Earthly Order and the Oneness of Mysticism: Hugh of Saint Victor and Medieval Classification of Wisdom

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ABSTRACT: Hugh of St. Victor's *Didascalicon* is a twelfth-century classification of knowledge, or as Hugh would put it, of Wisdom, written in the context of medieval, Christian mysticism. This study reads the text through its cultural and intellectual context, including medieval themes of the problem of universals and the importance of numerology. The study addresses the question of whether or not Hugh's classification is part of the Aristotelian tradition of classificatory structure characterized by mutually exclusive categories, teleological progress toward a goal, and hierarchy, which is still with us today. It also examines the role of the liberal arts in Hugh's pedagogy and philosophy as exhibited in the *Didascalicon*.

1.0 Introduction

Hugh of St. Victor's *Didascalicon* is a classification of knowledge or, as Hugh would put it, of Wisdom. The context for this classification is unusual in cultural and ideological terms. Hugh was a mystic, educator, and theologian/philosopher at a time when Aristotle's works, the source of much of our basic classificatory theory, were known imperfectly. From a twenty-first century perspective, his context is decidedly arcane. His focus on the afterlife and disregard for the mundane life of the world is not consonant with most of ancient Greek thought or the interests of most of today's concerns. Hugh accepts beliefs that we would find absurd, notably a reliance on numerology. Yet, as the research reported here will trace, Hugh stands firmly in the Aristotelian classificatory tradition.

This tradition established three characteristics of classification: mutually exclusive categories, a teleological progression (typically of main classes), and hierarchy. I have discussed these characteristics elsewhere (Olson 1999, 1999a, 2004, 2004a; Olson, Nielsen, & Dippie 2002) so I will not belabor them here but will illustrate them in expounding on Hugh's text.

In reporting this study I begin with background information on relevant themes related to Hugh's cultural and intellectual context and proceed through a close reading of his classification as propounded in the *Didascalicon* with special attention to the charac-

teristics of our classificatory tradition and the contextual themes discussed below.

2.0 Background

2.1 Who was Hugh of St. Victor?

Hugh of St. Victor was born in 1096 to a noble family in Saxony. His father was a count. His uncle was a bishop. Hugh was educated at a monastery in Saxony and joined the Canons Regular of St. Augustine. But when the political situation became unstable in Saxony he was advised to go to Paris. Both Hugh and his uncle went to the monastery of St. Victor, which had been founded by his uncle's teacher, William of Champeaux. They arrived there in 1115 bringing with them relics of St. Victor. In 1133 Hugh became head of the School of St. Victor. He died in Paris in 1141 having spent nearly twenty-eight years there. While this summary is somewhat conjectural, it seems to be close to a scholarly consensus on Hugh's life. It is based primarily on the work of Myers (1910) and Taylor (1957).

Hugh is primarily known as a philosopher, a mystic, and an educator. It was from all three of those perspectives that he wrote his *Didascalicon* during the 1120s. In it as in other works he was especially influenced by Boethius and by St. Augustine. He in turn was an influence on St. Bonaventure and on St. Thomas Aquinas. In that sense, among others, Hugh was working at the cusp of ideas and at a turning point in history. Hugh stood on the brink of the twelfth-century renaissance, which was fueled by the introduction to Europe of classical texts that had been preserved by Arab scholars but had been lost to Europeans. In particular, the opus of Aristotle would become available. Hugh, however, was reading the few works of Aristotle to which he had access through the limitations of Boethius' translations. It was only slightly after Hugh's time that the more authoritative Aristotelian texts reached Europe.

Instead, Hugh emerged from the Neoplatonism, represented by Boethius, and the particular version of it that had developed in the medieval church, as in the work of St. Augustine, and that still dominated religious thought in early twelfth-century Europe. Nevertheless, Hugh managed to integrate the Aristotelian value of the senses and orderly method into the Neoplatonism that was his theological heritage. As Sidney Packard put it: "The Victorines [Hugh and those who came later at St. Victor], … managed to combine dialectics, neo-Platonism, humanism, and an intense mysticism, steeped in allegory" (1973, 183). In that way, Hugh seems to have balanced what has been called the "central problem of medieval philosophy—the relation between reason and revelation" (Kleinz 1944, 1)—an epistemological question asking whether reason can play a role in gaining true knowledge or if the only source of true knowledge is divine revelation. Tina Stiefel (1985) suggests that Hugh was part of a scientific revolution in the first half of the twelfth century that developed a methodologically sound science. By addressing questions of reason and science in his pedagogical writings and in his mysticism, Hugh was a key figure in setting the stage for the twelfth-century renaissance. The following four sections expand on Hugh's philosophical, mystical, and educational contexts.

2.2 The philosophical problem of universals

Part of the disjoint that Hugh seems to have bridged was the problem of universals, a question fundamental to classification. (Note: In the discussion that follows, the description of the problem of universals is based primarily on Aspell (1999) except as otherwise noted). In the third century CE, Porphyry in his introduction to Aristotle's *Categories* (accessible in medieval Europe through Boethius's translation) put the problem of universals as a series of three questions: "Do genera and species subsist, or are they simply something in the mind? If subsisting, are they corporeal or incorporeal? Are they separated from or located in sensible things?" (quoted in Aspell 1999, 57). It might be reworded for this discussion:

1. Do categories as abstract concepts (universals) exist or are they simply something of the mind?
2. If they exist, do they have a material presence or not? If they are not part of material reality does that mean that they really do not exist?
3. Are they separate from or located within things that we can perceive with our senses? How can they be formed in the mind if we cannot perceive them?

These questions raise serious issues for thinkers like Hugh who see spirit and matter as separate and adhere to the principle that like things are known by like—*simile simili cognoscitur* (Kleinz 1944, 42). Genus and species, if not material and not spiritual, are—well, what? What does the existence of universals or lack thereof say about the human soul or even

about God? Further, if universals are not connected with reality then scientific knowledge of God, the world, and humanity is impossible. St. Augustine asserted, interpreting Plato, that God has universal knowledge, which is a problem if universals are false.

By Hugh's time several more perspectives had been added. The Neoplatonic Realists believed that universals do indeed exist, that they exist independently of being thought, and that universals are found in individuals in whole or in part. The Nominalists, at the opposite end of the spectrum, described universals as being merely words in a grammatical context and not real. Only individuals, specific things that can be perceived, are real. Nominalists, therefore, rule out the Platonic concept that what we perceive is only an imperfect reflection of the Ideal. This stance was dealt a blow in 1092 when Roscelin, a Nominalist, was accused of heresy on the basis that if only individuals are real and universals are not then he is saying that the Trinity is not three in one because it is an incorporeal concept; rather, the Trinity is three separate individuals.

The middle ground was put forward by Peter Abelard in an effort to reconcile Neoplatonic Realism and Nominalism with what has been described as a moderate or Aristotelian Realism. In his famous debate with William of Champeaux the latter initially said that universals are present in individuals and that individuals are different from each other only due to the accidents of circumstance. Abelard argued that if a universal is wholly present in an individual then that individual has it all and no others can exist and if universals are partially present in individuals then individuals are not complete (e.g., individual people are not wholly human). If all universals are substantially the same then God is substantial in the same way. Abelard answered Porphyry's questions:

1. Universals exist only in the mind, but they name things that exist materially.
2. Universals are corporeal in that they name things, but incorporeal in the way that they are signified.
3. Universals are names grounded in the realities of individuals—in their likenesses—but are beyond the sensible world in that they are concepts in the minds of humans and of God.

