

# The Quest for a Universal Language: A Study of the Art of Memory in the Renaissance

The general concern of this paper is to locate a tradition of the Art of Memory as historically primary when discussing the renaissance proposition of a structured encyclopaedic system or 'universal language'. More specifically, my arguments operate on two fronts. I intend to trace a historical tradition of this art from its rhetorical roots in antiquity, its practical application in Medieval Music and observe its influence in the renaissance by way of crafting a 'universal theatre' or 'memory theatre' as exhibited in the work of Giulio Camillo. Further, I intend to interpret the Art of Memory as an indispensable component of renaissance epistemology, outlining one of the greatest philosophic achievements of the late Quattrocento and early Cinquecento periods, focusing specifically on the mnemotechnical advances as evidenced in the works of Raymond Lull, Camillo and Giordano Bruno among others.

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## I

### ORIGINS

*"Memory is not an instrument for surveying the past but its theater. It is the medium of past experience, just as the earth is the medium in which dead cities lie buried. He who seeks to approach his own buried past must conduct himself like a man digging."*

Walter Benjamin, *Berlin Childhood: Around 1900*

In *Moonwalking with Einstein: The Art and Science of Remembering Everything*, Joshua Foer, a freelance journalist recounts his experiences of undertaking intense training with the leading memory athletes of the United States and eventually winning the 2006 U.S.A memory Championships. His book became a critical success and related among other things, the techniques through which one could not only improve his memory but also recall events in order of their occurrence. Even if this is a useful skill, it is regarded as of arcane intellectual interest today since it is not essential in a civilization where collective memory is stored in the printed word. The modern day archive of reference is the library, the computer or other digitally reproduced material. Foer further observes that ancient Greek and Roman techniques of recollection, more generally referred to by the collective terms Art of Memory (*ars memorativa*) or 'mnemotechnics' [\[ii\]](#), would enable human beings to remember more than usual in the digital age and that "*our memories are indeed improvable.*" [\[iii\]](#) In the age immediately preceding the birth of printing, developing the powers of memory was perceived to be an essential intellectual skill.

The Art of Memory was traditionally based upon associations between a structure of images easily remembered and a body of knowledge in need of organization. The mnemonist's task was to attach the facts he wished to recall to images that were so visually striking or emotionally evocative that they could be recalled at will. Then, these images were classified in an architectural design of places with which the mnemonist was readily familiar. Patrick H.

Hutton describes the memoryscape so constructed as an imaginary tableau “*in which a world of knowledge might be contained for ready reference.*” [\[iv\]](#)

Foer relates the apocryphal [\[v\]](#) story of the Greek lyric poet, Simonides of Ceos, who is credited with the invention of this art of recollection: At a banquet given by a nobleman of Thessaly named Scopas, the poet Simonides chanted a lyric poem in honour of his host, but including a passage in praise of Castor and Pollux. Scopas meanly told the poet that he would only pay him half the sum agreed upon for the panegyric and that he must obtain the balance from the twin gods to whom he had devoted half the poem. A little later, a message was brought in to Simonides that two young men were waiting outside who wished to see him. He rose from the banquet and went out but could find no one. During his absence the roof of the banquet hall fell in, crushing Scopas and all the guests to death beneath the ruins; the corpses were so mangled that the relatives who came to take them away for burial were unable to identify them. But Simonides remembered the places at which they had been sitting at the table and was therefore able to indicate to the relatives which were their dead. The invisible callers, Castor and Pollux, had handsomely paid for their share in the panegyric by drawing Simonides away from the banquet just before the crash. This experience suggested to the poet the principles of the art of memory of which he is said to have been the inventor. Noting that it was through his memory of the places at which the guests had been sitting that he had been able to identify the bodies, he realised that orderly arrangement is essential for good memory.

By the time of the Romans, memory was widely recognized as one of the five parts of ancient rhetoric. Cicero recalls the story of Simonides’ memory palace in *De Oratore* where he further adds that: “*He [Simonides] inferred that persons desiring to train the faculty of memory must select places and form mental images of the things they wish to remember and store those images in the places, so that the order of the places will preserve the order of the things, and the images of the things will denote the things themselves, and we shall employ the places and images respectively as a wax writing-tablet and the letters written on it.*” [\[vi\]](#)

The story served as the basis of future writings on the subject and was dealt with in detail particularly in three major Latin works involving rhetoric and its functions – Cicero’s *De Oratore*, Quintilian’s *Institutione Oratoria* and the work by an unknown author (often taken to be Cicero himself), the *Rhetorica ad C. Herennium*. [\[i\]](#)

## II

### ORALITY AND THEORY: CLASSICAL TREATISES ON MEMORY

In her book, *Wax Tablets of the Mind*, [\[iii\]](#) Jocelyn Penny draws our attention towards particularly the continuum between literacy and ‘orality’ as it is mediated by memory. Penny argues that while a continuum captures the idea that neither literacy nor orality is monolithic, it needs to be qualified, for everybody is ‘oral’, but only some are ‘literate’. We still conduct our lives orally not just for our daily living—buying food and clothing, negotiating housing, traveling back and forth to work—but even for our daily literacy. As our daily lives so thoroughly mix the oral and the literate, we take both very much for granted. Rarely do we consider how one or the other works, much less how they interact with each other.

*“Literacy and orality are an exchange that uses the currency of memory. Memory is what enables us not to live in a time warp of repeated actions.”* [iii] We do not need to be introduced to our friends every day or to our parents once a week. We remember who they are. This kind of ‘oral’ memory depends only on what one carries around in his head. Literacy extends that ‘oral’ memory to an external storage outside. We can record things we need to remember in a variety of ways on a variety of media including taping and videotaping the voice. Milman Parry’s famous work on epic poetry [iv] which revolutionized the classics when he demonstrated the oral basis of the Homeric poems is significant. He questioned the nature of orality and cited the need for techniques essential in remembering a large number of verses. These techniques of remembrance and the nature of memory itself interested Aristotle among others, who commented upon the subject.

Aristotle’s treatise on psychology, *De Memoria et Rememinentia* had special significance in antiquity and the Middle Ages. What interested medieval commentators was the presence of ideas like the image or phantasm (φάντασμα) being necessary for the functioning of memory. Aristotle speaks of the relationship between memory and imagination (φαντασία) and the idea of stored memories (αποθηκευμένες μνήμες) facilitated by ‘order’ and ‘regularity’ as in the case of mathematics, where it is difficult to remember things which are presented in a disordered or confused way. Paolo Rossi in his influential volume on the subject, points to an influential passage in the *De Memoria* (II, 452a, 12-15) where Aristotle states: *“Sometimes the memory seems to proceed from places (τόπος). The reason for this is that man passes rapidly from one step to the next, for example, from whiteness to air, from air to humidity, from humidity to a memory of autumn, supposing that one sought to remember this season.”* [v] Aristotle also speaks of images in *De Anima* (III, 3, 427b, 14-20): *“It is clear that the imagination is something distinct from sensation and thought...It is in our power when we use it, and it can in fact be used to bring something before our eyes, as it is by those who use memory-places and fabricate images, while sensation does not depend on our will.”* [vi]

Taking his cue from Aristotle, Cicero in *De Oratore* deals with memory (*memoria*) being one of the five parts of rhetoric – the others being, inventing the speech (*inventio*), its proper arrangement (*dispositio*), the style of presentation (*elocutio*) and finally the act of delivering the speech (*actio*). He goes on to discuss the expedience (based on the presupposition that order is good for the memory) of choosing ‘places’ (*loci*), and making images which correspond to the facts or concepts one wishes to discuss, and *“arranging these images in the places.”* [vii] The order in which they were arranged would enable one to recall the facts. The art of memory, Cicero argued, was analogous to the process of writing. The places have the same function as a wax tablet (a metaphor from Plato) while the images function like the letters which are written on it. Images are used because visual memories are more persistent than other kinds of memory, and because the ‘memory-places’ themselves are necessarily visual. There ought to be many places, Cicero says, which should be clear, distinct and disposed at regular intervals (*modicis intervallis*). The images will be more effective if they are fashioned so as to be more striking to the imaginative faculties.

In *De Institutione Oratoria* (XI, 2), Quintilian deals with the construction of the ‘places’ for the artificial memory: in order to achieve effective results, he says, one should select a particular building, arranging the various images in the same order as the places to be found in the various rooms of the building. ‘Mentally visiting the building’ (which could be a public building, or the bastions of a city, or a day divided into various periods, or an imaginary

edifice) it would be possible to 'pick up' the various images (and thus bring to mind the facts or concepts which they represent) from the various places in which they have been 'stored'.

