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Introduction

The Cognitive Turn and Medieval History

An Exploration of its Potential

Numerous Romanesque-Gothic churches in the province of Groningen feature awkwardly positioned windows. In the past, they made devotees adopt hard poses to follow the Mass from the outside, as you can see in Figure 1. Traditionally, these holes-in-the-wall are interpreted by pointing to the accumulation of soil through the centuries or to the presence of lepers who happened to be expelled from the local Christian community.¹ The popularity of what is officially referred to as a *hagioscope* may, however, be best explained by its ability to aid overwhelming reverence for God. This holy fear was architecturally engineered and further articulated by uncomfortable poses that directed perception and cognition.



Fig. 1: Hagioscope in the church of Marsum, Province of Groningen, 1st half 12th century. (Kerk Marsum, <https://www.kerkmarsum.nl/>)

The interconnection between embodied, spatially determined knowledge and brain-controlled knowledge, such as is exemplified in the novel denotation of the hagnoscope is central to recent discussions in the field of history. The history of ideas, intellectual history and the history of science, all branches of the historical discipline which have for decades concentrated on the human *ratio*, have widened. Today they are becoming more open to endorsing the integration of space, hands-on or practical experience as well as the senses and emotions as factors in knowledge production. Consequently, historians, including those who concentrate on the study of the Middle Ages, fully recognise that emotions play a crucial part in how we perceive and remember experiences, as well as how human beings turn them into productive ideas.

In the following, the initiators of this special issue of *Groniek*, Babette Hellemans and Catrien Santing, set out to present ‘the cognitive turn’. This introduction is thus an exploration of its paradigmatic implications, in which the usefulness and applicability of cognitive concepts for historical studies are explained. The present edition of *Groniek* will hopefully function as an introduction of the cognitive turn in the Netherlands. It investigates whether historians, especially those who concentrate on the medieval period, could profit from cognitive expertise, but also how they may themselves contribute to the field of cognitive sciences. We decided to concentrate on the Middle Ages, as a comparatively large number of medievalists happen to be interested in ‘cognition’. This introductory article sketches the history as well as historiography of the ‘cognitive turn’ and familiarises a wide public of students and others who are curious to hear about new developments with the topic. The four subsequent articles are written by Victoria Blud, Julia Dresvina, Theo Lap, and Micol Long. All illustrate what the consideration of emotions in relation to the gathering, production and transfer of knowledge could contribute to the domains of History and Medieval Studies. In an epilogue Rina Knoeff and James Kennaway argue that cognitive scientists may look more to historical research rather than relying fully on laboratory research.

Victoria Blud’s and Juliana Dresvina’s volume *Cognitive Sciences and Medieval Studies: an Introduction* (2020) was our main source of inspiration. The book is groundbreaking and no doubt will remain a treasure-trove for both medievalists interested in cognitive sciences as well as psychologists and neuroscientists with a fascination for the medieval past.² We are therefore very grateful that Blud and Dresvina not only allowed us to pick their brains, but were even prepared to join the authorial team. *Cognitive*

Sciences and Medieval Studies was, in fact, the starting point of the two workshops that were at the basis of the present publication, as the book considers methodological issues by taking stock of the (im)possibilities of the use of cognitive sciences within the humanities. We thank all the workshop participants for their valuable input, but we would like to express our special appreciation to Frank Brandsma and Sebastian Sobecki, who both provided important comments but had to refrain from writing a contribution.

History of the Cognitive Turn: a Prelude

The term "cognitive turn" is little known, although it was first used in a title as far back as 1989. *The Cognitive Turn: Sociological and Psychological Perspectives on Science* consists of a collection of conference papers presenting the usage of cognitive expertise within science studies, especially the philosophy and sociology of science. The editor's aim was to liberate scholars from the deadlock between internalists and externalists.³ Such an approach appears to be typical. Over the years, predominantly scholars working at the fringes of the historical discipline, like specialists in science and religion studies, have pointed to the value of expertise in psychology and cognitive sciences when trying to explain the transmission of cultural traditions. Most of them appear to have a background in social studies. In general, mainstream historians are much more reluctant to apply psychological and neuroscience explanatory tools to historical occurrences.⁴ Twenty years ago, however, Kenneth Gouwens already made a substantial but largely overlooked plea for recourse to cognitive and cultural psychology. This eminent American historian of Renaissance humanism even predicted a cognitive change for his specialisation.⁵ According to him, cognitive psychology models enable us to reveal the impact of finding and handling new information. Citing both Petrarch and Erasmus, he shed light on the role that humanists had ascribed to emotions in cognitive processes. Both argued that learning and its transformative role in becoming wiser depended on commitment, and hence on the lightning of the heart. In his popular colloquy "The Godly Feast" Erasmus points out the transforming role of reading by praising Cicero and Plutarch as follows:

Speaking frankly among friends, I can't read Cicero's *De senectute*, *De amicitia*, *De officiis*, *De Tusculanis quaestionibus* without sometimes kissing the book and blessing that pure heart, divinely inspired as it was. But when, on the other hand, I read these modern writers on government, economics, or ethics-good Lord, how dull they are by comparison!⁶

Apart from Gouwens, only one other intellectual historian seems to have deployed cognitive models to reveal the impact of information on his audience. In order to explain the endurance of esoteric traditions despite the progress of scientific developments, Egil Asprem focused on the way people in the past interpreted data by combining *Problemgeschichte* (Conceptual History) with models on 'event cognition' and 'intent action'. Cognitive models are considered an adequate method to "drag problems down from the abstract sphere of ideas and macrohistorical processes, down into the minds and bodies of people who experience and respond to them."⁷ Therefore, as a last consequence of all the contextualisation that has taken place within intellectual history during the last decades, cognitive science may be(come) an instrument for exploring the effect of information digestion on its consumers.

Actually, that is what Erasmus had emphasised when arguing that cognition modifies behaviour. Such an approach is still quite exceptional in the field of knowledge history, despite the fact that as early as 1996 Simon Kemp used his training as a psychologist to analyse the cognitive conceptualisation of the Middle Ages.⁸ He succinctly outlined medieval contribution to current cognitive science by comparing the cognitive theories from both periods and points to analogies. As this thought-provoking book has historical flaws, it is very enlightening that in this issue of *Groniek*, Victoria Blud, Juliana Dresvina and Theo Lap are deploying current cultural psychology and attachment theory in their studies of medieval intellectual developments. They highlight the attempts to create a new personal space that enables a fulfilling life after leaving family life. In this context they also explore the consequential changes in a medieval's identity.⁹

The Cognitive Turn and the Middle Ages

Social and anthropological theories view the exploitation of knowledge or learning as a social process that modifies the attitudes, competencies and expertise of its users. For that reason we are not in favour of an altogether cognitive approach in intellectual history. It often leads to anachronisms.

However, encouraged by the recent developments described below, we nevertheless propose to feel out the potential gain from the careful application of cognitive concepts in Medieval Studies. Since it allows us to gauge the impact of information on humans, this seems particularly fruitful for research on medieval knowledge production and its processing. For this purpose, we propose to expand the concept of knowledge and understand its transmission both vertically and horizontally. Verticality involves the traditional hierarchical transfer of knowledge from teacher to student and is generally mediated through text and illustrations. In addition, it is relevant to accentuate the nexus of horizontality and verticality of knowledge transmission when aiming to expose the lived experience of consuming new information and what it brings about in people.¹⁰ Following the editors of the interesting volume on *Horizontal Learning in the 11th and the 12th century*, to which two of the collaborators to this *Groniek* special issue contributed, we interpret knowledge in the sense of ‘learning’, including its acquisition as well as its content and application. For reasons of neutrality, however, we have opted to restrict ourselves to the term ‘knowledge’. The concept of ‘horizontal learning’ is highly relevant for this special issue, since it points to the fact that especially in eras further away from ours, knowledge production, transformation and exchange often took place interpersonally. As such, this process was very dependent, even more so than with vertical learning, on its situatedness, i.e. the spatial surroundings, as well as on affections, i.e. the feelings and mental processes of the protagonists. It refers to the acquisition of factual knowledge, skills, practices as well as the mastery of certain behavioural patterns or mind sets. Since it includes all sorts of guidance, from cooking advice to tips for singing or praying, knowledge must be interpreted very broadly. All these learning processes happen via the various senses, whereas the collected information is sorted out by the cognitive processes in the brain.¹¹ Moreover, scholars should also incorporate non-literate forms of cognition, such as hearing, seeing, feeling and tasting.