In Abelard's stance we can see a medieval justification for our fundamentally Aristotelian classificatory practice in which categories are defined by the characteristics required for membership in those categories—the first step in constructing a classification as we know it: the creation of definable categories. It also confirms the legitimacy of hierarchy as an organizing principle and, by confirming the existence of universals, allows for the use of Aristotelian deductive logic in building those hierarchies.

Kleinz, in his dissertation on Hugh's epistemology, notes that Hugh rejects both Realism and Nominalism but does not explicitly state his own position (1944, 61). In different circumstances, Hugh seems to take different perspectives. Or perhaps Hugh had little patience with the argument (Aspell 1999, 68). This factor will be traced in the close reading of the *Didascalicon* to follow.

2.3 Mysticism and the quest for oneness

Mysticism is defined by the *Oxford English Dictionary* (2009) as "belief in the possibility of union with or absorption into God by means of contemplation and self-surrender; belief in or devotion to the spiritual apprehension of truths inaccessible to the intellect." Knowledge of God was the ultimate clear goal of medieval philosophy. For Hugh, that knowledge is in the form of oneness with God. It is achieved through the three stages of thought, meditation, and contemplation. The reason that this process is necessary is that in Adam and Eve's Fall from Grace, when they were cast out of the Garden of Eden, humanity lost its ability to see God. In his *De Sacramentis Christianiae Fidae*, Hugh explained the problem using the metaphor of three eyes (Kleinz 1944). First is the "eye of the flesh" (*oculus carnis*), which sees only the physical world. It is the eye of the senses and was left intact after the Fall. Second is the "eye of reason" (*oculus rationis*), which sees the soul. It became bleary after the Fall, so that humans can see into their souls only imperfectly. The third eye is the "eye of contemplation" (*oculus contemplationis*), which sees God. It was blinded after the Fall. The goal of oneness with God requires the "restoration" of sight to the eye of contemplation. It, in turn, requires clear vision in the eye of reason, which depends on the evidence from the eye of the flesh. Restoration is achieved in each eye through thought, meditation, and contemplation respectively. The progression toward the oneness that can only be achieved through the contemplation that follows meditation and thought is a teleological path that introduces order into seeking union with God. This order governs Hugh's classification and is potentially parallel to the order of knowledge development

in the work of Francis Bacon in the Renaissance and of Hegel in the nineteenth century (as will be discussed below).

2.4 Numerology and the pattern of things

The Platonic notion that abstract entities without physical manifestations can and do exist was completely compatible with Hugh's mysticism. Among these abstract entities, according to Plato drawing on the Pythagorean tradition, were numbers. For medieval thinkers, mathematics was a way to discover the order of the universe (Wagner 1986, 4). Packard suggests that (1973, 212):

> It is difficult if not impossible for the modern student to understand and appreciate properly the breadth and depth of twelfth-century mysticism.… Mathematics and all its details were seen as fundamentally symbolic of eternal truths not fully comprehensible to the rational mind unaided by Christian faith. Hence the perfect and the imperfect numbers and the devotion to particular numbers.

St. Augustine is likely Hugh's primary source on the symbolism of numbers (Hopper 2000). Augustine asserted that pure mathematics come from God. Other sources also contributed to the medieval fascination with numbers, which was taken very seriously. The idea that things occurring in the same number were related came from astrology; the significance of numbers was based largely on those numbers that appear in the scriptures; and methods for analysis came from the Pythagoreans (Hopper 2000, 90). In his *Exegetica*, Hugh summarized the rules for interpreting numbers: first, the order of position; for example, 1st being unity, 2nd signifying sin, because it is diverted from unity, etc.; second, the quality of composition; for example, 1 indicates unity with God, 2 is corruptible, because it can be divided, but 3 returns to unity, because it is not divisible by 2, etc.; third, the relation to other numbers (e.g., 7 beyond 6 = rest after work, 8 beyond 7 = eternity after mutability, 9 before 10 = defect among perfection); and so forth up to nine ways in which numbers can be meaningful (Hopper 2000, 100-104). Like Augustine, Hugh believed that the numeric relationships between things are meaningful. They reflect the patterns of things that Hugh sees as manifestations of wisdom—"Wisdom which is the sole primordial Idea or Pattern of things" (*D*, 1, 4, 51). (Note: References to the *Didascalicon* are to Taylor's translation into English (Hugh of St. Victor 1991) and are coded *D* book, chapter, page in the translation.)

2.5 Education through reading

Hugh as mystic and educator seeks to restore the student to the divine Wisdom of God. The path, as mentioned above, is one of thought, meditation, and contemplation and is facilitated by education. In the *Didascalicon*, Hugh translates "thought" into "reading" so an education consists of: "The things by which every man advances in knowledge are principally two—namely, reading and meditation" (*D*, preface). Contemplation is left "to those who are perfect" (*D* V, 9, 132). The *Didascalicon* is a guide to reading for thought and meditation (*D* III, 10, 92-93):

> Meditation takes its start from reading but is bound by none of reading's rules or precepts. For it delights to range along open ground, where it fixes its free gaze upon the contemplation of truth, drawing together now these, now those causes of things, or now penetrating into profundities, leaving nothing doubtful, nothing obscure. The start of learning, thus, lies in reading, but its consummation lies in meditation.

Education is a road to an end. It is the study of philosophy. Philosophy is the love "philos" of wisdom "sophia." "Philosophy is the love of that Wisdom which, wanting in nothing, is a living Mind and the sole primordial Idea or Pattern of things" (*D* II, 1, 61).

2.6 The Didascalicon

To pursue this path to enlightenment, Hugh developed a program of reading philosophy, which he divided into various arts. "This, then, is what the arts are concerned with, this is what they intend, namely, to restore within us the divine likeness, a likeness which to us is a form but to God is his nature" (*D* II, 1, 61). Following in the didactic tradition of what to study and why, Hugh described his educational plan in the *Didascalicon*. The title comes from the Greek for "instructive" and the *Oxford English Dictionary* (2009) defines the adjective "didascalic" as "Of the nature of a teacher or of instruction; didactic; pertaining to a teacher."

The *Didascalicon* was written in the 1120s, five or more years after Hugh settled at the Abbey of St Vic-

tor, but before he took on the leadership of its school. The *Didascalicon* is divided into two parts of three books each. The first part, books I to III, contains instruction on how to read the Arts, what to read, and in what order to read it. The second part, books IV to VI, explains how to read Sacred Scripture. The primary focus of this study is the first part: book I which explains the purpose and introduces the four branches of knowledge; book II which fills in the classification and explains the importance of the seven liberal arts; and book III which dictates guidelines on how to approach reading and in what order to read. Of particular interest in this study is the classification that Hugh develops in the *Didascalicon*.

3.0 Methodology

The study reported here is a close reading of Hugh of St. Victor's *Didascalicon* with special attention to the themes introduced above and their relationship to classification. This approach is not dissimilar to Hugh's chapter in the *Didascalicon* "Concerning the Method of Expounding a Text" (*D* VI, 12, 150):

> The method of expounding a text consists of analysis. Analysis takes place through separating into parts or through examination. We analyze through separation into parts when we distinguish from one another things which are mingled together. We analyze by examination when we open up things which are hidden.