Perhaps the most important of all the Latin treatises on the *ars memorativa* is the anonymous text (sometimes attributed to Cicero and referred to as *rhetorica nova* or *secunda* in order to distinguish it from the *de inventions* or *rhetorica vetus*) called the *Rhetorica ad C. Herennium*. In it, the author states that there are two kinds of memory - one natural, the other artificial. The natural memory is that which is engrafted in our minds, while artificial memory is a memory strengthened by training. A good natural memory can be improved by this discipline and people can have their weak memories improved by the art.<sup>[viii]</sup> Francis Yates suggests that Every *Ars memorativa* treatise, repeats the plan, the subject matter, and even the actual words of *Ad Herennium*. The inventive developments of the art of memory in the sixteenth century also preserve the 'Ad Herennian' outlines below all their complex logical systems - "Even the wildest flights of fancy in such a work as Giordano Bruno's *De umbris idearum* cannot conceal the fact that the philosopher of the Renaissance is going through yet once again the old, old business of rules for places, rules for images, memory for things, memory for words."<sup>[ix]</sup>

It is important to note that the Latin treatises are used primarily for their commentary on the difference between artificial and natural memory and the distinction between memory places (*loci*) and things. The *Ad Herennium* itself served as an instruction manual guiding the student of rhetoric in understanding the principles of memory.

### III

#### BEYOND ANTIQUITY: THEOLOGY AND PRUDENCE

From its inception as an aid in helping the student of rhetoric to memorise his verses and arguments effectively, the art now came under philosophical scrutiny. Attempts were made to understand its epistemological basis and its possibilities in uncovering the mystery of the human mind and its functioning. The systems of Ciceronian thought was passed on to the Middle Ages by Martianus Capella who at some point between Alaric's sacking of Rome in 410 and the death of St. Augustine in 430, had written the *De nuptiis Philologiae et Mercurii*<sup>[x]</sup>, a work which preserved for the Middle Ages, the outline of the ancient educational system based on the seven liberal arts. In his account of the parts of rhetoric, Martianus provided a brief description of artificial memory.

In order to proceed, it will be useful to etymologically place the term 'Mnemotechnics'. Despite its Greek roots, is a modern word, first used in the nineteenth century, for what was called in antiquity the 'art of memory', literally '*ars*' in Latin and 'τέχνη' (*technē*; *technai* plural) in Greek, but never as the compound word which classical scholars use today. From the fifth century BC on, a *technē* was considered to be 'an art or craft, i.e., a set of rules, system or method of making or doing, whether of the useful arts, or of the fine arts.' The combination of the two words mean that particular skills could be taught for improving 'natural' memory, the memory we are born with. In classical antiquity any means of making our natural memory better was considered 'artificial'.<sup>[xi]</sup>

As the Classical art was strictly practical in its utility, Yates argues that further advancements had led to a revision for which the term is not particularly applicable anymore and very

limiting, which is to say, totally the term totally excludes the theoretical aspect. The 'Art of Memory' phrase thus appears to be better suited for modern purposes.

In the Middle Ages, the art wasn't simply intended as techniques present in a rhetoric manual anymore but was questioned by commentators trying to understand the potential of the mind and its ability to create images. This is where Aristotle's work becomes important. Medieval Christian philosophy was involved in connecting the art with prudence and asserting a religious identity over it.

Medieval Christian theology ascertained that there are four Virtues: Fortitude, Justice, Temperance and Prudence. It is Prudence which is important as this was considered to be the place of *memoria* or memory. Within prudence, medieval scholars included *memoria*, *intelligentia* and *providentia*. Two works were of special significance as they drew excessively on these ideas - Albertus Magnus's *De bono* (IV, 2) and commentary on the *De memoria et reminiscencia*, and Thomas Aquinas's *Summa Theologiae* (H, ii, 49). Rossi<sup>[xii]</sup> notes that the discussions of memory in Albertus's *De bono* and the *Summa Theologiae* of Aquinas are explicitly derived from Aristotelian and pseudo-Ciceronian sources (pseudo in the sense that the *Ad Herennium* was considered to be by Cicero). Rossi quotes Albertus – *"It is natural memory which helps us easily to remember things we have known or done in the past. Artificial memory is that memory which is constructed by means of the arrangement of places and images."* As in all the other arts, perfection in the art of memory is attained naturally, and since in our actions 'we are directed from the past towards the present and the future, and not vice versa', memory is presented, along with intelligence (*intelligentia*) and providence (*providentia*) as one of the three components of the virtue of Prudence."<sup>[xiii]</sup>



Titian, The Allegory of Prudence (Fig.1)

A famous painting by Titian (1565)(Fig.1) portrays the allegory of prudence with the heads of three men (an old man for memory, a middle aged bearded man for the present and young man for the future) and three animals (a wolf who has already devoured the past, a lion representing the uncertain present, and a "fawning dog" representing the future). Aquinas

explains that it is only by looking carefully upon past things that we can be correctly directed to present and future things, hence Prudence, the opposite of imprudence-- of risk. Certainty comes from Memory and the proper organization of words and images. Such a temporal understanding of memory is crucial for the development of methods of scientific experiment. Aquinas' works specifically attempt to synthesize the Ciceronian and Aristotelian accounts of memory. The painting is connected by Erwin Panofsky, in a famous exposition, with Titian's success in 1569 in transferring his *senseria*, a valuable "broker's patent" granted him by the Signoria, to his son. Titian is therefore the past, Orazio the present, and in the absence of a grandson, Marco is the future.[\[xiv\]](#)

Rossi suggests that in the works of Albertus and Aquinas, the two lines along which the treatment of memory was to be developed in the course of the Middle Ages (the 'speculative' line and the 'technical' line) appear closely linked for the first time. The rational psychology of Aristotle provided a framework within which the mnemotechnical art (which found its highest expression in the *Rhetorica Secunda* of Cicero) was to be incorporated and justified. As Yates has shown, the strictly rationalistic basis of the mnemotechnics of Albertus and Aquinas was, at least in part, an attempt to rid the art of memory of the magical occult influence of the *ars notoria*, and to expunge the magical conception of the art of memory as a 'perfect art' or key of universal reality. In the *ars notoria* (as some later Renaissance texts confirm) the art of memory appeared to be closely linked with the idea of a secret art or 'perfect science' (*scientia perfecta*) by means of which one could attain 'the understanding of all the sciences and natural arts' (*ad omnium scientiarum et naturalium artium cognitionem*) through a combination of conventional mnemotechnical rules with formulaic invocations, mystical figures and magical prayers. This will be discussed in the sections dedicated to the works of Raymond Lull and Giordano Bruno.

#### IV

#### MEMORISING MUSIC: MEDIEVAL REMEMBRANCE

In this section I intend to selectively consider an aspect of the medieval construct, music as an emblem which signifies the importance of the art in practical application. Needless to say, the Medieval Church had accepted the art, for Cicero was the primary disseminator of the techniques associated with it.

The coming of the Printing Press should have signalled the end of memorisation, but because of its deeply entrenched characteristics in the ethos of the age, it survived the test of time and came under attack late in the history of humanism. The impact of this art in the Middle Ages was significant and bore fruit in memorising musical compositions of the time. In her study *Medieval Music and the Art of Memory*, Anna Maria Berger locates the art as a necessary compliment to understanding how the mind interprets music and how it underlines the principles based on which music is appreciated and memorised. She refers to the construction of a memorial archive that was a prerequisite for memorising the medieval chants.[\[xv\]](#)

In her observations regarding the dissemination, performance and aesthetics of music, Berger further hypothesises that the coming of staff notation (the written melodic pattern) rather than signalling the end of 'memorising' a piece, actually led to aiding it.[\[xvi\]](#)

Questions as to why the medieval monk had to memorize, even though the art of writing was available to him are still debatable today. However, scholarship has made clear that the invention of writing does not automatically put an end to memorization, but rather writing is normally seen at first as a mnemonic tool itself. Thus, the invention of staff notation by Guido of Arezzo (ca. 1030), which made possible unambiguous pitch notation, did not eliminate or reduce performance from memory. Berger refers to Craig Wright who noted that in the Notre Dame cathedral in Paris, singers were expected to memorize chants throughout the seventeenth century.<sup>[xvii]</sup> Moreover, it appears that the technique of memorization looked back at Quintillian among others and specifically used his understanding of *divisio* in order to properly divide and arrange material or notation to be memorised.

