XV

FITT 15 – LESSE

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Fitt 15 asks the reader to imagine the possibility of bliss as a logical or numerical problem. How does one understand heaven and God's grace through quantitative judgments? How do the rational operations of comparison, proportionality, and noncontradiction work when applied to the idea of perfection? Is it possible to compare one form of happiness or blessedness to another? Although these questions were part of Christian theology from its earliest instantiations, their deliberation took a decidedly analytical cast in the thirteenth and fourteenth centuries, as scholastic philosophy debated the nature and validity of Pelagianism, predestination, charity, and operant grace under the new infusion of Aristotelian thought brought about by translations of the *Logica Nova* in the 12th century.[1] Fitts 13-15 are concerned with these ideas, and Fitt 15 in particular addresses soteriological numerosity through a poetic adaptation of Revelation 7:1-17.[2]

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[1]William J. Courtenay, *Schools and Scholars in Fourteenth-Century England* (Princeton: Princeton University Press, 1987); William J. Courtenay, *Capacity and Volition: A History of the Distinction of Absolute and Ordained Power* (Bergamo: Pierluigi Lubrina, 1990); Henrik Lagerlund, 'The Assimilation of Aristotelian and Arabic Logic up to the Later Thirteenth Century,' in *Medieval and Renaissance Logic*, ed. Dov M. Gabbay and John Woods (Amsterdam: Elsevier, 2008), 281-346; Lloyd A. Newton, ed., *Medieval Commentaries on Aristotle's* Categories (Leiden: Brill, 2008); Katherine H. Tachau, *Vision and Certitude in the Age of Ockham: Optics, Epistemology and the Foundations of Semantics, 1250-1345* (Leiden, 1988); Thomas Williams, 'Ockham's Repudiation of Pelagianism' in *The Cambridge Companion to Ockham*, ed. Paul Vincent Spade. (Cambridge: Cambridge University Press, 1999) 350-373.

[2] Richard K. Emmerson and Bernard McGinn, eds., *The Apocalypse in the Middle Ages* (Ithaca and London: Cornell University Press, 1992); Ann Raftery Meyer, *Medieval Allegory and the Building of the New Jerusalem* (Cambridge: D.S. Brewer, 2003); A. C. Spearing, *The* Gawain *Poet: A Critical*

In Fitt 13, the Narrator had assumed that the Pearl-Maiden's divine marriage displaced others: 'So mony a comly onvunder cambe,' he says, 'and for that maryage al other depres' (ll. 775, 778). In other words, he imagines the space, and the joy, of heaven in terms of a figure that accords to topographical reason.[3] This is the beginning of a logical, and numerological, formulation of salvation that spurs the Narrator toward a dialectic engagement with the Pearl-Maiden. The Narrator's assumption at the opening of Fitts 13 and 14 is that grace works logically, like finite space, that it is rational, or indeed that it can be accounted for through language.[4] In response to this initial assumption, the Pearl-Maiden appropriates the terms of logic and reason – borrowing from Aristotle's *Categories* – in order to prove them insufficient to discuss the grace she experiences as the Bride of Christ, and it is with the Pearl-Maiden's response to the Narrator that Fitt 15 begins.

Study (Cambridge: Cambridge University Press, 1970), 165-6; Sarah Stanbury, *Seeing the* Gawain-*Poet: Description and the Act of Perception* (Philadelphia: University of Pennsylvania Press, 1991);

[3] Compare the Pearl-Maiden to Julian of Norwich, who was granted a vision into heaven in the Ninth Revelation of her Long Text, was granted a vision into heaven which was both hierarchical and democratizing:

> I saw thre hevens, and alle of the blissed manhed of Criste. And none is more, none is lesse, none is higher, none is lower, but even like in blisse[…] and I behelde with grete diligence for to wet how often he wolde die if he might. And sothly the nomber passed my understanding and my wittes so ferre that my reson might not, nor cold not, comprehende it ne take it.