This exposition addresses the question of whether or not Hugh, a mystic with limited access to classical literature, was a participant in the Aristotelian classificatory tradition and to discover the impact of the historical, religious, and intellectual aspects of his cultural context on the classification.

4.0 Reading classification in the *Didascalicon* of Hugh of St. Victor

4.1 Establishing the foundation

Hugh begins with an explanation of how, regardless of an individual's intellectual gifts or place in society, each has a responsibility to "struggle after knowledge with all the effort they can put forth …" (*D* preface, 43). And, of course, the purpose of struggling after knowledge is to set one's feet on the path to oneness with God. In the first sentence of Book I, Chapter 1, Hugh portrays God, specifically Jesus, as Wisdom: "Of all things to be sought, the first is that Wisdom in which the Form of the Perfect Good stands fixed" (*D* I, 1, 46). This was a common personification, which Hugh, in this instance, borrowed almost directly from Boethius (*D* I, 1, n 1). Since philosophy is the love of wisdom (*D* I, 2) then philosophy is what one must read to pursue the desired end. "But since this most excellent good of philosophy has been prepared for human souls, we must begin with those very powers of the soul, so that our exposition may follow an orderly line of progression." (quoting Boethius in *D* I, 2, 48). The path is a teleological progression toward Wisdom. The specific Wisdom is not knowledge of how to do something such as a craft or trade, but (again from Boethius) "that Wisdom which, wanting in nothing, is a living Mind and the sole primordial Idea or Pattern of things" (*D* I, 2, 48).

The preface and first two books suggest that there is stability and structure in Wisdom that can be pursued in an orderly progression towards a goal. "Wisdom in which the Form of the Perfect Good stands *fixed*." The "*sole* primordial Idea" is also described as a "*Pattern* of things." Both refer to Wisdom itself, which begins to sound classificatory. And to pursue Wisdom through philosophy we are to "follow an *orderly* line of *progression*" (emphasis added). This helps to explain why Hugh developed a classification scheme for his purpose—to follow the teleological path to a structured ideal.

4.2 Threes

The classification that serves as a guide in this pursuit of wisdom might be viewed from the 21st century as having more than one false start in the *Didascalicon*. Book I, chapter 3 (these are brought together in Table 2) examines the "threefold power of the soul." It is the first of several "threes" and quite typical as he divides one concept after another in threes. The first power of the soul is to sustain life—a power that belongs to all living things. The second is to interpret perception through the senses—a power that requires memory and belongs to all animals. The third is reason which allows knowledge of things the knower cannot perceive with the senses because they are remote or even abstract—a power that requires imagination and belongs only to humans. Here Hugh (again quoting Boethius) is invoking the aura of the number "3." The obvious source of importance in Hugh's context is the Trinity of the Father, Son, and Holy Spirit. However, Albertus Magnus (a theologian active a century after Hugh) after examining dimen-

sions of time and space and various other manifestations concluded that "3" is in everything in a "trinity of nature" and St. Thomas Aquinas elaborated on how the Trinity created humans as threefold having substance, form, and order (Hopper 2000, 94-95).

In the *Didascalicon*, Hugh uses threes for progressions of broad concepts, and it is worth examining these threes from a classificatory perspective. In Book I, chapter 6, Hugh suggests that things can be divided into three types. He in turn divides one concept after another in threes but, in actuality, they came from a pattern. The first is the eternal or divine thing, which has neither a beginning nor an end; cause and effect are not separated. The only thing in that category is "the Begetter and Artificer of nature" God (*D* I, 6, 52). The second type of thing has a beginning, but no end. Hugh puts nature into this category because it came into existence by divine will. That is, it has a primordial cause, which is separate from the effect. It persists in perpetual subsistence. God is the cause and nature the effect. It is also termed "superlunary" because the distant bodies of the cosmos were viewed as immutable. The forms of nature may change, but not the essences (*D* I, 6, 53). The third type of thing has both a beginning and an end. This category is filled with what Hugh calls the works of nature. These works consist of things put together that once were apart and will again be so, of things that are moved from one place to another, and so forth. They are the forms that change: "That which before was nothing returns again thereto" (*D* I, 6, 53). The third category presumably includes things made by humans.

Contrasting the three powers of the soul and the three types of things reveals two interesting points. First, each one is a progression—one from powers held by all to that held only by the most sentient: living things, animals, humans—the other from eternal to unstable: the divine, the perpetual, and the temporal. Second, the order of the first is from least exalted to most and of the second from most exalted to least. However, they could also be interpreted as broad to narrow or most to least encompassing. Looking at another "three" may help to explain.

In Book I, chapter 9, Hugh discusses the "Three Works." The first of these is the work of God "which is to create what was not … 'In the beginning God created heaven and earth.'" The second is the work of nature, which reveals what was hidden "'Let the earth bring forth the green herb.'" The third is the work of human artificers who put things together "'They sewed themselves aprons." (*D* I, 6, 55). These examples from the Christian Creation story and of Adam and Eve clothing themselves after the Fall make it clear that human work is beneath the other two types of work. Hugh goes further to call it "imitative of nature" suggesting examples such as bark encircling a tree being the inspiration for the human invention of clothing. (*D* I, 9, 56) In this instance, again, the divine comes first and the human last.

In Book I, chapter 5 Hugh introduces another "three" as the basis for the structure of the arts, which he then uses directly in his classification. While he mentions these—the theoretical, the practical, and the mechanical arts—in the chapter title, the reader must deduce them in this first discussion. He begins constructing these categories on the basis that humans are made of two things: good and evil, nature and defective nature. The good, corrupted by the Fall, needs to be restored and the evil needs to be removed. That is, this "two," remembering that 2 is a corruptible number, needs to be divided. This description must be read with the introduction (in book I, chapter 8) of two divisions of Wisdom: understanding and knowledge. Understanding (*intelligentia*) is what we seek when we endeavor to restore our goodness. We gain understanding by contemplating truth in which we are linked to the divine. Knowledge (*scientia*) is what we use to provide the necessities of life, including fending off evil, and in it we are human. Because of human imperfection *scientia* is also referred to as mechanical or adulterate. Understanding comes from spiritual reason whereas knowledge comes from reason applied through the senses. Understanding, however, is divided into two parts: the theoretical or speculative which is concerned with finding truth and the practical (or ethical or moral) which delineates morals. So in this way, Hugh comes to the three categories of arts that make up the fundamental content of his classification, philosophy or wisdom: the theoretical, speculative, and mechanical arts (*D* I, 5 & 8; *D* II, 1).