In another famous work, *The Book of Memory*, Mary Carruthers translated a medieval manuscript of Hugh of St. Victor's "*De tribus maximis circumstantiis gestorum*," addressed to very young students in the school of St. Victor in 1130 which discusses techniques of memorisation. According to Hugh, knowledge (*sapientia*) is acquired throughout life. It is considered a treasure (*thesaurus*) and "*your heart is its strongbox (archa)*" (p. 261). A little later he states, "*a classifying system for material makes it palpable and visible to the mind [discretio rerum evidentiam facit]*. Truly such a visual scheme for one's learning both illuminate the soul when it perceives and knows things, and confirms them in memory" (ibid.). He instructs his students how to memorize the psalms as follows:

*"Suppose for example that I wish to learn the psalter word for word by heart. I proceed thus: first I consider how many psalms there are. There are 150. I learn them all in order so that I know which is first, which second, which third, and so on. I then place them all by order in my heart along my [mental] numerical grid, and one at a time I designate them to the seats where they are disposed in the grid, while at the same time, accompanied by voicing [prolatio] of cogitation, I listen and observe closely [attendo] until each becomes to me of a size equivalent to one glance of my memory . . . Having learned the [whole order of] psalms, I then devise the same sort of scheme for each separate psalm, starting with the beginning [words] of the verses just as I did for the whole psalter starting with the first words of the psalms, and I can thereafter easily retain in my heart the whole series one verse at a time; first by dividing and marking off the book by [whole] psalms and then each psalm by verses, I have reduced a large amount of material to such conciseness and brevity. And this [method] in fact can readily be seen in the psalms or in other books containing inherent divisions. When however the reading is in an unbroken series, it is necessary to do this artificially... (262-63)"<sup>[xviii]</sup>*

Hugh further advises that one must use the same copy of a text when memorizing something, because one does not memorize only the number and order of verses or ideas, but at the same time the color, shape, position, and placement of the letters.<sup>[xix]</sup>

In digressing from the principal topic at hand, it is interesting to note what the students memorised – "*They learned to read by reciting the Psalter, first combining letters into syllables, syllables into words, and words into sentences. Since they did not know Latin, at first they did not know what they were reciting. The term 'psalteratus' referred to somebody who knew how to read. But even monks who did not learn how to read eventually memorized the Psalter by rote. Benedict required the entire Psalter of 150 psalms to be sung every week. When a psalm was performed in the Divine Office, it was framed by an antiphon, of which there existed three thousand or more by the end of the Middle Ages. Note, though, that these antiphons were*

relatively easy to memo-rize because they used the same stock formulas again and again. As for the Mass, Michel Huglo has computed that the eighth- and ninth-century Gradual contained about 560 chants: 70 introits, 118 graduals, 100 alleluias, 18 tracts, 107 offertories, and 150 communions. Kenneth Levy has calculated that if one adds to this the Office Propers, we “might come to seventy-five or eighty hours of memorized matter. This would correspond to the selection of Beethoven’s instrumental works plus the full Wagnerian canon.” All in all, the singing in Benedictine monasteries lasted at least six hours each day. In late eleventh-century Cluny, where monks did not have to work and could concentrate fully on meditation and singing, they could easily spend the entire day in church.”[\[xx\]](#)

Another aspect of medieval memorisation with relation to music was the conception of the ‘Guidonian Hand’. The Hand was a mnemonic device used to assist singers in learning to sight-sing. Some form of this device may have been used by Guido of Arezzo who is credited with inventing the staff notation. The Hand (Fig.2) occurs in some manuscripts before Guido's time as a tool to find the semitone; it does not have the depicted form until the 12th century. Sigebertus Gemblacensis (c1105–10) describes Guido using the joints of the hand to aid in teaching his hexachord. The Guidonian hand is closely linked with Guido's new ideas about how to learn music, including the use of hexachords, and the first western known use of solfege. In her article *The Hand and the Art of Memory*, Carol Berger notes the development of theory regarding the Guidonian Hand and connects it to ancient Latin treatise, the *Rhetorica ad C. Herennium*. The idea is that different chords can be imaginatively located on the palm of the human hand.[\[xxi\]](#)



Two illustrations of the Guidonian Hand, a medieval mnemonic device in which musical notes are arranged in a spiral on the left hand. (Fig.2)

Like the alphabet, it was a basis for understanding relationships between different characters – in this case, musical notes (*ut, re, mi, fa, sol, and la*). It’s not certain whether medieval singers used the Hand during performance, but we can be sure their musical thinking was informed by it. “It’s a way of navigating tonal space effectively,” explains Jesse Rodin, who with his students demonstrated the Hand as part of a performance of four-voice a cappella music for the Mass. According to Rodin, “If you’re a violinist and it’s time to play a piece, you put your finger on a certain place on the violin, and, with the help of a bow, the instrument makes a sound... and if you’re a singer, you can’t do that. Vocal utterances don’t have physical locations. So the Hand is effectively a fingering system for the voice. It’s a way of assigning each frequency or relation of frequencies a physical place on the body.”[\[xxii\]](#)



Raymond Lull designed a method, which he first published in full in his *Ars generalis ultima* or *Ars magna* ("The Ultimate General Art", published in 1305), of combining religious and philosophical attributes selected from a number of lists. It was intended as a debating tool for winning Muslims to the Christian faith through logic and reason.<sup>[xxiii]</sup> This section is entitled 'The Lullian Renaissance' for two reasons, firstly for the fact that Raymond Lull's works on assembling mnemotechnical treatises received a renewed interest in the post scholastic age and secondly because his philosophical systems which included an unusual Neoplatonic interpretation of human existence was treated as essential in advancing the art of memory towards renewed speculation. It is important to note here that beyond the Middle Ages, the art of memory assumes two different directions – one classical and one philosophic. Lull's technique was not derived explicitly from Ciceronian sources although he was aware of them.

The sixteenth century saw rapid developments in two major areas. The first of these was the wide dissemination in England, Germany and France of the tradition of local memory stemming from Cicero, Quintilian, the *Rhetorica ad Herennium* and Thomas Aquinas, which received its fullest treatment at the end of the fifteenth century in the work of Pietro da Ravenna, the author of *The Phoenix*. The second was the interaction between this tradition and that of the *logica combinatoria* which reached its pinnacle in the works of Ramon Lull. Between the mid-fifteenth century and the mid-sixteenth century, Nicolaus Cusanus, Cardinal Bessarion, Pico della Mirandola, Lefevre d'Etaples, Charles de Bovelles and later Bernardo Lavinheta, Henricus Cornelius Agrippa and Giordano Bruno disseminated and commented on the works of Lull dealing with the *ars magna* and *combinatoria*.<sup>[xxiv]</sup> An interest in the cabala and hieroglyphic writing, artificial and universal languages, the search for the primary constitutive principles of all possible knowledge, the art of memory and a preoccupation with logic understood as a 'key' to the hidden secrets of reality, all of these themes were connected to the revival of Lullism in the Renaissance.<sup>[xxv]</sup>

All Lull's arts are based on the notion of the *Dignitates Dei*<sup>[xxvii]</sup>, which are Divine Names or attributes, thought of as primordial causes as in the Neoplatonic system. Lull introduces movement into memory. The figures of his Art, on which its concepts are set out in the letter notation, are not static but revolving. One of the figures consists of concentric circles, marked with the letter notations standing for the concepts, and when these wheels revolve, combinations of the concepts are obtained. In another revolving figure, triangles within a circle pick up related concepts.



The Lullian Circle (Fig.3)

For Lull himself, the great aim of the Art was a missionary aim. He believed that if he could persuade Jews and Muslims to do the Art with him, they would convert to Christianity. The Art was based on religious conceptions common to all the three great religions, and on the elemental structure of the world of nature universally accepted in the science of the time. Starting from premises common to all, the Art would demonstrate the necessity of the Trinity. All Lull's arts are based on Names or attributes of God, on concepts such as *Bonitas*, *Magnitudo*, *Eternitas*, *Potestas*, *Sapientia*, *Voluntas*, *Virtus*, *Veritas*, *Gloria* (Goodness, Greatness, Eternity, Power, Wisdom, Will, Virtue, Truth, Glory). Lull calls such concepts the 'Dignities of God'. Those just listed form the basis of the 'nine' forms of the Art. This is visible in the Lullian circle (Fig.3).

Other forms of the Art add other Divine Names or attributes to this list and are based on a greater number of such Names or Dignities. Lull designates these concepts by his letter notation. The nine listed above are designated by the letters BCDEFGHIK.

These are simple devices, but revolutionary in their attempt to represent movement in the psyche. It is similar to the great mediaeval encyclopaedic schemes, with all knowledge arranged in static parts, made yet more static in the classical art by the memory buildings stocked with the images. Lullism, adds to this with its algebraic notations, breaking up the static schemata into new combinations on its revolving wheels.

