Memory as a learning tool in the Middle Age

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Abstract

In the Middle Ages the memory was a very important learning tool. This paper analyzes memory studies by authors such as St. Augustine, Hugh of St. Victor, Vincent of Beauvais, Gilbert de Tournay and St. Thomas Aquinas. The main conclusion is that the medieval authors understood memory as a fundamental tool for learning and reflection. In order to underline such conception, they developed very important works on the subjects of memory, recovery, learning and recover and underline these works, in order to vindicate "memory" as a key learning tool.

Keywords: Memory, Late Middle Ages, Hugh of St Victor, Gilbert of Tournai; Vincent of Beauvais

1. Introduction

When discussing the characteristics that defined the identity of educated people in the late middle ages, we must give a special place to the cultivation of memory. This is a key element in the teaching-learning process without which no education is possible, since it enables us to bring the past into the present. Gilbert of Tournai (c. 1263) tells us forcefully that life is not possible without memory, which is as important as food, since it is the faculty that enables us to renew our being, the means that must accompany reason if we are to achieve wisdom (De modo addiscendi, pars IV, c. XIV). The aim of this study is to analyse memory as a power of the soul, by tracing its history through the most important authors on this subject in the twelfth and thirteenth centuries.

2. Classical, patristic and early medieval precedents

This faculty or natural power of the soul is not a true variable of scholastic cognitive psychology, since it is a common topic in all the cultures that preceded medieval thought. For the Greeks, memory or mnemosyne was undeniably an instrument of philosophy, so that wisdom was attained through remembering. Plato, in the dialogues of Meno and Phaedo, left us unforgettable pages on the potency of memory. Aristotle analysed this possibility of bringing the past into the present in careful detail in De memoria et reminiscencia, distinguishing between memory and remembering. For Aristotle, memory is the seal of identity of the soul, which enables us to keep alive things that have already happened (active memory); remembering, on the other hand, is concerned with reconstructing and
rebuilding the past through the association of ideas (constructive or artificial memory) (Aristotle, *Memoria y recuerdo*, part II, chapters. I-II, 1962).

In Roman culture, the interest in memory was notably greater, and Rome undoubtedly laid the foundations for mnemonic techniques. Quintilian’s *Institutio oratoria*, the anonymous *Retorica ad Herennium* and Cicero’s *De inventione* are solid landmarks in a cognitive pedagogy which redirects memory and its various possibilities in the service of rhetoric and ethics. This instrumentalisation is embodied in the aphorism *vir bonus dicendi peritus*, which Quintilian attributes to Cato (*Ins. orat. XII.1.1*), that came to represent the ideal of perfection as far as Roman *humanitas* was concerned. In this view, memory was not only an evocation of the past, but more importantly, a vehicle for ethics. In Cicero’s words: “Prudence is the knowledge of things which are good, or bad, or neither good nor bad. Its parts are memory, intelligence, and foresight. Memory is that faculty by which the mind recovers the knowledge of things which have been. Intelligence is that by which it perceives what exists at present. Foresight is that by which anything is seen to be about to happen, before it does happen.” (*De inventione*, II, 53 160, translation by C.D. Yonge). These three faculties are ultimately updated with the help of an artificial memory which understands places [*locis*] and images of things [*species rerum*] as didactic aids to refresh our natural memory. The following text, from *Retorica ad Herennium*, outlines the vast possibilities of the art of remembering:

“There are, then, two kinds of memory: one natural, and the other the product of art. The natural memory is that memory which is imbedded in our minds, born simultaneously with thought. The artificial memory is that memory which is strengthened by a kind of training and system of discipline. This discipline can perfect a good natural memory, and even those who are less well endowed can perfect their weak memories through art” (*Retorica ad Herennium*, III, XVI-XXIV).

