overlapping and competing theories and conceptual frameworks.

These problems of clarity are due in no small part to the translation shifts that occur during its interlingual translation, but this more obvious form of translation should not blind us to the universal practice of intralingual translation in the search for a shared analytic language, in which terms' meaning can change subtly among different users of what is ostensibly the same language. What is more, as new scientific accounts emerge with their own terminology, older terms lose their technical salience while still remaining in use. Such slippages and struggles are not historical phenomena particular to European premodernity but happen across cultures and times. Ana Rojo has recently stressed the mental experience—cognitive and emotional—of a translator who starts from a source text and, in translating, must construct a meaning from the "mental simulation" that is "central in the comprehension of language" while negotiating between cultures, ideologies, and their own personal idiosyncrasies.[59] Translation entails complex mental activity, hard to fix in words, and its complexity is only compounded in the translation of texts that are themselves *about* mental activity. Adapting Lydia Davis's dictum: to translate is to write; to write is to think; to think is to translate. Paying close attention to the historical work of translators, to the multitude of individual acts of interlingual and intralingual translation

of scientific works, sheds light on the nature of translation, and each kind of translation sheds light on the other. More than that, though, such a methodology is necessary for the history of science in its task of explaining how concepts and frameworks of knowledge develop, change, and decline over time.

Notes

1 Jacques Derrida brings out some of this tension in his paradoxical assertion not only that nothing is translatable, properly speaking, but that, simultaneously, nothing is untranslatable. See Derrida, *Qu'est-ce qu'une traduction 'relevante'?*, 19–20.

2 I will give a more thorough account of *ingenium* in a monograph-in-progress entitled *Engines of Invention: Thinking Machines in the High Middle Ages*.

3 For Svenja Gröne, for example, the Cistercian William of Saint-Thierry's *De natura corporis et animae* introduced ideas about physiology from Constantinus Africanus into his monastic circles that he almost certainly found in his reading the "Chartrian" natural philosopher William of Conches. Gröne, "Le premier écrit," 127–29. See also William of Saint-Thierry, *De natura corporis et animae*, ed. Lemoine, 30; Lemoine and Picard-Parra, *Théologie*, 181–82; Jordan, "Construction," 47.

4 For a useful introduction to different twelfth-century theological and philosophical accounts of psychology, see Michaud-Quantin, "La classification."

5 Jakobson, "Linguistic Aspects of Translation," 233: "Intralingual translation or *rewording* is an interpretation of verbal signs by means of other signs of the same language."

6 Derrida, *Qu'est-ce qu'une traduction 'relevante'?*, 29.

7 Iohannes Sarisberiensis, *Metalogicon*, 4. 9, ed. Hall and Keats-Rohan (unless stated otherwise, all translations are mine). See Künzle, *Das Verhältnis der Seele*, 89. This is taken up in a very different and more sustained way in Avicenna, *Liber de anima*, 5. 7, ed. Van Riet, 154–74.

8 Jakobson, "On Linguistic Aspects of Translation," 234.

9 Davis, "To Reiterate," 215.

10 Lewis, "Francis Bacon and Ingenuity."

11 Vallini, "*Genius/ingenium*," 6–7.

12 Eriugena, *Annotationes in Marcianum*, 8. 4, ed. Lutz, 13. For a twelfth-century equivalent, see Richard of Saint-Victor, *Benjamin major*, 3. 21, *Patrologia Latina*, 196:130BD.

13 For discussion on Nemesius, see Chase, "Némésius d'Émèse." For background on Alfanus, see Jacquart, "Les traducteurs du XIᵉ siècle."

14 Wolfson, "Internal Senses," 72–73 and *passim*.

15 Nemesius, *Premnon physicon*, 11, ed. Burkhard, 88.8–10.

16 The continuing influence of the idea of the inborn nature of abstract concepts continues into the early modern period, as can be seen in John Locke's rejection of it in his *An Essay Concerning Human Understanding* (1689), 1. 2.