Wolfgang Wildgen suggests that the Lullian Circle was the first systematic spatial organization of lexical items. All conceptual systems of his *Ars Magna* are arranged in a linear order with (normally) nine segments. Since the extremes of this 'belt' are joined, we have a circular field. Every concept has two neighbours, and by adding specific figures (triangles, squares, etc.) one can join three, four, etc. concepts to create a sub-network. The concepts of an area of knowledge may be organized into a set of such nine-tuple 'fields'. On top of all the more specific conceptual fields (arrays of nine concepts), stands a universal field, which contains those qualities of God that are at the origin of all further entities and their concepts. The







Lullian Spheres as described by Myesier (Fig.6)

There is a great presence of cosmological references in the extensive Lullian literature of late fourteenth-century Europe. [xxxii] One of the greatest European philosophers to be influenced by Lullist themes, Nicolaus of Cusa, the German humanist, emphasized exemplarism and the divine dignities as the foundation of the art. Cusa believed that this was the first foundation of the art, that all the things which God created and made, were created and made in the likeness of his dignities. Cusa, like Lull, considered the principles of the combinatory art- goodness, magnitude, eternity, power, wisdom, will, virtue, truth and glory (*bonitas, magnitudo, aeternitas, potestas, sapientia, voluntas, virtus, veritas, gloria*) — to be 'the principles of being and of understanding' (*principia essendi et cognoscendi*).

Lull turned his attention to the problem of memory and the *ars memorativa* in his earliest writings. In the 'Book of Divine Contemplation' (*Libre de contemplacio en Deu*) of 1272, he proposed the construction of three great arts, corresponding to the tripartite division of the 'virtues' or 'powers' of the rational soul (i.e. memory, intellect and will). These include the 'inventive art' (*ars inventiva*), the 'amorous art' (*ars amatwa*) and the 'art of memory' (*ars memorativa*) which were connected to the 'tree of science' (*arbor scientiae*), the 'tree of love' (*arbor amoris*) and the 'tree of remembrance' (*arbor reminiscetiae*) respectively. The *Ars inventiva* (1289), the *Ars amatwa* (1290), the *Arbre de sdencia* (1295) and the *Arbre de filsojia d'amor* (1298), represent the partial realization of this project. In 1290 he wrote the *Arbre de filsojia desiderat* or the art of that which is 'desired', and in the course of this work he partially realized his long-projected art of memory. [xxxiii]

## VI

### KNOWLEDGE IN HERMETICISM: LOGIC, SYMBOLS AND GIORDANO BRUNO

The fifteen tractates of the *Corpus Hermeticum*, along with the *Perfect Sermon* or *Asclepius*, are the foundation documents of the Hermetic tradition. Written by unknown authors in Egypt sometime before the end of the third century C.E., they were part of a once substantial

literature attributed to the mythic figure of Hermes Trismegistus, a Hellenistic fusion of the Greek god Hermes and the Egyptian god Thoth.[\[xxxiv\]](#)

The impact of Hermeticism on memory treatises as constituting fundamental world logic is best understood through the works of Giordano Bruno (1548-1600). While in England, Bruno had fully evolved his technique of conveying his Hermetic religious message within the framework of the art of memory. He continued his methods in Germany, and his last book which he published at Frankfurt in 1591 immediately before his return to Italy, was on magic memory.

Three of his works, *De Umbris Idearum* ('The Shadow of Ideas'), *Cantus Circaeus* ("Incantations of Circe"), and *Seals*, contain 'arts of memory' which are based on the division of the memory treatise into 'rules for places' and 'rules for images'. The treatise in *Shadows* alters the old terminology calling the *locus*, the *subjectus*, and the image, the *adjectus*, but the ancient division of the two aspects of memory training is perfectly perceptible beneath this new guise, and all the ancient precepts for places and images, together with many of the elaborations which had accrued to them in the memory tradition, are present in Bruno's treatise. The memory treatise in *Circe* is again on the ancient pattern, though with changed terminology, and this treatise is reprinted in *Seals*. Though the philosophy of the magically animated imagination which Bruno presents in these treatises is totally different from the careful Aristotelian rationalisation of the memory precepts by the scholastics, yet the idea itself of philosophising the precepts had come down to him in the Dominican tradition.

Bruno was interested in symbols, hieroglyphs and 'seals'(Fig.7), and his desire to give sensible forms to abstract ideas had some affinities with the literary taste for imagery and emblematic representation.[\[xxxvii\]](#)



Seals: Bruno's Graphical Memory system (Fig.7)

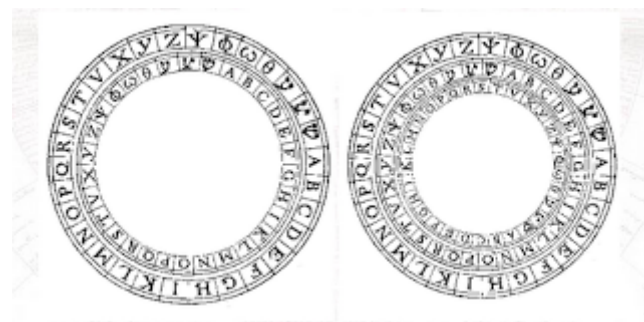
Bruno believed that mnemotechnics would lead to a 'renewal' or reform of knowledge, and bring about an infinite increase in man's capacities, and his dominion over nature. His integration of rhetorical memorative techniques with the Lullist tradition had a lasting influence, not just in French intellectual circles, but also in those of England, Germany and

Bohemia. Paris, London, Prague, Wittenberg and Frankfurt were the publishing centres responsible for the wider dissemination of Lullism, and the *ars reminiscendi* in the sixteenth century - and by the time that Bruno began publishing his mnemotechnical works the intellectual circles of these cities were already familiar with works by authors such as Pietro da Ravenna, Charles de Bovelles, Thomas Wilson, Johannes Spangerbergius and Bernardo Lavinheta.

Bruno's *De umbris idearum* is probably the most famous of the three works which he published in Paris in 1582. It was in this work that his attempt to provide 'precise metaphysical reasons' for the technical elements of the art is most clearly visible. The basis of Bruno's particular synthesis of the *Ars Combinatoria* and the Ciceronian art of memory can be summarized in three theses:

1. The ascent of the soul from darkness to light is achieved by apprehending the shadows of eternal ideas. Through these shadows truth is in some way revealed to the soul, which is the prisoner of the body.
2. The ideas or 'shadows', in which the structure of being is reflected, are perceived by the sensible and imaginative faculties. They appear in the mind as 'phantasms' and 'seals'.
3. Through the artificial retention of the 'chains' (or relations between the 'shadows') in the mind one can reconstruct, by means of a gradual process of purification, the connections which exist between the ideas themselves. The contemplation of the unity which is hidden in the confused plurality of appearances leads to a rational understanding of ideal relations.[\[xxxviii\]](#)

Frances Yates expounded the first results of her research on Bruno's art of memory in a seminar at the Warburg Institute in 1952. She showed her reconstruction of the wheel(Fig.8) described in the *De Umbris Idearum*, Bruno's first mnemonic work. The two wheels illustrated below are part of the same work and serve as an introduction to using the larger wheel.[\[xxxix\]](#)



Wheel I (Smaller) left; Wheel II (Larger) right (Fig.8)

In the first fixed ring the practitioner will assign a mythological or heroic figure to each letter. Bruno provides some examples: A Lycaon; B Deucalion; C Apollo; D Argos. The letters of the second ring correspond to an action or a scene associated with each figure. The examples provided are: AA Lycaon at a banquet; BB Deucalion and pebbles; CC Apollo and Python; DD Argos and some cattle. Thus rotating the first inner ring operates permutations between the figures and their action. Further permutation occurs when the third wheel is set in motion. It contains attributes or *enseignes* which can be easily passed from one figure to another. Bruno provides only four examples and leaves the rest to the imagination of his reader. These are: AAA, Lycaon at a banquet with a chain; BBB, Deucalion and pebbles with a headband; CCC,

Apollo and Python with a baldric; DDD, Argos and some cattle with a hood. This way the systems makes it possible to create combinations of letters representing words, acronyms or syllables to be remembered by means of animated images mixing the attributes and accustomed actions of familiar mythological figures.