Aside from the collection on *Horizontal Learning*, the already mentioned and praised volume *Cognitive Sciences and Medieval Studies* has been crucial to the realisation of this special issue. To go through all his contributions would exceed the scope of this introduction and the space reserved for it. Since *Groniek* seeks to reach an audience of young and ambitious historians, it makes sense to simply highlight Harvard's medieval historian Daniel Lord Smail. He is a longstanding user of "deep history" and has spent years trying to link neuroscience to history. In his *Deep History and the Brain* (2007),

human history is exemplified by looking at knowledge practices and the mental states that accompany them as self-produced chemical messengers.¹² Resonating older forms of psycho (analytical) history, Lord Smail's article on stress and violence in the medieval public space claims that 'neurohistory' might offer "a model where the nervous system itself is involved in a complex, never-ending dialectic with the cultural formations of the human past".¹³ When researching wars and feuding, he claims, a complex approach towards anxiety fed by neuroscientific theories might be as enlightening as taking into account political and social factors.

Lord Smail is by no means the only medievalist who insists on cognitive concepts in his works. In fact, the field of Medieval Studies knows many specialists in historical literature who are known for their expert use of neuroscience. Frank Brandsma, a specialist in medieval chivalry literature at the University of Utrecht, is one of them. Collaborating with scholars from Oxford and Iceland, he ran the Arthurian Emotions Project, which in 2015 resulted in the thought-provoking book *Emotions in Medieval Arthurian Literature: Body, Mind, Voice*.¹⁴ Currently, the same team of 'Arthurians' is participating in a project "Emotion and Medieval Self in Northern Europe". They heavily draw on present day neuroscience to explain the 'affect programme' of medieval knights in order to show how the latter's neural circuits evoked emotional responses such as joy, sadness, fear and aggressiveness. The project considers affects to be produced through cognitive processes, which develop into more complex emotions.¹⁵ Similarly, the Italian Romanist Anatole Fuksas even employed the neurological model of 'mirror neurons' to glean the emotional reactions of those who are reading about fights, romance and beheadings from the French version of *Lancelot* by the poet Chrétien de Troyes.¹⁶

The Middle Ages (Central and Later) are particularly significant in the history of knowledge. The period is known for its massive improvement of literacy as a fundamental aspect of knowledge and, along with that, scholasticism as a new system of logical reasoning. This gave rise to the creation of official secondary education and universities. In fact, the articles of Lap and Long in this issue delve deeper into the vital mental changes of what is usually coined 'the Twelfth Century Renaissance'.¹⁷ In order to appraise its long-term effects, future scholars should take into account the vernacularisation of learning as well as the occurrence of practical expertise for health and trade, which stimulated the hands, senses and brains of a large group of humans. The abundance of advisory literature such as

mirrors, lifestyle regimens, household books and guides to a good death, reflects the arrival of a knowledge society in the Later Middle Ages. All these developments preceded and to a certain extent foretold the Renaissance of the fifteenth century with its renewed attention to Classical Antiquity.

During the Late(r) Middle Ages, civilians, especially the inhabitants of towns, sought to expand their opportunities and therefore needed to improve their cognitive abilities. Diagrams, such as Figure 2, that explain the senses in combination with understanding, would quickly become a staple in encyclopaedic literature. They demonstrate the medieval fascination for learning and self-improvement, which at the time people judged to be central to humankind. By elaborating on Aristotle's natural philosophical works, especially exploiting his *On the Soul* and *On the Sense and What is Sensed*, medieval scholars tried to explain cognition. The debates focused on the functioning of the senses and paid particular attention to the workings of the 'common sense'. The idea behind the latter notion is that the external senses (sight, hearing, touch, taste, smell) gather information in the outward world. Subsequently, these data become converted in the brain through imagination and memory, which produce sensations: the internal senses. The many late medieval illustrations clarify such a process of perception. They show how the *mens*, the superior part of the human soul, animates the body, imagines and reasons and thus intuitively grasps the eternal truths.