In book II, chapter 4, Hugh explains the significance of "3." He points out a progression that mirrors the progression of the soul toward oneness. It begins with 3 x 1 = 3; 3 x 3 = 9, 3 x 9 = 27, etc., multiplying each successive product by 3 with the resulting numbers:

3	9	27	81
243	729	2187	6561
19683	59049	177147	531441

Table 1. The progression of threes

	Eternal/Divine		Mundane/Human
Three eyes (reversed)	Eye of contemplation	Eye of reason	Eye of the flesh
	Blinded in the Fall; needed to see God	Bleary after the Fall; needed to see soul	Sees clearly but only through senses
Threefold Power of the Soul (reversed)	Extends knowledge through reason	Provides judgment in sense perception	Supplies life to the body
	All living things	Animals (Memory)	Humans (Imagination)
Three "Manners" of Things	Eternal/Divine has no beginning or end	Perpetual/Superlunary essences have a beginning but no end	Temporal/ Sublunary have both a beginning and an end
	"the Begetter and Artificer of nature"	Nature	Works of nature— Sensible objects
Three Works	Work of God	Work of nature	Work of the artificers
	Creation	Revealing the hidden in creation	Imitating nature
Philosophy/Wisdom	Understanding		Knowledge
	Theoretical or speculative arts Contemplate truth	Practical, active, or ethical -moral arts Define morals	Mechanical arts Adulterate Provide life's necessities
Francis Bacon (reversed)	Reason Philosophy	Imagination Poetry	Memory History
Hegel	Ideal	Essence	Being

Table 2. Parallel Threes

In this progression it is the final digit of each number which is significant. The sequence repeats four final numbers which are significant in medieval numerology (*D* II, 4, 64-65):

> The first progression of the soul, therefore, is that by which from its simple essence, symbolized by the monad [one], it extends itself into a virtual threeness, in which it desires one thing through concupiscence, detests another through wrath, and judges between these two through reason.

The second progression signifies the music of the human body, which has nine openings. The third progression finds the soul dissipated through a focus on the senses, but the fourth sees the soul freed from the body by death and returned to the simplicity of one. And this cycle will carry on to infinity. Three, as a prime number, is seen as appropriate to the soul because of its relation to one which signifies unity.

This progression, in a medieval context, is really no more arcane than the idea that in the *Dewey Decimal Classification* "3" can be the ancient world, or dictionaries, or Germanic languages. In fact, the medieval symbolism of numbers is less arbitrary in its way. Hugh will have seen it as the "Pattern of things" in that it has a rationale for the choice of number.

Hugh's threes are not all that different from the progressions of Francis Bacon's 1605 *Advancement of Learning* or even GWF Hegel's in his 1811 *Science of Logic*. Table 2 illustrates the parallels that go from the most exalted to the most concrete (sometimes requiring a reversal of the order).

4.3 Fours

Ultimately, however, Hugh established a fourth category of arts: logic. In book I, chapter 11, he notes that the other three arts were invented first, but a knowledge of the techniques of logic is necessary for accurate reasoning. It is specifically linguistic logic that contains grammar and argumentative logic that in turn contains dialectic and rhetoric. Hugh argues that the practical science of logic became an art when it acquired rules and precepts. He regarded logic as a necessary prerequisite to the study of the other arts.

Adding logic to the theoretical, practical, and mechanical arts makes four categories. But Hugh links it to the four numeric progressions of three (Table 1). He also examines the four progressions of four:

4	8	16	32
64	128	256	512
1024	2048	4096	8192

Table 3. The Progression of Fours

In this progression the body is symbolized by two because it is divisible into body and soul and, therefore, each product is also divisible. Each progression multiplies the number by two (*D* II, 5, 66):

> And now you see clearly enough, I should think, how souls degenerate from being intellectible things [eternal] to being intelligible things [perpetual] when, from the purity of simple understanding clouded by no images of bodily things, they descend to the imagination of visible objects [temporal]; and how they once more become more blessed when, recollecting themselves from this distracted state back toward the simple source of their nature, they, marked as it were with the likeness of the most excellent numeral [two], come to rest.

While we may not see this as clearly as Hugh does, the inclusion of logic among the arts allows Hugh to focus on the seven liberal arts, which will be discussed below.

4.4 The classification itself

Hugh delineates his classification, except for the main classes, in book II, which he again opens with the quote from Boethius equating philosophy, the love of Wisdom, with "a living Mind and the sole primordial Idea or Pattern of things" (*D* II, 1, 61). He goes on in his own voice (*D* II, 1, 61):

> It is called "the primordial Idea or Pattern of things" because to its likeness all things have been formed.… This, then, is what the arts are concerned with, this is what they intend, namely, to restore within us the divine likeness, a likeness which to us is a form but to God is his nature. The more we are conformed to the divine nature, the more do we possess Wisdom, for then there begins to shine forth again in us what has forever existed in the divine Idea or Pattern, coming and going in us but standing changeless in God.

So the Pattern is divine. Hugh does not explicitly link his ordering of the arts with the "Pattern of things," but as he explains his classification it is clear that he has sought divine guidance in its construction. Ivan Illich, in his book on the *Didascalicon*, describes Hugh as following, observing, and searching out order rather than creating it. This order was established by God at the time of creation. The reader does not create mundane order, but is absorbed into a divine order (1993, 30-31).

Hugh begins, then, with the theoretical, practical, and mechanical arts plus logic as his main classes and methodically explains his subdivision of each using a deductive approach (a summary of the classification is found in the appendix to this article). Besson (1980, 10-14), one of the few scholars to explore medieval bibliographic classification, has a somewhat different interpretation than mine. He includes some aspects of subdivisions that I interpret as other options as a basis for warrant and vice versa. Hugh is not always clear which he means, especially in the mechanical arts.

4.5 Theoretical arts

Hugh starts by dividing the theoretical arts into theology, mathematics, and physics, which he links to Boethius' division into the intellectible, the intelligible, and the natural (*D* II, 1, 62). Taking these one at a time, Hugh again follows the pattern set by the "threes" discussed above. Theology is intellectible in that it cannot be known through the senses but has to be grasped by the intellect alone (*D* II, 2, 62). Physics is equally simple being the study of causes and effects in nature.

Mathematics is the problematic art of the three theoretical arts. Boethius calls it intelligible because mathematics is directed toward both the superlunary celestial works and the sublunary human world. Therefore, mathematics (*D* II, 3, 63):

> By contact with bodies, degenerated from the level of intellectibles to that of intelligibles; as a result, they are less objects of understanding than active agents of it, and they find greater happiness by the purity of their understanding whenever they apply themselves to the study of things intellectible.

Or, in clearer terms, quantity is abstract when in the "domain of mathematics" but not in the natural world so mathematics is sullied by association. Hugh uses strong language to describe what amounts to a fall from grace (*D* II, 3, 64 emphasis added):

> Through contact with physical objects it *degenerates*, because, while through sense impressions it rushes out toward the visible forms of *bodies* and, having made *contact* with them, *draws them into itself* through imagination, it is *cut away* from its simplicity each time it is *penetrated* by any qualities entering through *hostile sense experience*.

This description mixes sexual physicality and violence. Given this image of earthly life, it is no wonder that Hugh wants to take students out of this world and into something cleaner and more ethereal—or that he views philosophy as an appropriate study for Christians because it meditates on death, bringing them to a better place (*D* II,1, 62).

In additional text written by Hugh at a later date, he summarizes in cooler language: "The theoretical is divided into theology, physics, and mathematics. Theology treats of invisible substances, physics of the invisible causes of visible things, mathematics of the visible forms of visible things" (*D* Appendix A: Division of the Contents of Philosophy, 153).

Theology and physics are not given further subdivisions. But mathematics, the problematic segment of the theoretical arts, has four subdivisions: arithmetic, music, geometry, and astronomy. It is in reference to these four arts, which make up the quadrivium of the seven liberal arts, that Hugh discusses the number "4" and its progressions (described above) in which souls descend to that which can be perceived with the senses and are only freed from this "distracted state" when they "come to rest" (*D* II, 5, 66).