BAA: B Deucalion A at a banquet A with a chain

MAD: M Perseus A at a banquet D with a hood

CAD: C Apollo A at a banquet D with a hood

COD: C Apollo O and Proserpina D with a hood

Such objects can in fact be put to many uses. Bruno he began to reform the Lullian *combinatoria* (by suggesting thirty subjects and predicates instead of the nine proposed by Lull, and by refusing to distinguish between absolute and relative predicates). He further introduced (and modified) elements from the Ciceronian tradition. What the Ciceronian tradition calls 'places' (*loci*) and 'images' (*imagines*) he calls 'prime subjects' (*subiecta*) and 'secondary' or proximate subjects' (*adiecta*).

Bruno's works also repeat many of the rules of memory which are present in the mnemotechnical writings of the fifteenth and sixteenth centuries. In the opening paragraphs of his *Ars memoriae*, there are discussions of the relationship between art and nature, and signs and signification, together with the idea of the artificial instrument as a 'productive intellect'. We also find the traditional appeal to the example of Simonides and the precepts concerning the size, distance and brightness of the memory places. The idea of using 'animated objects' in order to represent places was not a new one as it can be found, for example, in Michele Alberto da Carrara's fifteenth-century treatise the *De omnibus ingeniis augendae memoriae*. The influence of this tradition can be seen at work even in the contorted periods and baroque imagery of the *Cantus Circaeus*, published in Paris in 1582. In the second dialogue of the *Cantus* (which was republished with some modifications in London in the following year with the new title of *Recens et completa ars reminiscendi*), he reworked the ideas which he had already handled in *De umbris idearum* in a more accessible manualistic style.

## VII

### **CAMILLO AND THE MEMORY THEATRE: RECONSTRUCTING THE ARCHITECTURE OF THE MIND**

In this section, I wish to discuss the structural and architectural significance of the memory theatre and how formal logic, symbolism and the art of memory are interlinked in constructing a mental landscape discussed by classical rhetoricians and medieval commentators along with early renaissance writings on the subject.

Due to influences of Lullism and the availability of ancient mnemonic tools, the creation of a universal theatre was possible. Lullian *combinatoria* (combinations) was generally understood to be a mnemonic or memorative logic (*logica memorativa*), which was both an 'art of arts' (*ars artium*) or 'universal instrument' (*instrumentum universale*) which one could use to examine the principles of all the particular sciences, and an art of recollection (*ars*



*reminiscendi*) which was the foundation for a complete mnemotechnical system (*systema mnemonicum*) or encyclopaedia of knowledge. The 'Ciceronian' *ars memoriae* and the Lullian *combinatoria* (conceived as a form of mnemotechnics) were seen as the key components in the construction of 'pansophia', or total knowledge. To achieve this total knowledge, in addition to the new logic (which mirrored the structure of the world) one needed an encyclopaedia or 'universal theatre' which was its natural complement. The 'new logic' and the 'theatre' presupposed what might be called a 'specular' doctrine of reality, that is to say a belief in the perfect correspondence between words (*termini*) and things (*res*), between logic and ontology. [\[xlvi\]](#)

Giulio Camillo with a commission of 1200 ducats from the King of France, Francois I, created a theatre that apparently contained divine powers in that whoever entered the theatre would emerge with a complete memory of all the knowledge that had ever existed. The design of his theatre is described in his book *L'idea del teatro* written in 1554, the last year of his life. The theatre consisted of Seven Levels and contained the complete knowledge of the Corpus Hermeticum or the core documents of the hermetic tradition. [\[xlvii\]](#)

*The Memory Theatre* is structured as a play within a play within a play. The surface of the play takes place within a single performance in Camillo's Memory Theatre in Venice in 1532. It is his first performance in seven years of his memory play and he intends it be his final one. Within his memory a commedia troupe performs their own bawdy version of his play. Erupting out of the rift in his memory is the Umbra, the darkest region of shadows, in which the Beast claws and mangles. Camillo is the only figure who penetrates all three worlds.

In his introduction to his translation of Camillo's Memory Theatre, Matthew Maguire suggests that the theatre asks a number of important questions as to how the motion of the memory is connected with the motion of history and how is the personal political. It is the story of a man with perfect memory who is haunted by the memory of a murder he may have committed. As he searches his memory he is confronted by events that he denies. Amnesia begins to set in as his denials grow until the mind of a man who could focus his entire memory in a single moment is in danger of shattering.

Camillo is basing his memory system on first causes, on the Sephiroth, on the Ideas; these are to be the 'eternal places' of his memory -

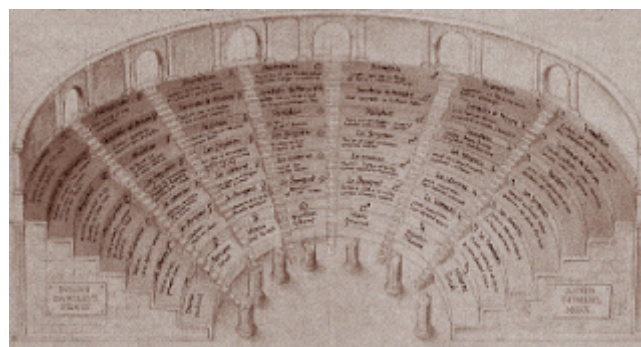
*"Now if the ancient orators, wishing to place from day to day the parts of the speeches which they had to recite, confided them to frail places as frail things, it is right that we, wishing to store up eternally the eternal nature of all things which can be expressed in speech . . . should assign them to eternal places. Our high labour, therefore, has been to find an order in these seven measures, capacious and distinct from one another, and which will keep the mind awake and move the memory."* [\[xlviii\]](#)

Camillo never loses sight of the fact that his Theatre is based on the principles of the classical art of memory. But his memory building is to represent the order of eternal truth; in it the universe will be remembered through organic association of all its parts with their underlying eternal order. It will be interesting to note the visual images as presented in the entire structure of the play: [\[xlix\]](#)

## Act I

Scene 1 Memory	I was crossing a bridge.
Scene 2 Lazzi	I saw a commedia troupe on the opposite shore.
Scene 3 Memory	I felt a pull between us like gravity.
Scene 4 Umbra	I saw one of them, Columbina, strike Arlequino with a mallet for his thievery.
Scene 5 Memory	I was searching for my memory.
Scene 6 Lazzi	I was laughing even as my skin was crawling.
Scene 7 Memory	The ship was sailing.
<b>Bridge 1</b>	
<b>Act II</b>	
Scene 8 Memory	I remember a room, a pure room.
Scene 9 Umbra	The King of France had offered me 1200 ducats.
Scene 10 Lazzi	Every object stood out in sharp relief, their boundaries.
Shining.	
Scene 11 Memory	I was standing in the center of the bridge.
Scene 12 Lazzi	Venice was at war with the Emperor.
Scene 13 Umbra	The King believes it is a just war.
Scene 14 Memory	I was trying to trace the scent of death.
<b>Bridge 2</b>	
<b>Act III</b>	
Scene 15 Umbra	Am I pure from sin? Yes. It was not my hand.
Scene 16 Memory	I will focus my entire memory in a single moment.
Scene 17 Umbra	A line of monks was chanting the Dies Irae.
Scene 18 Umbra	Oh God in Heaven, I've struck him.
Scene 19 Lazzi	No, I deny it.
Scene 20 Memory	I am silent.
Scene 21 Umbra	I will devise a way to leave this earth.

The Theatre(Fig.9) rises in seven grades or steps, which are divided by seven gangways representing the seven planets. The student of it is to be as it were, a spectator before whom are placed the seven measures of the world 'in spettacolo', or in a theatre. Since in ancient theatres the most distinguished persons sat in the lowest seats, in this theatre the greatest and most important things will be in the lowest place. Yates notes that many of Camillo's contemporaries describing his work as an amphitheatre, but these indications make it quite certain that he was thinking of the Roman theatre as described by Vitruvius. Vitruvius says that in the auditorium of the theatre the seats are divided by seven gangways, and he also mentions that the upper classes sat in the lowest seats.[\[1\]](#)



The Theatre of Memory (Fig.9)

The artist Kate Robinson describes the theatre as: "as an internal idea which corresponds to the outer cosmos, a celestial vehicle connecting nature and man. In *'L'idea del Teatro'* Camillo describes hundreds of images all of which are placed inside the 'Theatre'. The images are of myths, history, the stars and the planets and their meaning depends on their position in the Theatre." [ii]

Camillo's Memory Theatre is however a distortion of the plan of the real Vitruvian theatre (Fig.10). [iii] On each of its seven gangways are seven gates or doors. These gates are decorated with many images. That there would be no room for an audience to sit between these enormous and lavishly decorated gangway gates does not matter as in Camillo's Theatre, the normal function of the theatre is reversed. There is no audience sitting in the seats watching a play on the stage. There is only one, solitary 'spectator' who stands where the stage would be and looks towards the auditorium, gazing at the images on the seven times seven gates on the seven rising grades. In a normal Vitruvian theatre the back of the stage, the *frons scaenae*, has five decorated doors through which the actors make their exits and their entrances. Camillo transfers the idea of the decorated door from those in the *frons scaenae* to these imaginary decorated doors over the gangways in the auditorium which would make it impossible to seat an audience. He uses the plan of a real theatre, the Vitruvian classical theatre, but adapts it to his mnemonic purposes. Allesio Ageno and Maura Frilli's excellent article, *Architecture as talisman: The hidden links between Vitruvius' theatre and Palladio's villa*, [iiii] discusses the architectural importance of Camillo's theatre based on Rudolf Wittkower's *Architectural Principles in the Age of Humanism*. The article deals in detail the structure of Vitruvian theatre, the geometric circular system and its architectural principles as proposed in Vitruvius' *De Architectura*.