Early Christian culture, without leaving the framework of Graeco-Roman thought, was to make a qualitative leap and redirect the use of memory to achieve the sanctification of the person. For the Church Fathers, the purpose of memory is not so much to aid the understanding in order to achieve wisdom —as in Greek psychology,— or to make the human being good or competent —in Roman psychology,— but rather to help him/her to be holy by knowing God. St Augustine was the most representative author in this sense. In his *De trinitate* [X, 11, 18], he tells us that memory is one of the essential faculties of the soul alongside intelligence and will. In books X and XI of the *Confessions*, which are profoundly Platonic in spirit, he projects a view of the memory as a key means for reaching the affirmation of the spirit. In *De doctrina christiana* [book IV, V, 7, translation from Select Library of Nicene and Post-Nicene Fathers], without mentioning the texts on artificial memory in the Roman tradition, although these were clearly common knowledge, he reaches the conclusion that the memory is a means in the service of understanding.

During the early middle ages, the Roman and Patristic mnemonic ideals continued to be spread, albeit in a weaker, diluted fashion. This was an art of the minimum — especially as far as artificial memory was concerned — which can be defined by two symbolic references: the fourth part, on memory, of *De nuptiis Philologiae et Mercurii*, by Martianus Capella (c.430) and the dialogue *On rhetoric and the virtues*, by Alcuin of York (735-804). The former, with a few references to *Retorica ad Herennium* and Cicero’s *De inventione*, states that “Memory is certainly a natural gift but there is no doubt that it can be assisted by art […] An experience which should consider well-lit locations and place in them the likenesses of things [*species rerum*]” (*De nuptiis Philologiae et Mercurii*, 1925, 268). The latter, owing more to Augustine and showing no familiarity with *Retorica ad Herennium*, barely mentions artificial memory and mnemonics. When Charlemagne asked Alcuin how memory could be maintained, he replied: by practice, by writing, and by avoiding drunkenness. This short, sharp response reveals the limited understanding of mnemotechnics during the Carolingian renaissance (Howell, 1941, 136-139).

3. Scholastic texts on memory

The late middle ages, with a much stronger didactic and pedagogical spirit than earlier eras, were to see an extraordinary reworking of memory in its theoretical and didactic aspects. The educated people of the late medieval period were not only interested in knowing the truth, in understanding ethics and holiness; they were just as interested — or even more interested — in knowing how to obtain this knowledge (Vergara, 2003, 511-525).
was an intense desire, bearing the stamp of Cicero’s *De inventione*, the Stoic *Ad Herennium* and mnemotechnical Augustinianism, which would bear fruit in the form of many works focusing chiefly on cognitive psychology and more specifically, the analysis of memory.

3.1. Hugh of St Victor

One of the first scholastic landmarks in this area is to be found in two works that embody the culmination of twelfth-century pedagogy: *Didascalicon de studio legendi* (c. 1131) and *De tribus maximis circumstantiis gestorum* (c. 1135), both by Hugh of St Victor. The first, which is Augustinian in spirit, devotes much of its third chapter to an investigation of the nature of memory, a faculty which it links above all with the intellect. For Hugh, intellect and memory go hand in hand in the learning process, but have different ends. The intellect is justified in itself: it is the noblest part of the soul, which is intended to seek wisdom. Memory, on the other hand, is subordinated to the intellect: it has no meaning in itself, its purpose is rather to aid the understanding and retention of wisdom. The following text sets out these ideas clearly:

“Understanding and memory are part of nature. In all study, the two are associated in such a way that one is useless without the other, just as earnings serve for nothing if they cannot be kept safe, and he who guards the storehouse strives in vain should there be nothing to conserve. The intellect finds wisdom, and the memory stores it. Memory is the power of retaining what has been captured through the senses or grasped in the form of ideas. The intellect is a power placed in the soul by nature, which can fend for itself; it is born of nature, strengthened through exercise, stupefied by excessive work and sharpened by appropriate practice” (*Didascalicon*, III, 8).