As with other terms, Hugh discusses the etymology of these four arts. He describes "arithmetic" as "the power of number" (*D* II, 7, 67). Given Hugh's characteristically medieval interest in numbers, this seems appropriate. With the subdivisions of arithmetic, Hugh divides into two categories equal or even numbers and unequal or odd numbers and then divides each of those categories into three. Equal or even numbers are divided into "equally equal, equally unequal, and unequally equal." Unequal or odd numbers are divided into prime and incomposite numbers, secondary and composite numbers, and "numbers which, when considered in themselves, are secondary and composite, but which, when one compares them with other numbers [to find a common factor or denominator], are prime and incomposite" (*D* II, 11, 68). These and subdivisions of the other mathematical arts are drawn from Boethius (*D* II, 11, 68 n.).

Within music—a term Hugh derives from the word for water because, in his estimation, moisture is needed to create pleasant sounds—Hugh returns to using threes:

- Belonging to the universe
  - Of the elements
    - In their mass
    - In their number
    - In their volume
  - Of the planets
    - In their situation
    - In their motion
    - In their nature
  - Of the seasons
    - In days
    - In months
    - In years
- Belonging to man
  - Of the body
    - Vegetative power
    - Mixture of fluids and humors
    - Activities of rational beings
  - Of the soul
    - Virtues
    - Powers
  - Of the bond between body and soul

Instrumental	Kinds of musicians
Striking	Composers
Blowing	Players
Voice	Judges

These threes can be interpreted as parallel to other threes in starting with the superlunary (belonging to the universe); then moving to the sublunary (belonging to man); and finally to the works created there (instrumental). The universe created by God is divine and within it the divisions begin with the most abstract (elements), then the concrete superlunary planets, and then the sublunary earthly seasons. Each of these is again divided into three making it the deepest hierarchy of Hugh's classification at eight levels from the all-encompassing "philosophy" through "understanding," "theoretical arts," "mathematics," "music," "belonging to the universe," "of the elements," to the most specific at the level of "in their mass." The second category within music relates to humans who, as described above, are divisible into body and soul so they have a link to God and a link to earthly matters. Hugh describes the relationship between the body and soul as a friendship in this context, which allows music to consist "in loving one's flesh, but one's spirit more;

in cherishing one's body, but not in destroying one's virtue" (*D* II, 12, 69). Finally, instrumental music is the work of humans and involves the body, so it is the least exalted. It is not entirely clear from the text where the musicians fit—but there are definitely three kinds.

Geometry is clearly the measure of the earth and it is extended to the general measurement of surfaces (*D* II, 9, 68). Again, threes prevail in this part of the classification (*D* II, 13, 70):

> Planimetry measures the plane, … what is before and behind and to left and right. Altimetry measures the high, and, by widening its object, it measures what reaches above and stretches below ... *Cosmos* is the word for the universe, and from it comes the term 'cosmimetry,' or 'universe-measurement.' Cosmimetry measures things spherical, that is, globose and rotund, like a ball or an egg, and it is therefore called 'cosmimetry' from the sphere of the universe, on account of the preeminence of this sphere … the universe-sphere excels all other spherical things.

Once again, the threes follow a pattern, here starting with the most basic and ending with the superlunary—the universe.

The fourth art of Mathematics and of the quadrivium is astronomy, which Hugh expeditiously defines as different from astrology. Astronomy, according to Hugh, is the "law of the stars" whereas astrology is (*D* II, 10, 68):

> Discourse concerning the stars … It is astronomy, then, which treats the law of the stars and the revolution of the heaven, and which investigates the regions, orbits, courses, risings, and settings of stars, and why each bears the name assigned it; it is astrology, however, which considers the stars in their bearing upon birth, death, and all other events.…

That is, once again the separation of the superlunary and the sublunary. Astronomy addresses the celestial bodies of the superlunary, but astrology deals with mundane matters of human bodies. Hugh calls astrology partly natural and partly superstitious and suggests that it is "the 'mathematicians' who traffic in the superstitious part." (*D* II, 10, 68) Astronomy, however, deals with mobile phenomena (movement) as geometry deals with immobile (space) (*D* II, 14, 70). These four mathematical arts—arithmetic, music, geometry, and astronomy—then, make up the quadrivium which is discussed further below.

The final (third) of the theoretical arts is physics. It gets little attention from Hugh. He describes it in only one chapter in which he makes it clear that "physics alone is concerned properly with things, while all the other disciplines are concerned with concepts of things" (*D* II, 17, 72). Hugh puts the other mathematical arts before physics (*D* II, 17, 73):

> Because logic and mathematics are prior to physics in the order of learning and serve physics, so to say, as tools—so that every person ought to be acquainted with them before he turns his attention to physics—it was necessary that these two sciences base their considerations not upon the physical actualities of things, of which we have deceptive experience, but upon reason alone, in which unshakeable truth stands fast, and that then, with reason itself to lead them, they descend into the physical order.

In other words, students must be armed with logic as applied to the abstract before confronting physical things.

This, then, is the development of the theoretical arts, which are of primary importance in the study of philosophy (*D* II, 18, 73):

> The name of wisdom by right belongs to these three alone: for although we can without impropriety refer to the remaining branches (ethics, mechanics, and logic) as wisdom, still these are more precisely spoken of as prudence or knowledge—logic because of its concern for eloquence of word, and mechanics and ethics because of their concern for works and morals. But the theoretical alone, because it studies the truth of things, do we call wisdom.

What has Hugh established in his enumeration of the theoretical arts? He has created categories that bring together likenesses, but also differentiate, especially between the divine and the mundane. That differentiation follows a teleological path from divine to mundane (the Fallen) with a problematic middle ground that finds the two ends of the spectrum tearing at the middle, sometimes violently as in the case of mathematics. He has also clearly endorsed hierarchy as the pattern of things as is readily apparent in the classification as a whole (see appendix). These are the same

characteristics of classification that Aristotle used a millennium and a half before Hugh and that Francis Bacon, the French encyclopedists, Hegel, and even Michel Foucault have since used in following the western tradition of classification (Olson 1999, 1999a, 2004, 2004a; Olson, Nielsen, & Dippie 2002). However, Hugh practices these classificatory tenets in his own medieval mystical context of numbers, signifying his focus on the path toward oneness with God.

In Hugh's establishment of hierarchy, he has clearly accepted the existence of universals in answer to Porphyry's first question. Second, as to whether or not they have a material presence, Hugh laments the contacts between the intellectible with the physicality of the natural, which bring the intellectible down to the level of the intelligible as is the case with mathematics. From this I infer the third answer to be that universals do have a separate existence even though we cannot perceive them. His threes generally trace that hierarchical ordering from some sort of divine, abstract, incorporeal universal to a concrete, sublunary physical presence with a problematic transition in between.