The Vitruvian Theatre (Fig.10)

The imaginary gates are his memory places, stocked with images. The whole system of the Theatre rests basically upon seven pillars, the seven pillars of Solomon's House of Wisdom. 'Solomon in the ninth chapter of *Proverbs* says that wisdom has built herself a house and has founded it on seven pillars. By these columns, signifying most stable eternity, we are to understand the seven Sephiroth of the supercelestial world, which are the seven measures of the fabric of the celestial and inferior worlds, in which are contained the Ideas of all things both in the celestial and in the inferior worlds, Camillo is speaking of the three worlds of the

Cabalists, as Pico della Mirandola had expounded them - the supercelestial world of the Sephiroth or divine emanations; the middle celestial world of the stars; the subcelestial or elemental world. The same 'measures' run through all three worlds though their manifestations are different in each. As Sephiroth in the supercelestial world they are here equated with the Platonic ideas.

The Theatre is a vision of the world and of the nature of things seen from a height, from the stars themselves and even from the supercelestial founts of wisdom beyond them. Yet this vision is very deliberately cast within the framework of the classical art of memory, using the traditional mnemonic terminology. The basic images in the Theatre are those of the planetary gods. The affective or emotional appeal of a good memory image according to the rules—is present in such images, expressive of the tranquillity of Jupiter, the anger of Mars, the melancholy of Saturn, the love of Venus. Here again the Theatre starts with causes, the planetary causes of the various affects, and the differing emotional currents running through the seven-fold divisions of the Theatre from their planetary sources perform that office of stirring the memory emotionally which was recommended in the classical art, but perform this organically in relation to causes.

Susan E. Alcock has adapted the concept of the memory theatre specifically to archaeology. She writes - "*Obviously, the agora (the product of centuries of monumental accretion and often undirected growth) was not constructed de novo to serve as a 'direct aid for the recall of the past' (in Yates' definition); nor can it be thought of in the sense of the highly ornate Renaissance conceptions of Giulio Camillo and others. The use of the term here is perhaps more evocative than technically correct, but it does effectively convey one role this public space would now work to serve. To enter the agora during imperial times would be to confront a space newly configured and charged with monuments, statues, and structures, all carrying with them the burden of memory.*" [\[lv\]](#)

## VIII

### **PANSOPHIA AND THE SEARCH FOR A UNIVERSAL LANGUAGE OF SCIENCE: ALSTED, COMENIUS, BACON**

In this section, a brief account of the contributions of Alsted, Comenius and Bacon towards establishing a universal encyclopaedic language are noted. From the Hermetic writings of Lull, Camillo and Bruno in the renaissance, there emerged the desire of developing the renaissance 'encyclopaedic' ideal. The discussion of this subject found clearest expression in the work of Johann Alsted. Johann Heinrich Alsted (1588-1638) — the teacher of Comenius at Herborn, editor of the mnemonic works of Giordano Bruno, a follower of Lull and Ramus, and a pedagogical reformer, discussed a number of important ideas involving the connection between the art of memory and constructing a universal encyclopedia in his numerous treatises and manuals, culminating with the great *Systema mnemonicum* — ideas which exercised a decisive influence on the development of the pansophic ideal and encyclopaedism in the early seventeenth century. The reformation of the techniques for transmitting knowledge and the systematic classification of all manual and intellectual activities played a vital role in the development of a new 'system' of the sciences, which would unify the principles of all the disciplines in a single corpus. By means of the encyclopaedia, which would reveal the systematic nature of knowledge, it would be possible to construct a new method, and develop a new, more rational, form of pedagogy. [\[lvi\]](#)

Pansophia involved the search for a universal method, logic and language which would allow man to understand and control nature through the possession of a universal wisdom. In John Comenius(1592-1670), the famous Czech teacher, proposed a pansophic reformation in which we find elements not only of the teachings of Francis Bacon, Johann Alsted, Wolfgang Ratke and Johann Valentin Andreae, but also many themes derived from the traditions of the *ars memomtiva* and Lullist encyclopaedism. While sketching out the fundamental outlines of his philosophy in the *Conatuum pansophicomm dilucidatio*, Comenius identified the authors that had preceded him in his task, and the works which had comforted and inspired him.<sup>[lvii]</sup> Since antiquity, he said, many famous men had attempted 'the collocation of all human knowledge' (*complexion totius eruditionis*).<sup>[lviii]</sup>

Comenius's project of a 'total encyclopaedia' is also linked to Lullism, discussions of the 'chain of the sciences' (*catena scientiarum*), and to the various projects for a unitary science or universal art which were so common in the sixteenth century. Comenius wrote in *Pansophiae profomus* of 1639 that the objective of wisdom was at various times attributed to philosophy, medicine, theology, law; it was conceived as the object of a particular science; identified with a partial vision which obstructed any attempt at reaching a totality, or comprehending the unity of the world. Through a total vision, reading the great book of the universe, and by means of a gradual progression from the encyclopaedia of sensible species (*orbis sensualis*) one could attain the encyclopaedia of intellectual species (*orbis intellectualis*), a unitary vision which was the highest aim of knowledge, which could never be achieved through the accumulation of partial accounts.<sup>[lix]</sup>

However this involved an infinite variety of notions and things to be reducible to a limited number of axioms or principles. Comenius insisted that the world was reducible to a few fundamental elements, and that there was a strict correspondence between the material creation and the structures of the intellect, imagination and language.

In 1668, John Wilkins set out the fundamental outlines of his project for a 'philosophical', 'perfect' or 'universal' language in his study, *Essay towards a Real Character and a Philosophical Language*.<sup>[lx]</sup> He referred to those parts of Francis Bacon's *Advancement of Learning* (and of the *De augmentis scientiarum*) in which Bacon had explained the differences between hieroglyphs and 'real characters'. Bacon was aware that the ideogrammatic written languages of China and the Far East (*provinciis ultimi Orientis*) were already using 'real' rather than 'nominal' characters - that is to say characters which represented things and concepts, rather than letters and words.<sup>[lxi]</sup> Using these characters it could be hoped that people who spoke different languages (once they had established the meanings of the characters by convention) could communicate with each other through writing. A book written in these characters could thus be read and understood by anyone in their own language.

## X

### POST SCRIPT: HUMANISM, ITS ACCEPTANCE AND REJECTION

Quentin Skinner points out in his famous study of early modern political thought that, in the later Middle Ages, the classical rhetoric tradition took the form of the *Ars dictaminis*, an art of letter writing and of style to be used in administrative procedures.<sup>[lxii]</sup> One of the most important centres of this tradition was at Bologna, and in the late twelfth and early thirteenth

centuries the Bolognese school of *dictamen* were renowned throughout Europe. A famous member of this school was Boncompagno da Signa, author of two works on rhetoric the second of which, the *Rhetorica Novissima*, was written at Bologna in 1235. James Murphy in his book on the history of rhetorical theory notes that although the *Rhetorica Novissima* is roughly divided into thirteen books, the first being on law and the last four on discourse, the majority deals with rhetoric and the philosophic importance of its components.<sup>[lxiii]</sup> In his study of Guido Faba,<sup>[lxiv]</sup> another member of the Bolognese school of *dictamen* of about the same period, E. Kantorowicz has drawn attention to the vein of mysticism which runs through the school. He notes its tendency to place rhetoric in a cosmic setting and to raise it to a 'sphere of quasi-holiness in order to compete with theology'. This tendency is very marked in the *Rhetorica Novissima*, in which supernatural origins are suggested - for example, for *persuasio* which must exist in the heavens for without it Lucifer would not have been able to persuade the angels to fall with him. Also, metaphor, or *transumptio*, must without doubt have been invented in the Earthly Paradise. Going through the parts of rhetoric in this exalted frame of mind, Boncompagno comes to memory, which he states belongs not only to rhetoric but to all arts and professions, all of which have need of memory.' What this shows is that the symbolic associations of memory and its application were being discussed by political commentators and the earliest batch of humanist writers as well.