Medieval people were rather 'brainy' so to speak, despite their devotion to the heart and their holistic views on the human being, as a combination of body and soul. Such hoisting of the human and his cognitive abilities can be gathered from the scholar Albertus Magnus' (1200-1280) commentary on Aristotle's biology. The fact is that Albert considers the human brain to be colder and moister than the animal brain, because in humans its ventricles have to temper the heat of the heart. For this reason, human brains are thought to be much bigger than those of other animals and, consequently he concludes, humans are far more intelligent.¹⁸ The same exaltation of the human as a 'rational animal' created in the "image and likeness of God"(Genesis 1: 26-27) is foregrounded in the manuscript below on knowledge production, Figure 2, from Trinity College, Cambridge.



Fig. 2: Medieval diagram of the senses and knowledge production from (Pseudo) Augustine, 1344, The James Catalogue of Western Manuscripts, Pseudo Augustine, *De spiritu et anima*, shelfmark 0.7.16, <https://mss-cat.trin.cam.ac.uk/Manuscript/O.7.16>

The Content

What can readers get from this special issue? All contributors are historians who care deeply about historical and regional differences. They consider themselves ‘intersectionists’ paying heed to the analytical framework that connects the interrelated and cumulative effects of race, sex, gender, class/caste, disability and physical appearance.¹⁹ Nevertheless, they think that it is time “to re-evaluate some of our deep-seated assumptions, both about the

cognitive capacities of humans and about how those capacities have been brought to bear to make sense of the human predicament” to quote from G.R. Lloyd’s stimulating examination of notions on the unity versus the diversity of the human mind through time.²⁰ Cognitive science and neuroscience expertise could help meet this challenge, and contributors to this issue have done so with great courage. Their projects are thus explicitly experimental and sometimes very personal, as demonstrated in the article of Julia Dresvina. Deploying cognitive sciences, being “an interdisciplinary field for the study and understanding of the mind” with “practitioners drawn from a range of scientific backgrounds, united by such principal and fundamental questions as *What is the mind?*”, enables historians to enlighten central questions from the history of knowledge.²¹ Explaining the workings of the medieval mind is one of these.

The editors of this collection hope to have refrained from scaffolding great divides, such as detaching the premodern from the modern and the west from the rest. The above discussed example of Albertus Magnus from the early thirteenth century, echoes, for instance, the Aristotelian knowledge of Antiquity, which reached Europe through the Arab world. It confirms that in the field of cognition, a long term perspective is advisable. Many of its questions are typical *longue-durée* topics. Such an approach also allows the cognitive sciences to benefit from historical studies, as Knoeff and Kennaway encourage its practitioners to do so in their epilogue. In fact, even the ‘hard boiled’ field of neurosciences has witnessed the emergence of ‘cultural neuroscience’ around 2000. As a result, a more nuanced and historically rooted picture came about that seeks to calibrate the universalising trends of mainstream bioscience.²²

By acknowledging the many historiographical turns that strongly affected the history of knowledge, this special issue deals with the recent boom in cognitive sciences, although it is too early and maybe not altogether necessary to proclaim a veritable ‘cognitive turn’. The book published by Juliana Dresvina and Victoria Blud is the first to highlight the current need for mainstream cognition in the humanities. That perhaps implies that the days of an internal history of ideas, in which the one great idea automatically lit up another enlightening thought, have passed. The crucial importance of seeing ideas as ‘embedded’ as well as ‘embodied’, is demonstrated by Victoria Blud in her study of the spirituality of anchoresses – women who lead a solitary life. She adopts the framework of the ‘Four Es’, which refers to embodied, embedded, enacted, and extended cognition, being interconnected principles

behind the cognitive role of the body, the physical environment as well as social enculturation, and how these are experienced by human beings.²³ The added value of taking into account space, bodily gestures and behaviour surfaces especially in her interpretation of the *squint*, a little window in the wall of an anchorite cell that allowed a view into the church – actually a variation of the hagioscope at the start of this article. Looking through it was only possible through a certain pose, which enhanced feelings of humility and emphasised the celebration of Mass. In this example, the anchoresses' (line of) sight directs what she perceives and thus determines to what she devotes her time and attention.²⁴

Micol Long uses the lens of the cognitive sciences to clarify the processes of monastic formation in the eleventh and twelfth centuries from a psychological point of view.²⁵ Like Blud, she points to the embeddedness of learning, which as a “situated” phenomenon is impossible to decontextualise, since, in fact, its purpose is using knowledge and bringing about changes. Like Gouwens, Long assesses the “dynamics of interaction between mind, body, and world, deemed crucial to understand mental states and processes”. Cognitive principles are considered useful in highlighting the actual impact of learning, since monastic training has always been oriented towards transformation. Hence, in describing the processes of mental conversion, Long judges affects and emotions determining factors in a long didactic process.