4.6 Practical science

Hugh spends little time on the practical, which deals with actual actions. It is discussed in one chapter, less than a page long, titled: "Continuation of the Previous Chapter" (*D* II, 19, 74) in the English translation, but simply "*Item*" in Latin, which might translate as "Also" or "Likewise" in English. He divides the practical into solitary, private, and public, which he refers to as sciences. Solitary science relates to ethics and controls behavior through morality and thus brings only joy, never regret. Private science is economic and operates at the scope of the household, managing its well-being. Public science is political and serves the populace through civic responsibility. So these three are at the level of the individual, the family, and the state, respectively. Hugh's cursory treatment of the practical is perhaps attributable to his focus on a mystical union with God. Even the best-lived life, from Hugh's perspective, is not sufficient to achieve that union without study, meditation, and contemplation.

4.7 Logic

While the quadrivium comes from the theoretical arts, specifically from mathematics, the other three liberal arts, the trivium, come from logic. Logic, as noted above, does not fit into the arts philosophically but is essential and is an art by virtue of having rules: "the other arts were invented first; but that logic too should be invented was essential, for no man can fitly discuss things unless he first has learned the nature of correct and true discourse" (*D* I, 11, 58). He designated logic as being, etymologically, related to either "word" or "reason" so it is divided into linguistic logic, that is grammar, and rational logic, that is the theory of argument. In book I, chapter 11, Hugh places grammar, dialectic, and rhetoric under linguistic logic, but in book II, chapter 28 (also *D* III, 1, 83) he explicitly divides logic into grammar and the theory of argument. Grammar (a liberal art) is then subdivided into: the letter, the syllable, the phrase, and the clause and the theory of argument is subdivided into demonstration, probable argument, and sophistic. (Note that Besson (1980, 16) seems to interpret Hugh as using all three options.) The other two liberal arts in the trivium, dialectic and rhetoric, are subdivisions of probable argument. The separation of grammar from dialectic and rhetoric may reflect the division between the grammarians and dialecticians that characterized twelfth-century intellectual debate (Weisheipl 1965, 67)—a sort of ideological warrant. Grammar had been the intellectual province of the early Middle Ages and the Carolingian renaissance of the seventh century (Wagner 1986). The twelfth century saw a shift in focus to logic, in particular, dialectic. Hugh gives alternative subdivisions of grammar as written and spoken or as parts of speech. So his divisions of logic are less consistent than those in other arts. However, these variations indicate that Hugh not only practiced but was aware of warrant (although he does not articulate his awareness), at least in the case of the alternative subdivisions of grammar based on three options: units within language or the medium of expression (spoken or written) or parts of speech, etc.

A digression that Hugh makes regarding invention and judgment illustrates further problems with the classification of logic (*D* II, 30, 81):

> Now it may be asked whether invention and judgment are contained in philosophy. They do not seem to be contained under the theoretical sciences, or under the practical, or under the mechanical, or even under the logical, where one would most expect them to be. They are not contained under the logical because they are not branches either of grammar or of argumentative logic. They are not branches of argumentative logic because they comprise it integrally, and nothing can at the same time constitute an integral and a divisive part of the same genus. Phi-

> losophy, therefore, seems not to contain all knowledge.

This seems to hark back to the problem of universals in that it problematizes the relationships between genera and species. It seems that by an integral part, Hugh means a characteristic of the genus. If so, and if Hugh is adopting Abelard's position that categories are defined by the characteristics required for membership in those categories, then invention and judgment are also characteristics of dialectic and rhetoric. Hugh raises an interesting classificatory question at this point. He says (*D* II, 30, 82):

> Furthermore, the question is raised whether invention and judgment are the same thing in dialectic that they are in rhetoric. It seems they are not, since then two opposed genera would be constituted of identical parts. It can be said, consequently, that these two words, "invention" and "judgment," are equivocally used for the parts of dialectic and rhetoric; or better, perhaps, let us say that invention and judgment are properly parts of argumentative logic, and as such are univocally signified by these words, but that in the subdivisions of this particular genus they are differentiated from one another by certain properties—the differentiations are not revealed through the terms "invention" and "judgment" because these names, far from designating invention and judgment as separate species, designate them only as generic parts.

The idea that the characteristics or attributes of a genus are present in the species that are part of that genus derives from Aristotle's first syllogism (e.g., All men are mortal; Socrates is a man; therefore, Socrates is mortal) and is akin to our modern classificatory notion of hierarchical force, which maintains, like Abelard, that the characteristics of the genus or universal must also hold for the species or particular instances. But Hugh becomes more sophisticated in enunciating the effect of context on these characteristics.

Both the variations in the divisions of logic and the invention-judgment diversion suggest that Hugh is not ignoring the problem of universals. The former indicates that he recognizes the role of warrant and the latter, that he appears to agree with Abelard's position on shared characteristics, which is compatible with modern practice.

4.8 Liberal Arts

A major anomaly in Hugh's classificatory structure is the distribution of the liberal arts. He begins his chapter on "Which Arts Are Principally to Be Read" with: "Out of all the sciences above named, however, the ancients, in their studies, especially selected seven to be mastered by those who were to be educated" (*D* III, 3, 86). Hugh concurs that these seven are the best preparation for further study. They are made up of the trivium (grammar, dialectic, and rhetoric) and the quadrivium (arithmetic, music, geometry, and astronomy). With "via" being path or way, the liberal arts then include the way of three and the way of four, which allow "a quick mind" to enter "the secret places of wisdom" (*D* III, 3, 87). Hugh spends considerable time on declaring the liberal arts the essential first step on the path to fulfillment. He describes them as "the tools of all philosophy" and "the foundation of all learning" and stresses their cohesion in that they "so hang together and so depend upon one another in their ideas that if only one of the arts be lacking, all the rest cannot make a man into a philosopher" (*D* III, 4, 88-89). So why, then, are they separated in his classification of philosophy/wisdom? And why are other arts not included?

The quadrivium, like other things numeric, probably goes back to Pythagoras in some form and the trivium is at least pre-Socratic (Conway & Ashley 1959, 463). In fact, the seven liberal arts had been nine including medicine and architecture in Varro's second century version and Augustine, in the fourth century, enumerated seven, but instead of astronomy had one called philosophy (Weisheipl 1965). The term "quadrivium" came from Boethius who left the trivium out of his classification (Aristotle had considered logic as merely preparatory, not an actual art). Isidore of Seville placed a quadrivium—expanded to seven by the addition of astrology, mechanics, and medicine—as a group under physics where he also categorized dialectic and rhetoric even though he also had classes for logic and ethics at the same level as physics (Besson 1980). So the liberal arts were not solidified when they came to Hugh.

The liberal arts, coming as they do from a classical tradition, may be a cultural mismatch with Hugh's medieval Neoplatonic Christianity. Recalling that Packard noted the Victorines' success in integrating dialectics, Neoplatonism, humanism, and mysticism, it is evident that these cultural discourses were not obviously compatible. Integrating them was an accomplishment. The liberal arts were preserved in me-

dieval Europe especially via the Latin encyclopedists of the fifth to seventh centuries and through St. Augustine. With the Germanic invasions, Europe had been cut off from the classics and the Latin encyclopedists developed the liberal arts to preserve what they did have. They and Augustine (although he was not an enthusiastic advocate) developed the Neoplatonist version that Hugh inherited (Wagner, 1986, 18-20). So a blending of cultures had begun before Hugh's time. Wagner describes Christianity as a "book" religion and suggests that that factor, along with the Christian tendency to absorb the trappings of other religions, is responsible for medieval acceptance of classical learning (1986, 19). The notion of a book religion fits with Hugh's use of reading as a preparation for meditation and contemplation.