It is only by taking into account the widespread popularity of mnemotechnics, not only in literary and philosophical circles, but also in schools, universities and pedagogical programmes, that we can understand the vehemence of the many criticisms and satires which were levelled against it in the Renaissance. Henricus Cornelius Agrippa, for example, in the tenth chapter of his *De vanitate scientiarum*, which deals with the *ars memorativa*, launched a violent attack against what he called the scholarly 'scoundrels' (*nebulones*) of the universities, who imposed the study of artificial memory on their students, and extorted money from the gullible who found the novelty of the art appealing. Agrippa considered the exhibition of mnemonic capacity to be a 'puerile thing', which was often accompanied by 'displays of turpitude and impudence.' While he cites Simonides, Cicero, Quintilian, Seneca, Petrarch and Pietro da Ravenna as the greatest theorists of the memorative art, he draws his readers' attention to two major drawbacks of the art. Firstly, artificial memory does not function effectively unless the natural memory is already robust, and secondly, he disapproved of the art's employment of 'monstrous' images and burdensome formulae which impeded rather than helped the memory. The exponents of artificial memory, Agrippa concluded, would drive those who are not content with the natural confines of memory insane with their art.<sup>[lxv]</sup>

Ten years later, in his pedagogical manual *De ratione studii*, Desiderius Erasmus launched an even fiercer attack on the pseudo-Ciceronian method of 'places and images' which, he said, impaired and corrupted the natural memory. The French critic, Michel de Montaigne attacked mnemotechnical literature by emphasizing the deficiency of his own memory:

*There is nobody less suited than I am to start talking about memory. I can hardly find a trace of it in myself. I doubt if there is any other memory in the world as grotesquely faulty as mine is! ... I may be a man of fairly wide reading, but I retain nothing*<sup>[lxvi]</sup>.

Montaigne criticized the pedagogical use of artificial memory in favour of a more spontaneous and organic form of learning. Despite the protests of Erasmus and Montaigne, the art which they criticized so vehemently became increasingly popular and widespread during the sixteenth and seventeenth centuries.

The idea of an art of remembering and thinking which was developed in a 'mechanical' way acquired a renewed impetus when, between the middle of the sixteenth century and the middle of the seventeenth, there was a confluence of three separate traditions of the art of memory: 1) those inspired by Cicero, Quintilian and the *Ad Herennium*; 2) those deriving from Aristotle's *De memoria et reminiscencia*, together with the commentaries of Albertus Magnus, Thomas Aquinas and Averroes; and 3) those directly connected to the *Ars magna* of Ramon Lull. The time was right for the development of a conceptual mechanism which, once it was set in motion, could 'work' by itself, in a way which was relatively independent of the work of the individual, until one arrived at a 'total knowledge', which would enable man to read the great book of the universe.

Thus, there was a twofold impact on humanism. While on the one hand, teachers like Petrarch adopted techniques which were similar to the Ciceronian art, commentators like Erasmus and Montaigne felt that the occult references and magical associations present in the art robbed it of any textual value. The dissemination of the art in the works of the *dictamen* and particularly Boncopagno da Sagna exhibits the enthusiastic interest gathered for the art during the late tricercento and early quattrocento periods. Its ideas influenced science as is evident in the works of Bacon, Descartes and Leibniz among others. By the early 16<sup>th</sup> century, Bacon's new logical method or Leibniz's key to universal character as discussed by Bertrand Russell in his famous book, *History of Western Philosophy*, indicate the inescapable influence of the Art of Memory from the philosophical thought of the renaissance or that of the early enlightenment thinkers. Only recently has this field of study received critical recognition.

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[i] Yates devotes an entire chapter in critically analyzing these three texts. She calls them the Latin sources for the Classical Art of Memory. See Yates, 1999, p.i

[ii] Jocelyn Penny Small, *Wax Tablets of the Mind: Cognitive Studies of Memory and Literacy in Classical Antiquity* (New York: Routledge, 2005) p. xii-xvi

[iii] Small, 2005 p. xiii

[iv] Harvard University's online database of the works of Parry is available at <<http://ted.lib.harvard.edu/ted/deliver/home?collection=mpcol>> accessed 13.11.2012

[v] Paolo Rossi, *Logic and the Art of Memory: The Quest for a Universal Language*, trans. Stephen Clucas (Chicago: University of Chicago Press, 2000) pp. 7-8

[vi] Ibid, pg. 8 Yates also devotes a chapter to the Greek sources in her work. See Yates, 1999.

[vii] Cicero, *On Oratory and Orators II*, pp. 86-8

[viii] The text Yates refers to and I have used is the Loeb Classical Library text: *Rhetorica ad C. Herennium* (1954, Cambridge: Harvard University Press, repr. 1964), Pg.156-180. The Classical author goes on to describe the different types of images and gives 3 practical examples which serve as introductions to the method the student of rhetoric needed to follow in order to understand the difference between 'memory for things' and 'memory for words' and clearly understand the functions of the loci.

[ix] Yates, 1999 p. 6

[x] A discussion of Capella's allegorical *Marriage of Philology and Mercury* is available at <<http://kvmagrunder.net/hsci/06-Roman/source/capella.html>> accessed, 20.11.2012. Yates specifically notes his contribution to the preservation of an outline of the ancient mnemonic system for the middle ages. See Yates, 1999 pp. 50-58

[xi] Small, 2005, p.14

[xii] See Rossi, 2000 p. 10

[xiii] Ibid

[xiv] [Erwin Panofsky](#) (and originally [Fritz Saxl](#)), *Titian's "Allegory of Prudence", A Postscript*, in *Meaning in the Visual Arts*, Doubleday/Penguin, 1955

[xv] Anna Maria Busse Berger, *Medieval Music and the Art of Memory* (Los Angeles: University of California Press, 2005) p. 45

[xvi] *Ibid*, p. 45

[xvii] *Ibid*, p.48

[xviii] Mary Carruthers, *The Book of Memory: A Study of Memory in Medieval Culture* (1990, Cambridge: Cambridge University Press, 2008) pp. 263. Electronic text available online.

[xix] See Berger, 2005, p. 45

[xx] *Ibid*, p.49

[xxi] Carol Berger, *The Hand and the Art of Memory*, *Musica Disciplina*, Vol. 35 (1981), pp. 87-120 in

<<http://www.jstor.org/stable/20532236>>, accessed 13.11.2012

[xxii] Jesse Rodin is Assistant Professor of Music in Stanford. For the full article on Rodin's approach towards the Guidonian Hand, see

<<http://humanexperience.stanford.edu/guidonianhand>> accessed 23.11.2012

[xxiii] Francis A. Yates, 'The Art of Ramon Lull: An Approach to It through Lull's Theory of the Elements',

*Journal of the Warburg and Courtauld Institutes*, Vol. 17, No. 1/2 (1954), pp. 115-173 Published by: [The Warburg Institute](#), Article Stable URL: <<http://www.jstor.org/stable/750135>> accessed 12.11.2012, where the Lullian art is discussed in detail by Yates.

[xxiv] See the discussion of 'Encyclopedism and Combinatoria' in Rossi, 2000, Pg.29

[xxv] See Rossi 2000, p.30

[xxvi] On at least three occasions, Lull attended the Chapter General of the Dominicans in the hope of interesting the Order in his Art; see E. A. Peers, *Ramon Lull, A Biography*, London, 1929, pp. 153, 159, 192, 203.