Theo Lap also focuses on amendment, which in his case is due to abandoning the family one is born in and consequently needing consolation while a new existence is being learned. His article is in Dutch to support students who are interested in historical ways of providing solace. Methodologies from the Social Sciences on ‘attachment’ and ‘continuing bonds’ are applied, as both are informed by cognitive conceptualization. Because the source material consists of letters written by those who had succeeded in transforming themselves, Lap's paper is another eloquent example of the use of cognitive science to analyse the impact of collecting and processing new information. Religious experience is regarded as firmly rooted in cultural traditions, which implies that God functioned as an object of attachment with which believers forge a personal bond. Monks, Lap concludes, were normal people with their own problems and cultural background. They had difficulty leaving family and friends and therefore needed psychological guidance.

Lastly, we have a unique contribution from Juliana Dresvina. One year after she published her book *Attachment and God in Medieval England: Focusing on the Figure*, she decided to do something entirely different. And rightly so, as in the monograph she had already extensively explored late medieval life-writing by examining ‘unusual’ religious experiences through the combination of literary criticism and psychology/neuroscience. In this seminal work, the workings of the mind and cognition are reckoned to be crucial in religious transformation processes.²⁶ For the present volume, she has written a beautiful piece of life writing in which she assesses Margery Kempe's autobiography with the help of fan fic(tion) techniques. We agree with her that “Reading *The Book of Margery Kempe* in dialogue with Fan Fiction”, which incidentally is now used in psychotherapy, reveals the driving forces behind Kempe's urge to create a life of her own, sometimes even shaping her own reality. Since Margery's life-story has a great deal to say to the twenty-first century, we fully backed Juliana in her experiment.

The main objective of this special issue is to inform history students and anyone else with a historical interest who is up for something new. With a little luck, readers will accompany the authors of the articles and thus expand their perspectives on cognition and the history of learning processes. May this special issue of *Groniek*, centred on the humanities, be a response to all the brain power of hard science over the last few decades. More attention to cognitive factors in the field of history would balance the many research programmes with cognition in the title, such as “Healthy Cognitive Ageing”, “Cognitive Rehabilitation”, “Food, Cognition and Behaviour”, just to mention a few that were successful in grant capture at NWO, the Dutch Science Foundation, but lacked a substantial involvement of the historical discipline. It is therefore very satisfying that James Kennaway and Rina Knoeff wrote an epilogue in which they turn things around and look at what the neuro- and cognitive sciences could learn from historians. Because it has been the intention to stimulate the future use of cognitive concepts within the historical discipline, this volume hopefully raises new questions in the discussion of what a sustainable academic attitude towards history might look like.