However, the shift from a pagan classical culture to an ascetic Christian culture, which had taken place in the early Middle Ages, remained a cultural divide. In Karl Morrison's interpretation, the Christian perspective, because it focused on the afterlife when the individual could merge with God, viewed "the world through lenses of self-hatred" (1986, 36). As in the progressions of threes and fours discussed earlier, the mundane world is adulterate, and human life in it is a struggle to throw off the evil of our incarnation and strive for the oneness with God that we lost in the Fall.

Nonetheless, Augustine articulated in his treatise *On Music* the value of studying the liberal arts as a means of seeing the hidden structure or patterns that lie beneath that which one perceives (Morrison 1986, 41). He advocates the application of reason to identify false structures and, thus, avoid error. Numerical progressions, such as Hugh's threes and fours, are evidence that true structures can be uncovered through mathematics which we should, therefore, study.

So the culture clash of the liberal arts and medieval Christianity survived in spite of a constant rubbing of one against the other over the centuries. Hugh persevered in his full-blown classification of philosophy but fell back on the liberal arts when recommending what actually to read. St. Thomas Aquinas justifies Hugh by reminding his readers that the liberal arts are a starting point not an end (McInerny 1986, 251). The trivium comes first because it prepares the reader with the scientific method of logic. Mathematics, says Thomas, can be grasped by the young while physics cannot because physics requires experience. So the quadrivium follows the trivium to form the basics of medieval education—at least in the curriculum at the School of St. Victor.

4.9 Mechanical Arts

St Thomas Aquinas defines both sciences and arts as encompassing a certain body of knowledge, but arts also produce products (McInerny 1986, 252). Hugh's definition of sciences and arts is not the same, but the distinction is useful in identifying the mechanical arts/sciences. The most tangible of these products of knowledge are produced by what Hugh calls the mechanical arts in book I and the mechanical sciences in book II. As noted earlier, the mechanical arts are sublunary—concerned with the mundane world. Their products are the result of humans imitating nature. Of the original three arts within the theoretical arts of philosophy, the mechanical arts are the lowliest.

Hugh describes the subdivision of the mechanical arts into three (*D* I, 8, 55):

> Of those actions which minister to the necessity of this life, there are three types: first, those which take care of the feeding of nature; second, those which fortify against harms which might possibly come from without; and third, those which provide remedy for harms already besieging us.

However, he does not allocate the individual arts to those three categories. Rather, he enumerates seven mechanical arts: fabric making, armament, commerce, agriculture, hunting, medicine, and theatrics. "The mechanical sciences are the seven handmaids which Mercury received in dowry from Philology, for every human activity is servant to eloquence wed to wisdom" (*D* II, 20, 75). These he divides into two groups parallel to the trivium and quadrivium of the liberal arts. The first group relates to protection from the external and is parallel to the trivium because the latter is about words and they are external. The second group relates to feeding the self and is parallel to the quadrivium because its concepts are, according to Hugh, "internally conceived" (*D* II, 20, 75).

Hugh appears to use deductive logic in creating his specific categories just as he did in explaining the subdivisions of the theoretical arts. For example, he divides the category of operations under medicine into interior and exterior. Interior involves something going into one of the body's orifices. External involves any procedures performed on the flesh or the bone. The result is odd bedfellows such as surgery ending up in the same category as lotions, plasters, and poultices. This sort of dilemma is still faced in classification schemes when trying to apply the prin-

ciple of hierarchical force in a logical manner so that the attributes of broad categories are also held by the narrower categories further down the hierarchy. By working deductively from universals to particulars, the classificationist is working from the incorporeal to the corporeal. This process depends upon Abelard's proposed solution to the problem of universals: that universals name things that are corporeal. Hugh attempts to solve the deductive problem of top-down naming not always fitting reality by introducing a sort of iterative loop (*D* III, 9, p. 92):

> For every universal is more fully defined than its particulars: when we learn, therefore, we ought to begin with universals … ; and then, by descending little by little from them and by distinguishing individuals through analysis, we ought to investigate the nature of the things those universals contain.

This process may account for his recognition of certain classificatory pitfalls.

Hugh mainly enumerates the mechanical arts in descriptive terms, but he does note some examples of the types of classificatory issues we still address, including how to define the scope of categories, how to deal with overlapping categories and topics that fall within more than one hierarchy; hospitality; appropriate levels of specificity; and what attributes to use in determining subdivision (which is akin to warrant). These issues are typical of Aristotelian classifications that adhere to the principles of mutually exclusive categories, teleological progressions, and hierarchy.

Hugh's description of the two kinds of food—breads and side-dishes—is a study in specificity (*D* II, 25, 77-78):

> Side dishes consist of all that one eats with bread, and we can call them victuals. They are of many sorts—meats, stews, porridges, vegetables, fruits. Of meats, some are roasted, others fried, others boiled, some fresh, some salted. Some are called loins, flitches also or sides, haunches or hams, grease, lard, fat. The varieties of meat dishes are likewise numerous—Italian sausage, minced meat, patties, Galatian tarts, and all other such things that a very prince of cooks has been able to concoct. … And who can enumerate the names of vegetables and fruits? Of seasonings … Of drink….

However, Hugh is very uneven in his levels of specificity. The total description of the science of hunting is 370 words. Compare this with the total description of agriculture, which is 41 words and has only four categories, with broad descriptions (see example below). This unevenness again suggests a top-down deductive approach rather than an inductive one that would begin with specific, corporeal instances.

Fabric making, Hugh suggests, may be divided by process, by tools, by material, or by use (he does not privilege any one of these) (*D* II, 21, 75)—without the option of faceted classification developed long after Hugh, it is necessary to select one of these as the basis or warrant for subdivision. Warrant may be seen a way of selecting attributes that then define categories as Abelard suggested. Armaments are constructional (things that are built) or craftly (things that are manufactured by forging or casting) and each is further subdivided. Hugh lists attributes of these categories, notably the tools and materials used in creating constructional armaments and the processes used for craftly armaments, thus defining mutually exclusive categories. Similar lists of attributes occur under hunting and medicine. Under agriculture, Hugh uses examples to define four types of land, such as "… pastoral, like the meadow, the hillside pasture, and the heath; …" (*D* II, 24,77).

Main classes applied deductively can cause problems in creating mutually exclusive categories. Commerce raises for Hugh the issue of potentially overlapping categories across main classes: "beyond all doubt a peculiar sort of rhetoric—strictly of its own kind—for eloquence is in the highest degree necessary to it" (*D* II, 23, 76). Besson (1980, 16) introduces the following example in which Hugh recognizes this issue already in book I (*D* I, 4, 51):

> For the same action is able to belong to philosophy as concerns its ideas and to be excluded from it as concerns its actual performance. For example, to speak in terms of instances already before us, the theory of agriculture belongs to the philosopher, but the execution of it to the farmer. Moreover, the products of artificers, while not nature, imitate nature, and, in the design by which they imitate, they express the form of their exemplar, which is nature.

A more precise example arises in medicine (*D* II, 26, 79):

> Let no one be disturbed that among the means employed by medicine I count food and drink,

> which earlier I attributed to hunting. For these belong to both under different aspects. For instance, wine in the grape is the business of agriculture; in the barrel, of the cellarer, and in its consumption, of the doctor. Similarly, the preparing of food belongs to the mill, the slaughterhouse, and the kitchen, but the strength given by its consumption, to medicine.