[xxvii] Lull himself never uses the word 'Ideas' of his Divine Names or Dignities, but the creative Names are identified with Platonic Ideas by Scotus; See Yates, 1999 pg. 176

[xxviii] Wolfgang Wildgen, 'From Lullus to Cognitive Semantics: The Evolution of a Theory of Semantic Fields' in <<http://www.bu.edu/wcp/Papers/Cogn/CognWild.htm>> accessed, 19.11.2012

[xxix] The Ladder of Ascent and Descent of the Intellect, not tree-like at first glance, but certainly branching dichotomously, the steps labeled from bottom to top, with representative figures on the right and upper left: Lapis (stone), Flamma (fire), Planta (plant), Brutum (beast), Homo (human), Caelum (sky), Angelus (angel), and Deus (God), a scheme that shows how one might ascend from inferior to superior beings and vice versa. After Ramon Lull (1232–1315), *Liber de ascensu et descensu intellectus*, written about 1305 but not published until 1512. See

<<http://medieval.tumblr.com/post/24127524468/the-ladder-of-ascent-and-descent-of-the-intellect>> accessed, 22.11.2012

[xxx] Rossi 2000, pg. 33

[xxxi] See Rossi, 2000 pp. 32-34

[xxxii] *Ibid*, p. 35

[xxxiii] Paolo Rossi deals specifically with the operation of the Lullian Tree of Science in *Logic and the Art of Memory*, 2000, p. 46

[xxxiv] A repository of hermetic writings and other gnostic texts can be located at <<http://www.sacred-texts.com/chr/herm/index.htm>> accessed, 15.11.2012

[xxxv] A repository of information on Gnosticism and Hermetic studies can be found at <<http://gnosis.org/library/hermet.htm>> accessed 19.11.2012

[xxxvi] A number of Bruno's works are available on-line at Jonathan Peterson's excellent web site <<http://www.esotericarchives.com/bruno/>> accessed 21.11.2012



[xxxvii] See Yates, 1999, pg.199-205

[xxxviii] See Rossi, 2000, p.83 where Rossi argues for a direct relationship between Brunian mnemonics and the theatre of Camillo.

[xxxix] The Warburg Institute retains the original manuscript of Yates' reconstruction of the memory wheel (diagram) to be found here <<http://warburg.sas.ac.uk/index.php?id=446>> accessed 20.11.2012, the webpage is interesting as it uses flash player and other media to reconstruct an illusion of the rotating wheels.

[xl] See Yates, 1999 p. 223

[xli] Francesco Torchia, La chiave delle ombre', *Intersezioni*, 1, 1997, pp. 131-151

[xlii][xliii] Translation from the Warburg Institute webpage at <<http://warburg.sas.ac.uk/index.php?id=446>> accessed 20.11.2012

[xliiii] *De Umbris Idearum* as quoted in Yates, 1999, p.130

[xliv] Ibid, p. 131

[xlv] See Rossi, p. 87

[xlvi] Rossi discusses the notion of universal language in Rossi, 2000, p.145

[xlvii] Both Yates and Matthew Maguire refer to this story as generally accepted. The problem scholars associate with this is that Camillo may have been paid more than 1200 Ducats for his efforts.

[xlviii] L'idea Del Theatro, Pg.9. See Yates, 1999. p. 138

[xlix] The Scenes from the theatre itself describes the central action. I specifically used Matthew Maguire's translation in Matthew Maguire, *The Memory Theatre of Giulio Camillo*, 1986. Electronic Text.

[l] Vitruvius, *De architectura*, Lib. V, cap. 6. On the plan of Camillo's Theatre, the central gangway has been made wider than the others. Camillo does not state that this is to be so but there is a warrant in ancient

theatre design for it. L. B. Alberti in his *De re aedificatoria* (Lib. VIII, cap. 7) calls the wider central gangway the 'via regia'.

[li] Kate Robinson, "The Celestial Streams of Giulio Camillo", *History of Science* 43 (2005), pp. 321-341.

[lii] The entire discussion is reproduced from Yates, 1999, the chapter 'Renaissance Memory: The Memory Theatre of Giulio Camillo' and also 'Camillo's Theatre and the Venetian Renaissance' which I have not discussed.

[liiii] Allesio Ageno and Maura Frilli, *Architecture as talisman: The hidden links between Vitruvius' theatre and Palladio's villa «Rotonda»* Proceedings of the First International Congress on Construction History, Madrid, 20th-24th January 2003, ed. S. Huerta, Madrid: I. Juan de Herrera, SEdHC, ETSAM, A. E. Benvenuto, COAM, F. Dragados, 2003, available as e-text at <[http://gilbert.aq.upm.es/sedhc/biblioteca\\_digital/Congresos/CIHC1/CIHC1\\_016.pdf](http://gilbert.aq.upm.es/sedhc/biblioteca_digital/Congresos/CIHC1/CIHC1_016.pdf)> accessed, 9.11.2012

[liv] The analysis is reproduced from Yates, 1999, pp. 145-148

[lv] Susan E. Alcock, "The Reconfiguration of Memory in the Eastern Roman Empire," in Susan E. Alcock, et al., *Empires: Perspectives from Archaeology and History*, Cambridge University Press, 2001, 337

[lvi] See Rossi, 2000, pp. 130-131

[lvii] See <<http://www.britannica.com/EBchecked/topic/127493/John-Amos-Comenius>> , accessed 22.11.2012 on the life and projects of Comenius. The website offers a glimpse into his philosophy, education and religious ideas with a chronology of his works.

[lviii] Rossi, 2000, p. 130

[lix] V. T. Miskovska, *Comenius (Komensky) on Lexical Symbolism in an Artificial Language, Philosophy*, Vol. 37, No. 141 (Jul., 1962), pp. 238-244 Published by: [Cambridge University Press](#) on behalf of [Royal Institute of Philosophy](#) Article Stable URL:

<http://www.jstor.org/stable/3748440>, pp. 238-244 accessed 19.11.2012, which discusses the Comenius' sources and his attempt at a lexicographic project.

[lx] John Wilkins, *An Essay Towards a Real Character and a Philosophical Language. (An alphabetical dictionary, wherein all English words ... are either referred to their places in the Philosophical tables, or explained by such words as are in those Tables)* (London, 1668), p. 13.

Rossi deals explicitly with this study.

[lxii] See Rossi, 2000, p. 145

[lxiii] Quentin Skinner, *The Foundations of Modern Political Thought: Vol.1 (The Renaissance)* (1978, Cambridge: Cambridge University Press, 2002) pp.30-35 where Skinner also discusses the impact of the *ars dictaminis* as disseminating the political spirit of republicanism at the time.

[lxiiii] James Murphy, *Rhetoric in the Middle Ages: A History of Rhetorical Theory from St. Augustine to the Renaissance* (Los Angeles: University of California Press, 1981) pg. 254

[lxiv][lxiv] E. H. Kantorowicz, 'An "Autobiography" of Guido Faba', *Mediaeval and Renaissance Studies*, Warburg Institute, I (1943), pp. 261-2.

[lxv] Henricus Cornelius Agrippa, *De incertitudine et vanitate scientiarum in Opera*, 2 vols. (Lyon, 1600), II, pp. 32-3. See Rossi, 2000, 'The Power of Images and the Places of Memory'

[lxvi] Desiderius Erasmus, *De ratione studii in Omnia opera D. Erasmi ... quaecumque ipse auctor pro suis agnovit ... Cum praefatione B. Rhenani Selestadiensis, vitam auctoris describente ... Addito indice copiosissimo*, 9 vols.

(Basel: Froeben, 1540), I, p. 466. The lines are translated by Rossi.

[lxvii] Michel de Montaigne, *Essais*, trans. M. A. Screech, *The Essays of Michel de Montaigne* (Harmondsworth: Allen Lane, The Penguin Press, 1991), I, 9, p. 32 and II, 10, p. 457.

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[ii] Joshua Foer, *Moonwalking with Einstein: The Art and Science of Remembering Everything* (New York: Penguin, 2011) p.116, where Foer asserts the importance of a good memory in the age before printing came into practice.

[iii] Francis Yates in her celebrated book, *The Art of Memory* (New York: Routledge, 1999) p. 4 does not agree in entirety with the mnemotechnics as a general term associated with the art. She writes: *The word 'mnemotechnics' hardly conveys what the artificial memory of Cicero may have been like, as it moved among the buildings of ancient Rome, seeing the places, seeing the images stored on the places, with a piercing inner vision which immediately brought to his lips the thoughts and words of his speech. I prefer to use the expression 'art of memory' for this process.*

[iii] From an interview of Joshua Foer at

<<http://www.guardian.co.uk/books/2011/apr/10/moonwalking-einstein-joshua-foer-review> > accessed 20.11.2012

[iv] Patrick H. Hutton, 'Art of Memory Reconcived: From Rhetoric to Psychoanalysis', *Journal of the History of Ideas Inc.* (1987). Electronic text available at <<http://www.history.ucsb.edu/faculty/marcuse/classes/201/articles/87HuttonArtMemoryReconcivedJnlHistIdeas.pdf>> accessed 18.11.2012

[v] Yates suggests that the story of Simonides has undergone several changes depending on the requirements of the teacher and no single 'perfect' copy exists. See Yates, 1999.

[vi] Cicero, *On Oratory and Orators II*, LXXXVI, 351-4 trans. J.S. Watson (New York: Harper and Brothers, 1875) pg. 186. The First edition of the text is available as an electronic copy.

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