Julian is wrestling with many of the same issues accounted for by *Pearl*: immediate knowledge and unity with God, the internal logical contradiction of celestial hierarchization, and the singularity of a perfect sacrifice. (See Julian of Norwich, *The Writings of Julian of Norwich: A Vision Showed to a Devout Woman and Revelation of Divine Love*, ed. Nicholas Watson and Jacquline Jenkins [University Park: Pennsylvania State University Press, 2006], 195-197).

[4] Rita Copeland and Ineke Sluiter, *Medieval Grammar and Rhetoric: Language Arts and Literary Theory, AD 300-1475* (Oxford: Oxford University Press, 2010); Donatus, *Ars Grammatica*, in *Grammatici Latini*, Vol. IV, 355-402; Priscian, *Institutiones Grammaticae*, in *Grammatici Latini*, Vol. 2, 1-597. Carin Ruff, 'Latin as an Acquired Language,' in *The Oxford Handbook of Medieval Literature*, Ralph Hexter and David Townsend, eds. (Oxford: Oxford University Press, 2012), 47-62.

Aristotle's *Categories* and medieval commentaries on them were some of the first texts studied by any medieval student of philosophy. A short text, its fifteen chapters focus on ten categories of being and language that can be applied to almost all words: substance, quantity, qualification, relatives, location, time, position, ownership, action, and affection. Although some words – like syncategorematic terms – exist outside of these categories, the text understands language to work logically and methodically: if a word can be placed in one category, it cannot belong to another without a fundamental change to its meaning. Medieval discussions of Aristotle's *Categories* tended to hold, as Aristotle and his commentators did, to logical proofs for their argumentation. The *Categories* had a wide influence on the medieval understanding of words, but also of substance, accident, and subjecthood, and they serve as the basis for the Narrator's understanding of grace and perfection at the beginning of *Pearl*. In both content and form, Fitt 15 applies the *Categories* to the landscape of *Pearl*, an implementation of logic that causes real problems when describing the infinitude of heaven.

> Thys Jerusalem Lombe had neuer pechche
> Of other huee bot quyt jolyf
> That mot ne masklle moȝt on streche,
> For wolle quyte so ronk and ryf.
> Forthy vche saule that hade neuer teche
> Is to that Lombe a worthyly wyf.
> (ll. 841-6)

The opening lines of Fitt 15 employ the well-worn metaphorics of color to invoke the idea of sinlessness: white is the symbolic color of purity, and the Lamb of God is white.[5] Furthermore, *pechche*, or

[5] Robert Blanch, 'Games Poets Play: the Ambiguous Use of Color Symbolism in *Sir Gawain and the Green Knight*,' *Nottingham Medieval Studies* 20 (1976): 64-85; Peter Dronke, 'Tradition and Innovation in Western Colour-Imagery,' in *The Medieval Poet and His* World (Rome: Edizioni di Storia e Letteratura, 1984), 55-104; John Gage, *Color and Meaning: Art, Science, and Symbolism*, (Berkely: University of California Press, 1999); 'Though your sins are as scarlet, they will be as white as snow; though they are red like crimson, they will be like wool'. '*Si fuerint peccata vestra ut coccinum, quasi nix dealbabuntur; et si fuerint rubra quasi vermiculus, velut lana alba erunt*' (Isaiah 1:18).

'patch,' and its sonic resonance with the French *péché*, or 'sin' would not have been unfamiliar to a writer as well-versed in medieval Romance as the *Pearl*-poet, further stressing the contrast of white with blamelessness and of patches to sin. The *teche*-less human soul, a match for the Lamb's purity, is worthy of becoming Christ's mystical bride.