Notes

1. Kai Peter Jankrift, “Hagioskope – Unbeachtete Zeugnisse der Leprageschichte,” *Die Klapper – Mitteilungen der Gesellschaft für Leprakunde Münster* 7 (1999): 1-3.
2. Juliana Dresvina and Victoria Blud eds., *Cognitive Sciences and Medieval Studies: An Introduction* (Cardiff: University of Wales Press, 2020).
3. Steve Fuller e.a. eds, *The Cognitive Turn: Sociological and Psychological Perspectives on Science* (Dordrecht: Springer, 1989).
4. An insightful employ of such an approach, combined with a theoretical reflection on the do’s and don’ts is: Luther H. Martin and Jesper Sørensen eds., *Past Minds Studies in Cognitive Historiography* (London: Equinox 2011 and Routledge 2016). For an assessment of its strengths and weaknesses: Ann Taves and Michael Barlev, “Book Review: *Past Minds: Studies in Cognitive Historiography*,” *Numen* 62, no. 4 (2015): 474–80.
5. Kenneth Gouwens, “Perceiving the Past: Renaissance Humanism After the ‘Cognitive Turn,’” *The American Historical Review* 103, no. 1 (1998): 55–82.
6. Desiderius Erasmus, “The Godly Feast” (*Convivium religiosum*), in *The Colloquies of Erasmus*, Craig R. Thompson, trans. (Chicago: University of Chicago Press, 1965), 46-78, at 65. Quoted by Gouwens, “Perceiving,” 63.
7. Egil Asprem, “The Disenchantment of Problems: Musings on a Cognitive Turn in Intellectual History,” *Journal of Religion in Europe* 8, no. 3-4 (2015): 304–19, esp. 307. This is a reflection on reviews of his *The Problem of Disenchantment: Scientific Naturalism and Esoteric Discourse, 1900-1939* (Albany, NY: State University of New York, 2018).
8. Simon Kemp, *Cognitive Psychology in the Middle Ages* (Westport, Conn.: Greenwood, 1996).
9. Jerome Bruner, *The Culture of Education* (Cambridge, Mass.: Harvard University Press, 1996) is the first to come up with the term ‘cultural psychology’. A convincing assessment of Kemp’s, *Cognitive Psychology* by Robert Pasnau, “Cognitive Psychology in the Middle Ages,” *Isis* 88, no. 4 (1997): 703.
10. This nexus is explored by Babette Hellemans, “The Anthropology of a Twelfth-century Knowledge Landscape,” in *Horizontal Learning in the High Middle Ages Peer-to-Peer Knowledge Transfer in Religious Communities*, eds. Steven Vanderputten, Tjamke Snijders and Micol Long, (Baltimore, Maryland: Project Muse, 2020), 185-205.
11. Vanderputten, Snijders and Long, “Introduction”.
12. Daniel Lord Smail, *Deep History and the Brain* (Berkeley: University of California Press, 2007).
13. Daniel Lord Smail, “Neuroscience and the Dialectics of History” in *Cognitive Sciences and Medieval Studies*, eds. Dresvina and Blud, 83-96, esp. 84.
14. Frank Brandsma, Carolyne Larrington, and Corinne Saunders, *Emotions in Medieval Arthurian Literature: Body, Mind, Voice* (Woodbridge: Boydell & Brewer, 2015).
15. Ibidem, esp. 4-5.
16. A.P. Fuksas, “Embodied Abstraction and Emotional Resonance in *Chrétien’s Chevalier de la Charrete*,” *Cognitive Philology* 4 (2011): 1–14.

17. Survey: Giles Constable, *The Reformation of the Twelfth Century* (Cambridge: Cambridge University Press, 1996).
18. Survey: C.M. Woolgar, *The Senses in Late Medieval England* (New Haven: Yale University Press, 2006) 5-29 and <https://mss-cat.trin.cam.ac.uk/Manuscript/O.7.16> and Albert the Great, *Questions Concerning Aristotle's On Animals*, ed. by Irven Resnick and Kenneth Kitchell (Washington: Catholic University of America Press 2008), 65-66.
19. Sumi Cho, Kimberlé Williams Crenshaw, Leslie McCall, "Toward a Field of Intersectionality Studies: Theory, Applications, and Praxis," *Signs: Journal of Women in Culture and Society* 38, no 4 (2013): 785–810.
20. Lloyd, "Where Now," 41.
21. Blud and Dresvina, "Introduction," 3-4.
22. Blud and Dresvina, "Introduction," 55.
23. A clear and succinct introduction is also her: "Emotional Bodies: Cognitive Neuroscience and medieval Studies," *Literature Compass* 13, no. 6 (2016): 457–66.
24. Blud, in this issue: 255-269.
25. See also: Micol Long, *Learning as Shared Practice in Monastic Communities, 1070-1180* (Leiden: Brill, 2021) and Micol Long, "High Medieval Monasteries as Communities of Practice: Approaching Monastic Learning Through Letters," *Journal of Religious History* 41 (2017): 42-59.
26. Juliana Dresvina, *Attachment and God in Medieval England: Focusing on the Figure* (Leiden: Brill, 2021).