The second of Hugh’s works, which reports an unusual profusion of mnemotechnical resources, represents the revival of artificial memory which had been almost ignored during the early middle ages (Green, 1943, 483-494). In concrete, from its very title onwards, *De tribus maximis circumstantiis gestorum* offers a mnemotechnical schema for using the *res gestae* to remember the people who performed the deeds, and the times and places at which they were carried out. “If someone remembers these things, he will find that he has a good basis on which he will be able to organise everything he has learnt in the course of his reading without difficulty, and he will see that he can understand it swiftly and retain it in his memory for a long time” (*De tribus maximis circumstantiis gestorum*, 1943, 485).

This method is based on a three-fold schema: number, place and time. The numerical reference was very useful at a period when the material complexity of medieval writing was evident. We must bear in mind that in the twelfth century, manuscripts did not necessarily have indexes or pagination, and the punctuation marks were few and far between. Everything seems to be a continuum, a stream of text without pauses or sections, which makes memorising particularly difficult. Ordering information numerically enables the reader to list concepts, organise them hierarchically, and distinguish the beginning and end of paragraphs or ideas. Learning the *Psalms* is often taken as an example. Saying “one” is equivalent to saying “Blessed is the man”, which is the first psalm; saying “two” means “Why this uproar among the nations?”, which is the second, and so on. All this should enable the scholar to recall things selectively, organise information in a hierarchy, and meditate on its more easily, with a more agile, active approach (*De tribus*, 1943, 488).

Another recurring device is the use of location. The aim was not to change the material arrangement of information, but to keep it in the same place. Change or variation would distort the efficacy of memory, especially visual memory, and perceptibly slow down the learning process. “Have you ever stopped to think how much more difficult it is for a boy to remember what he has read when he keeps changing book? Why does this happen, if it is not because the mental image through which the memory is strengthened cannot remain untouched in its integrity when it is shaken by the senses that are bombarded by a multitude of figures from different books?” (*De tribus*, 1943, 491).

The mnemotechnical trilogy ends with reference to time. “After the division by number and place comes the division by time,” states Hugh, “that is, what comes first, next and later. (...) This division also includes the way we remember something later (...) so that we remember that something happened at night, something else during the day, one thing in winter, another in summer” (*De tribus*, 1943, 493).
The influence of these ideas was considerable. They spread through many of the schools and universities in Europe, and inspired repeated attempts to improve the art of memory. The *De tribus maximis circumstantiis gestorum* could be said to be one of the most widely read texts on mnemonics in the scholastic period (Carruthers, 1990).

### 3.2. Boncompagno da Signa

Another work which is no less representative of scholastic approaches is *Rethorica Novissima* (c. 1235) by Boncompagno da Signa. This is an *ars dictaminis* of the University of Bologna, which integrates the science of memory into the essential systems of medieval Christian morality, namely the virtues and vices, and incorporates a factor that was to have key importance in Christian education: the awareness of heaven and hell as central to the process of learning and teaching (Gretchen Arnstedt, 2004, 3).

In Boncompagno’s words “memory is a glorious and admirable gift of nature, through which we recall past things, embrace present things and contemplate future things through their resemblance to those that have already happened”. He goes on to salvage Cicero’s distinction between natural and artificial memory, saying: “Natural memory derives exclusively from the gift of nature, without the help of any artifice [...] Artificial memory is the helper and support of natural memory [...] and is known as artificial because of the use of art, since it is cultivated artificially by use of cunning arguments” (*Rethorica Novissima*, 1892, 255).

A third concern is the relationship between memory and biology. On the basis of the Galenic theory of the humours and the emergent knowledge of science derived from Arab writers, he tells us that the sanguine and melancholy characters are the best for the memory. In particular, the melancholy have very retentive memories because of their hard, dry constitution. Along the same lines, he comments that “the stars exert an influence on character and memory, but only God knows how this works, and we must not delve too deeply into this” (*Rethorica Novissima*, 1892, 275-276).

Boncompagno ends his book with a clear plea in favour of mnemonic techniques. His comments on the “mapa mundi” are particularly significant: such maps enable us to visualise concepts, situate them, and use the senses to learn the main features of geography and the important cities and towns. In the same way, we can use imaginary alphabets to record concepts, words and deeds, because this will allow us to grasp their order and hierarchy very swiftly (*Rethorica Novissima*, 1892, 276).