17 Wolfson, "Internal Senses," 74–75.

18 Nemesius, *De natura hominis*, 13, ed. Morani, 69.3–4; see Wolfson, "Internal Senses," 74–76.

19 Nemesius, *Premnon physicon*, 11, ed. Burkhard, 88.24–26.

20   Nemesius, *De natura hominis*, 13, ed. Morani, 14–15.
21   Jordan, "Construction," 45, n.10.
22   Nemesius of Emesa, *De natura hominis*, 12, ed. Verbeke and Moncho, 87.82–84.
23   Ibid., 88.95–96.
24   Roger Bacon, *Questiones super undecimum*, 20; Zupko, "On the Several Senses," 260–61.
25   See *Online Liddell-Scott-Jones Greek-English Lexicon*, s.v. ἐννοίας.
26   Boethius, for example, uses *naturalis intentio* to mean the inclination that impels the human being towards the good in *De consolatione Philosophiae*, 3, pr. 2, trans. Stewart, Rand, and Tester, 240–41. On the multiple meanings of *intentio*, see *Dictionary of Medieval Latin from British Sources*, s.v. intentio.
27   Adelard of Bath, *Questiones naturales*, 17, ed. and trans. Burnett, 124–25. I have emended Burnett's translation, which rendered *ingeniali* as "of the intelligence."
28   Adelard of Bath, *De eodem et diverso*, ed. and trans. Burnett, 70–71.
29   Nemesius, *Premnon physicon*, 11, ed. Burkhard, 72.17–18.
30   Winthrop Wetherbee has, incorrectly in my view, taken the term *ingenium* to be more or less synonymous with imagination in writing about the mind in the twelfth century. Wetherbee, "Theme of Imagination."
31   William of Conches, *Glosae super Boetium*, 1, pr. 1, ed. Nauta, 19, and cf. ibid., 4, m. 7, ed. Nauta, 282. William of Conches, *Dragmaticon*, 6. 18. 18, ed. Ronca and Badia, 242–43.
32   *Glosae super Platonem*, proemium, ed. Jeauneau, 65; ibid., 34, 102; *Dragmaticon*, 6. 26. 1, ed. Ronca and Badia, 266.
33   William of Conches, *Glosae super Boetium*, 1, pr. 1, ed. Nauta, 22.
34   Ibid., 1, pr. 1, 19. Cf. ibid., 4, m. 7, 282.
35   Nemesius says (through Alfanus), in *Premnon physicon*, trans. Alfanus, c. 13, ed. Burkhard, 89, that the "phantasticum igitur tradit dinoscibili apparentia" (the *phantasticum* passes things perceived to the recognizing faculty, also called the *rationale* or "rational faculty" immediately afterwards). The relation between the *phantastica* and the *phantasticum* is not especially clear in Alfanus.
36   Adelard of Bath, *Questiones naturales*, 18, ed. Burnett, 126–27. Analyzing William's specific vocabulary choices in this passage, Danielle Jacquart concludes that neither Nemesius nor Constantinus was the immediate source (Jacquart, "Les emprunts," 324) but nonetheless, see Nemesius, *Premnon physicon*, 13, ed. Burkhard, 89.11–90.21; Pigeaud, "La psychopathologie de Galien."
37   William of Conches, *Dragmaticon*, 6. 18. 7, ed. Ronca and Badia, 242.
38   Ibid., 6. 18. 18, 242–43.
39   Adelard, *Quaestiones naturales*, 18, ed. and trans. Burnett, 126–27: "Whoever first treated these three cells separately, I guess, learnt this very thing by experiencing it with his senses."
40   Jacquart, "Les emprunts," 343–44.
41   Nemesius, *Premnon physicon*, 6, ed. Burkhard, 72.20; Thierry of Chartres, *Librum hunc*, 2. 4, ed. Haring, 91–92.
42   William of Conches, *Glosae super Platonem*, c. 34, ed. Jeauneau, 102.
43   There is a certain amount of ambiguity about the term *percipio*, which can mean either sensory perception or mental apprehension. While it means the

latter here, "perception" cannot help but recall the sensory mode of know-
ledge, which is, in fact, its opposite.

44 Iohannes Sarisberiensis, *Metalogicon*, 1. 11, ed. Hall and Keats-Rohan. Cf.
    Hugh of St. Victor, *Didascalicon*, 3. 8, *Patrologia Latina*, 176:771B.
45 Isaac of Stella, *Epistola de anima*, *Patrologia Latina*, 194:1879BC.
46 Ibid., *Patrologia Latina*, 194:1879C.
47 *De spiritu et anima*, 4, *Patrologia Latina,* 40:782.
48 Ibid., 11, *Patrologia Latina*, 40:787.
49 For an in-depth discussion of translation choices made by the Latin translators
    of Avicenna, see Bertolacci in this volume.
50 For the centrality of *ḥads* in Avicenna's epistemology see Gutas, "Intuition
    and Thinking."
51 *Posterior Analytics*, 1.34, 89b10. See Gutas, "Ibn Sina [Avicenna]"; Jacquart,
    "La notion d'*ingenium*," 65; Goichon, *Lexique*, §140; Rahman, *Avicenna's
    Psychology*, 36–37. *Eustokhia* is rendered by both James of Venice and Gerard
    of Cremona as *subtilitas*, a form of *sollertia*, in their Latin translations of
    the *Posterior Analytics*. See Aristotle, *Analytica Posteriora*, 1.34, ed. Minio-
    Paluello and Dod, 67.20 and 246.20.
52 Avicenna, *Liber de anima*, 5. 7, ed. Van Riet, 152.94–99. The Latin of
    this passage includes the curious assertion that "subtilitas autem est supra
    ingenium" (subtlety is above ingenuity). The Arabic actually has *al-dhakāʾ*
    (acumen, which the Latin *subtilitas* translates here) as a power (*quwwa*) of
    ḥads rather than being *above* it as in the Latin version, which may come
    from reading *quwwa* as *fawqa*. I am grateful to Michael Chase for generously
    sharing his insight and knowledge on this point.
53 Avicenna, *Liber de anima*, 5. 7, ed. Van Riet, 153.100–18.
54 The Latin translators of Avicenna render *ḥads* by *subtilitas* at Avicenna, *Liber
    de anima*, 5. 6, ed. Van Riet, 151.79 (equivalent to the Arabic at *Avicenna's
    "De anima,"* ed. Rahman, 248.15). At *Liber de anima*, 5. 7, ed. Van Riet,
    152.94–99 (equivalent to the Arabic at *Avicenna's "De anima,"* ed. Rahman,
    249.6ff.) it is rendered as *ingenium*. I am, again, grateful to Michael Chase for
    his invaluable advice. See also Jacquart, "La notion de l'*ingenium*," 65.
55 Avicenna, *Liber de anima*, 5, ed. Van Riet, 1–67.
56 Jacquart, "La notion d'*ingenium*," 67–68. The popularity of this title is shown
    in its survival in later manuscripts for the later translation of Burgundius of
    Pisa and Pietro d'Abano, despite their preference for *terapeutica methodos*.
    See Jacquart, "De l'arabe au latin," 173.
57 Albert the Great, *Super Ethica*, 6. 9, ed. Kübel, 470.548; 6. 14, 479.557 and
    483.561. See also Albert the Great, *Metaphyisca*, 2. 12, ed. Geyer, 103.
58 Albert the Great, *Summa de homine*, 35–41, ed. Borgnet, 306–56.
59 Rojo, "Translation," 723.

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