Hugh's elaboration of hunting demonstrates one more difficulty with achieving a satisfactory hierarchy. After discussing gaming, fowling, fishing, and food, he concludes with the sentence: "Hunting, therefore, includes all the duties of bakers, butchers, cooks, and tavern keepers" (*D* II, 25, 78). In other words, the business or commerce of food is found in hunting rather than in commerce. So hunting includes processes, tools, raw materials, products, actors, and enterprises. As in any enumerative classification, there are different kinds of things in the same hierarchy. Hugh, by making the arts his main classes (as did his predecessors), is anticipating our modern classification by disciplines, which demands that various functions be included within those main classes. What Hugh did not have is anything like the consistency offered by the standard subdivisions in the *Dewey Decimal* and *Universal Decimal Classifications* or the standard structure of generalities typically found under broad topics in the Library of Congress *Classification*. So he does not mention implements or farmers or crops under agriculture.

In hunting, Hugh seems to have run into a problem of hospitality related to the choice of main classes. He first lists gaming (defined by the means used, such as a "with nets" and "encircling the game,"), fowling, and fishing. Then he goes on to include food explaining how the category of hunting came to be so inclusive: "Its name, however, is taken from only one part of it because in antiquity men used to eat merely by hunting, as they still do in certain regions where the use of bread is extremely rare, where flesh is the only food and water or mead the drink" (*D* II, 25, 77). By including food under hunting was Hugh limited by the significance of the number seven as Dewey was by his procrustean tens and, therefore, had to combine topics where he could find a rationale of sorts?

These examples serve to illustrate Hugh's perception of classificatory structure. He strives for mutually exclusive categories and when he cannot achieve them he provides a rationale. He maintains hierarchy even as he infringes the principle of hierarchical force. To attain these qualities of classification, Hugh applies logic in a fundamentally Aristotelian deductive manner.

The inclusion of the mechanical arts is an interesting source of parallels with classificatory issues as described here and one of the major original elements in Hugh's scheme (Besson 1980, 17), but it otherwise seems superfluous to his project. At no point in the original text of the *Didascalicon* does Hugh claim the study of the mechanical arts as a path toward oneness with God. He does mention authors who wrote about the mechanical arts (*D* III, 2, 84-85). However, when it comes to his chapter on "Which Arts Are Principally to Be Read" the mechanical arts drop away (*D* III, 3, 86-87).

4.10 Which arts to read and in what order?

Hugh is very explicit that the focus of reading should be the liberal arts: "It is in the seven liberal arts … that the foundation of all learning is to be found" (*D* III, 4, 89). That was all of the advice given in the original version of the *Didascalicon*. However, in one of the three authentic additions that Hugh wrote later (1991, 153), he broadens his list (*D* Appendix A, 153-154):

> In these four parts of philosophy [the theoretical, practical, and mechanical arts and logic] such order ought to be preserved in learning as will place logic first, ethics second, the theoretical arts third, and the mechanical arts fourth. For eloquence ought to be attained first; … the eye of the heart must be cleansed by the study of virtue [ethics], so that it may thereafter see clearly for the investigation of truth in the theoretical arts. Last of all, the mechanical arts follow, which, by themselves, are altogether ineffective unless supported by knowledge of the foregoing.

Here Hugh adds ethics, to cleanse the "eye of the heart" (not one of the original three eyes) in preparation for the theoretical arts, and a backhanded reference to the mechanical arts. Interestingly, in this later discussion, Hugh does not even mention the liberal arts although his sequence would still put the trivium first, in the form of logic, and, after the intervention of ethics, the quadrivium next as part of the theoretical arts. In either case, Hugh's sequence of developing the main classes in his classification, to which he devotes considerable explanation in book I of the *Didascalicon,* is different from his recommended order of study. Given the importance he places on progres-

sions from mundane to divine (Table 2), it seems unlikely that he would change the order of the arts in their philosophical classification to suit the curriculum. (Besson (1980, 85 n18) suggests that the curricular order (the order in which to read) is very close to the typical modern sequence of disciplines: logic, ethics, pure sciences, applied sciences.)

Further, in summarizing his classification in the same additional document, Hugh, after saying that logic should be read first, nevertheless, lists his main classes in the original order: theoretical arts, practical arts, mechanical arts, and logic. Therefore, my interpretation of the classification (appendix) maintains the classification of the arts as separate from the order of reading.

The importance of this order is that Hugh, although following the liberal arts tradition in terms of pedagogy, does not accept it in terms of philosophy or Wisdom. Illich says that the first three books of the *Didascalicon* are about the liberal arts (1993, 33), but actually they are about far more. They are about universals and particulars; about the superlunary and the sublunary; and that is the order that they follow. As Hugh says: "Order in the disciplines is arranged to follow nature" (*D* III, 8, 91).

5.0 Conclusion

This expounding on Hugh's text suggests some conclusions that have implications for the Aristotelian tradition of classification—our heritage. Hugh was squarely in the classificatory line from the philosophical origins in ancient Athens to what can arguably be deemed global twenty-first century practice. While Hugh was definitely a part of his culture, his medieval philosophy and his Christian mysticism were not incompatible with logically based classification.

Hugh's influence extends to St. Bonaventure and St. Thomas Aquinas who both refer directly to his classification. Further, the nearly one hundred manuscript copies of the *Didascalicon* from the twelfth to the fifteenth centuries that are held in forty-five libraries in Europe along with numerous translations demonstrate his widespread impact (Besson 1980, 17).

Hugh follows and propagates the Aristotelian classificatory tradition through his quest for mutually exclusive categories, his emphasis on the central role of a teleological progression of classes, and his implementation of hierarchy.

Hugh demonstrates the elasticity and ubiquity of traditional western classificatory structure at the same time that he illustrates its constructed nature. In spite of seeing classification as a reflection of the pattern of things, he is unable to avoid the shortcomings of deductive method. Or perhaps that is a limitation of the human ability to see clearly beyond the eye of the flesh.

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Appendix: Hugh of St. Victor's Classification from His *Didascalicon*

Philosophy / Wisdom
- **Understanding / Wisdom (Divine)**
  - **Theoretical**
    - Theology (intellectible)
    - Mathematics / ***Quadrivium*** (intelligible)
      - ***Arithmetic***
        - Equal (even) number
          - Equally equal
          - Equally unequal
          - Unequally equal
        - Unequal (odd) number
          - Prime and incomposite
          - Secondary and composite
          - Secondary independently, prime relationally
      - ***Music***
        - Belonging to the universe
          - Of the elements
            - In their mass
            - In their number
            - In their volume
          - Of the planets
            - In their situation
            - In their motion
            - In their nature
          - Of the seasons
            - In days
            - In months
            - In years
        - Belonging to man
          - Of the body
          - Of the soul
          - Of the bond between body and soul
        - Instrumental — Kinds of musicians
          - Striking — Composers
          - Blowing — Players
          - Voice — Judges
      - ***Geometry***
        - Planimetry
        - Altimetry
        - Cosmimetry
      - ***Astronomy***
    - Physics (natural)
  - **Practical / Actual**
    - Solitary / Ethical / Moral
    - Private / Economical / Managerial
    - Public / Political / Civil