### 3.3. Vincent of Beauvais

In the mid-thirteenth century three works were written that consolidated the didactic profile of memory in scholasticism. These were the *Speculum doctrinale* (1245-1255), the *Speculum naturale* (1244-1257) and the *De eruditione filiorum novilium* (1246), all by the Dominican Vincent of Beauvais, and all dedicated to the royal family of Louis IX of France. The first is a small encyclopaedia of sententiae and aphorisms on various aspects of teaching; the second, a treatise on the creation of the world and the sciences of nature; and the third is one of the first lengthy treatises on systematic pedagogy within the scholastic tradition. In all three, memory, analysed from the point of view of its nature, biology and didactic applications, is one of the principal issues.

In Vincent’s view, the essence of learning consists of grasping reality, understanding it, and integrating it in one’s being; but we learn not when we discover truth, but when we retain and meditate on the truth through the retentive powers of memory. Here lies one of the foundational ideas of medieval pedagogic thinking: the need to instrumentalise the memory in the service of creativity and knowledge (Riché, 1988, 133-148). Vincent cites *Ecclesiasticus* 21, 17, “The heart of the fool is like a broken jar, it will not hold any knowledge”, and alluding to Pseudo-Varro he repeats “the ear that does not entrust what it hears to the memory is like a channel that leaks” (*De eruditione*, 10,1). He concludes, with *Proverbs* 22, 17-18, concluiría: “Give ear to my words and apply your heart to knowing them; for it will be a delight to keep them deep within you to have them all ready on your lips” (*De eruditione*, 10,3). Vincent treats this option with great respect, even though he always considers it as a means rather than an end: unless learning means understanding reality, learning has no real meaning. He thus quotes Cato’s *Distichs*: “reading without understanding is a waste of time. There is no advantage to listening, or reading, or even
remembering, if you do not also understand” (De eruditione, 9,8). He concluded by citing book IV of St Augustine’s De Doctrina Christiana that understanding is the ultimate purpose of memory (De eruditione, 9,8.1).

In this process, Vincent scarcely touches on artificial memory as a central issue, but it does figure as a transversal theme. He was very familiar with Retorica ad Herennium, Cicero, Quintilian and everything that Latin writers had said about memory, but he preferred to examine the nature of memory, and include artificial memory within the broad area of didactics. This would be built on the basic threefold foundation of all pedagogy: personalised education, practice and synthesis (Vergara, 2011).

On the first of these, he is clear and concise. To bring the memory into play, we have to know the natural potential of our student. The person, his circumstances, and his individual nature should be the starting point for every educational process. He follows Palladius’ De agricultura in saying “The first part of pedagogical prudence consists of knowing the person you are going to teach” (De eruditione, 3.4.1), and concludes with Cicero that to make the memory more agile “the quality of the body in which the soul resides is very important, since from the body [and its circumstances] there proceed many things that sharpen the memory and many others that render it dull” (De eruditione, 9,3.2).

The second variable, the importance of practice or habit, seems to have been his favourite topic. He cites Julius Caesar, saying that “practice is the teacher of all things”, Cicero, stating that “assiduous practice of a single thing not only outdoes natural wit, but also outperforms inspiration”, and Ovid, who said that: “in time the unmanageable young oxen come to the plough, in time the horses are taught to endure the restraining bit, the iron ring is worn out by continuous use, the curved bar of the plough is worn away by constant contact with the earth (...). There is nothing stronger than custom or habit”. This is the only way that the memory can be strengthened. (De eruditione, 25,5.2).