But white (*albus*) is also one of those terms fundamental to medieval philosophy, used as an exemplar in discussions of accidents and the qualities of substances.[6] Accidents refer to attributes like quantities (four, five), qualities (mortal, white), relatives (double, half), times (yesterday), and so forth; they are present in subjects, but do not have a real existence apart from them.[7] White, (*albus*) in particular held a place of importance in medieval philosophy, often used as the exemplar of an accident, a placeholder for thinking about the properties of accidents in general.[8] Medieval philosophy was not only concerned with subjects and predicates or with substances and accidents. The *Categories* were foundational for medieval philosophy because the text could also be interpreted as a work of grammar and logic.[9] To the logician's mind, the *Categories* presented subjects and predicates as the building blocks of syllogisms and propositional statements, rather than as descriptors of substances that actually existed.

Following Aristotle, medieval logicians and metaphysicians alike defined four classes of categorical statements which comprised

[6] Color is present in body, therefore in individual bodies, for if there were no individual body in which it was present, it could not be present in body at all. Thus everything except primary substances is either predicated of primary substances, or is present in them, and if these last did not exist, it would be impossible for anything else to exist. See, for instance, William J. Courtenay, *Ockham and Ockhamism: Studies in the Dissemination and Impact of His Thought* (Leiden: Brill, 2008), 68ff.

[7] Aristotle, *Categories* and *De Interpretatione*, trans. and ed., J. L. Ackrill (Oxford: Clarendon Press, 1963), I.5

[8] 'Some things, again, are present in a subject, but are never predicable of a subject. For instance, a certain point of grammatical knowledge is present in the mind, but is not predicable of any subject; or again, a certain whiteness may be present in the body (for colour requires a material basis), yet it is never predicable of anything.' Aristotle, *Categories* and *De Interpretatione*, trans. and ed., J. L. Ackrill (Oxford: Clarendon Press, 1963), I.2.

[9] Lloyd A Newton, ed. *Medieval Commentaries on Aristotle's* Categories (Leiden: Brill, 2008).

the building blocks of argumentation. These are the universal ('All men are white'), the particular ('Some men are white'), the indefinite ('A man is white'), and the definite ('This man is white'). From these types of statements, and with the addition of negating terms, logicians were able to build the propositions fundamental to syllogisms and sophistic rhetoric. They also developed theories of supposition, restriction, amplification, and modality, defining how predicates range over a domain of individuals and whether qualities ascribed to a subject always apply to that subject.[10] The first stanza of Fitt 15 sets up the idea of sinlessness as a series of propositions, logical statements which proceed from one idea to the next. One might construct the following syllogism, for instance, about the wives of the Lamb:

> All souls which are *techeless* are *worthyly wyves.*
> This particular soul is *wythoute teche.*
> Therefore, she is a *worthyly wyf.*

Of course, *Pearl* is more than a series of simple syllogisms, and reducing it to propositional logic requires ignoring the metaphors, symbolism, and diction that make this poem singular among medieval literary productions. However, the Narrator's questions take the form of logical statements, and the Pearl-Maden's responses operate within dialectical discourse, requiring readers to, at least at first, take seriously the logical formulae in operation here: the Lamb is white (which equates to perfection); if he were not, he would no longer be the Lamb. To the extent that this poem operates allegorically, the term *quyt* is not only a description of the Lamb, but an accident universally applicable to all subjects (*vche saule*) in pursuit of purity.

Take, for instance, the word *ryf* (l. 844), which means 'plentiful' or 'abundant', and is applied to the *quyte* earlier in the line. In one

[10] John Duns Scotus was the first medieval philosopher to use modality as a means of allowing for alternative possibilities at a given time. This allowed him to posit interesting things about predestination and the absolute and ordained powers of God. For Scotus, even though God knows the future and predestines it; it is still contingent. the only difference is that 'God's activity all takes place in a single individual moment or *nunc* that never passes into the past' (Calvin G. Normore, 'Duns Scotus's Modal Theory,' in *The Cambridge Companion to Duns Scotus*, ed. Thomas Williams [Cambridge: Cambridge University Press, 2002], 129-31).

sense, this is the *Pearl*-poet engaging in an ineffability topos: white is abundant in whiteness. But, logically, what does it mean for whiteness to be 'abundant' in itself? Can qualities be diminished or intensified and still remain the qualities in question? Is it possible to be more white than white? As it turns out, fourteenth-century philosophers, following Nicole Oresme, used the idea of the latitude of forms to explore this very issue.