The third variable concerned how to memorise. This is a kind of concession to artificial memory, which Vincent synthesises in four recommendations: listening to the lesson with interest, summarising to memorise, revising to reinforce one’s knowledge, and studying to understand (De eruditione, 8.1.0). Listening with interest means that one has to be well disposed and zealous, paying special attention to classes or study, as in the saying from Ecclesiasticus 3, 31: “The heart of a sensible man will reflect on parables, an attentive ear is the sage’s drum” (De eruditione, 10,2.1). This is followed by the need to summarise, because not all the words of a lesson can be retained easily, and it is even harder to remember all those of a book. This point means that we must be selective and try to remember what is basic or central, recalling first those aspects that aid comprehension. “Because every treatise has some principle on which all the truth of a question, and the strength of its resolution, are based, and to which everything else refers. Summarising means finding this and thinking about it. There is a single source, from which many streams flow; we do not need to follow all the twists and turns of the river: if we find the spring, we have everything. I say this because man's memory is limited; and if its attention is dispersed across many different points, it will lose precision in all of them” (De eruditione, 10,3.2). The need for summarising is then followed by the practice of study or revision. Good learners should be aware of the difference between listening to ideas and really grasping them. The former means hearing and discovering the truth, while the latter involves keeping it and integrating it by assiduous study and revision” (De eruditione, 10,3.3).

3.4. Gilbert of Tournai

Between 1259 and 1270, the Franciscan Gilbert of Tournai (1210-1284) wrote one of the most important pedagogical encyclopaedia of the scholastic era: Rudimentum doctrinae. The third of its four opuscula, written around 1263, De modo addiscendi, provides, in its fourth part (chapters XV to XVIII), a thorough analysis of the nature of memory on the basis of four variables: its essence, quality, capacity and plasticity.

On its essence, Tournai echoes St Augustine in telling us that the memory is a faculty through which the spirit evokes and brings into the present things that existed in the past. It can be divided into sensory and intelligible memory. The former conserves the impressions received through the senses. A variety of memory which does not transcend or abstract beyond the forms that are perceived through the senses is proper to animals, because this type of memory does not form concepts or higher ideas. At a higher level, we find intellective memory, the function of which is to preserve ideas and concepts which transcend the forms that we perceive through the senses, or which are
outside their realm. This is what the scholastic writers call ratiocination or knowledge of the essences, which is proper to the angels and to human beings. Tournai ends this section by referring to the brain as the physiological organ of memory. In concrete, he tells us that the function of memory is situated in the posterior part of the brain (De modo addiscendi, IV part., c. XV).

In second place, he analyses the qualities of memory according to age and character. The memories of a child, an elderly man, an eager intellectual and a slow learner are not the same. Children have a humid complexion, and grasp experiences through the sense, but barely make or retain intellecutive constructions. The elderly, in whom the cold, dry complexion predominates, generally do not experience or record new reflections and sensations, but instead tend to live in their memories. There are also individuals with a warm, humid complexion who have manifest intellectual rapidity, but little power of reflection. Others are slow to grasp ideas, and their lack of humidity makes it hard for them to remember images and then build concepts on this basis (De modo addiscendi, IV part., c. XVI).

Thirdly, the memory is defined by its capacity to store and contain incorporeal images. This quality endows it with a simple, spiritual nature, similar to the divine nature, which allows it to relate to God, be the home of the spiritual side of the human being and the place where the conscience resides (De modo addiscendi, IV part., c. XVII).

Finally, Gilbert analyses the plasticity or malleable nature of memory, and proposes four ideas. The first is the time factor. It is important to find a moment which is propitious for meditation. If possible, this should be at night, since the silence of the night aids recollection and prevents the dispersion of the senses. Similarly, one should seek a time when digestion is complete, since the vapours from food perturb the senses. Secondly, he discusses the actual place, which should be dark to facilitate mental associations, because bright, open places distract us. It ought also to be a place we know well, because new places make it hard for us to establish reference points. Finally, it should help us to fix symbols, images, numbers, letters, and so on, so that we can build associations and strengthen our memory. Thirdly, he insists on assiduous slow, constant practice of reading, writing and reflection. Reading should be done in a low voice or a whispering tone, never aloud; writing should consist of brief notes, new ideas and summaries that facilitate memorising and recall; reflection must take account of the causes, explanations and meanings of facts, because if we understand them we will remember them more easily. The fourth, final factor that nourishes the memory is what Gilbert calls the measure or mode, which can be threefold: collective, divisive or suppositive. By the collective mode, he means making summaries or epilogues of things, that is, keeping the core ideas, since there must be a single source, and the many twists of the path only disperse our minds. But memory is also divisive because it is useful to divide ideas into parts, into statements that help us to retain and remember the main ideas. Finally, he says that memory is suppositive, meaning that it is nothing other than creating images, representations or singular personal examples that can attract what we have stored away into our conscious mind (De modo addiscendi, IV part., c. XVIII).

3.5. Other authors

The second half of the thirteenth century produced three authors who, though not principally educators, were definitively to shape the scholastic thinking on memory: Albertus Magnus, Thomas Aquinas and Raymund Lull. The first of these, with his commentary on Aristotle’s De Memoria et Reminiscencia (1259) and in question 49, part II-II (a), of the Summa teologica, explored the nature of memory, its object, the differences between memory and remembering, and the need for artificial memory. Aquinas, adhering closely to Cicero and Ad Herennium, maintained that memory is a part of ethics designed to conserve the past, and that remembering is the faculty of calling this information up voluntarily. Both memory and remembering are defined by four rules: setting up analogies with the thing that we wish to remember; arranging these images or words in a particular order to facilitate association between one point and another in succession, examining these things with lively interest and attention, and meditating frequently on what is to be remembered (Summa Teologica III, part II-II (a), question 49, art. l).

Albertus Magnus, in De bono (1236) and his commentaries on Aristotle’s De Memoria et Reminiscencia (1248), includes memory as part of ethics, which in turn fits into prudence. He looked in greater depth at the distinction between natural memory and reminiscence, and drew the conclusion that the latter was the basic key to remembering, referring very precisely to Ciceronian images and places.
4. Conclusions

Memory is a faculty of the soul which is used to evoke the past and bring it into the present so that the intellect can understand what the will desires. This formula, expounded by Raymond Lull in the *Libro de la contemplación*, could sum up the development of cognitive psychology from Classical times to the late middle ages. This paper has illustrated this process, showing how the potential of the cognitive processes is rooted in the radical unity of the powers of the soul, which cannot be separated or fragmented. Scholastic writers raised this notion to its greatest expression in their conclusion that the triad of memory, intellect and will constitutes the most genuine synthesis of the human condition.

This unity does not mean that we should not analyse the nature, meaning and function of each of these faculties. In the case of the memory, first Plato then Aristotle understood it as an instrument for evoking the past in the service of philosophy, which could be perfected through the art or technique of remembering. Thus the distinction between natural memory and artificial memory came into being: the former was the active memory, or activated remembrances, while the latter meant the artificial memory or techniques which were drawn upon in its service. Latin writers, especially in the *Ad Herennium* and Cicero’s *De inventione*, went into this topic in depth and perfected the artificial memory as an instrument of rhetoric for achieving technical competence and ethical ends. Early Christian writers, particularly St Augustine (*Confessions* and *De trinitate*), paid little attention to artificial memory, accepted the Roman legacy in this respect, and emphasised the basis and purpose of natural memory, as something that should be directed towards achieving holiness. This cultural heritage was handed down into the late middle ages, when scholasticism endowed it with a didactic sense that had never previously been explored. In the late middle ages, the problem of memory was fundamentally didactic, to the extent that this became the main issue in pedagogy.

The main works which deal with this topic (*Didascalicon de studio legendi* by Hugo of St Victor, *De eruditione filiorum nobilium*, by Vincent of Beauvais, *Memoria et reminiscencia* by Thomas Aquinas, *De modo addiscendi* by Gilbert of Tournai, *Liber ad memoriam confirmandam* by Raymond Llull, etc.) show the unity of an educational process in which memory is presented as the central support of learning. Without memory, life is impossible. It is as important as nourishment itself, since it enables our being to go on living, and accompanies our reasoning mind in its quest for the contemplation and enjoyment of wisdom by evoking past knowledge and experience (*De modo addiscendi*, pars IV, c. XIV).

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