> And thagh uch day a store He feche
> Among uus commes nouther strot ne stryf,
> Bot uchon enlé we wolde were fyf.
> The mo the myryer, so God me blesse,
> In compayny gret our luf con thryf
> In honour more and neuer the lesse
> (ll. 847-852)

As the first stanza ends, the Pearl-Maiden describes heaven in a series of logical propositions that operate parallel to the metaphor of pearl-white wool developed in the first half of the stanza.[11] But her description of heaven results in a paradox: if the Jerusalem Lamb and his brides are already white, without *teches* – metaphorically and literally without blemish – how is it possible for their honor to become greater? How can something that is already perfectly white become more perfectly white?

These questions echo a line of philosophical inquiry that began in earnest in Paris in the late thirteenth century, and continued in Oxford the fourteenth: what is the real categorical distinction between quantity and quality? Can qualities be quantified? Aristotle had said no: quantities and qualities were different types of things, and could not be combined or confused with each other. In chapter 6 of the *Categories*, Aristotle holds to the rigorous separation of qualities and quantities:

> A quantity does not admit of a more and a less. Four-foot for example: one thing is not more four-foot than another. Or take number: we do not speak of a three as more three than a five, nor of one three as more three than another three. Nor yet is one time called more a time than another. Nor is there a single one, among those we listed, as to

[11] Terence Parsons, *Articulating Medieval Logic* (Oxford: OUP, 2014), 7.

> which a more and a less is spoken of. Hence a quantity does not admit of a more and a less.[12]

With a few notable exceptions, medieval theologians and logicians agreed that quantity and quality were irrevocably different, arguing against metabasis, or the transition of methodology from one science to another (in this case, the possibility of enumerating just how 'white' something was). While in traditional logic something may be white, whiter, or whitest, this difference was inherently unquantifiable. William Ockham, Nicole Oreme, and the Oxford Calculators posited the opposite: that qualities could be quantified.[13] As employed by late scholasticism, this idea lead to that of the latitude of forms, wherein 'any quality which admits of variation and involves the intuitive idea of intensity – that is, such notions as velocity, acceleration, and density' could be expressed quantitatively.[14] The latitude of a form described how much of a quality something possessed, and philosophers discussed primarily how this quality was lost or intensified (*remissio* or *intensio*). That whiteness, for instance, which is explored in lines 841-846, could admit of intensification or diminution is not merely poetic wordplay; rather, Fitt 15 asks the reader to imagine the latitude of forms applying to *quyte*ness, and also to heavenly *honour* (l. 852) and *blysse* (l. 863). This does not imagine the qualities at play as classical *qualia*, which in most medieval philosophy could not be quantified, but rather, as qualities that might possibly admit of measurement.

Does *Pearl*'s hermeneutic allegiance lie with the concept of the latitude of forms? The first lines of this stanza gesture toward a particulated, measurable cohort of heavenly wives, where *uch day* the bridegroom brings more maidens to heaven, *uchon* wishing she were *fyf*, thus making infinite merriment *myryer*. Heaven is also imagined as a space that adheres to mathematical topographies. However, the lack of quantification in this same stanza (*mo the myryer*) and the purely qualitative and comparative *in honour more and never the lesse*

[12] Aristotle, *Categories*, I.6.

[13] Steven J. Livesey, 'William of Ockham, the Subalternate Sciences, and Aristotle's Theory of *Metabasis*', *The British Journal for the History of Science*, 18:2 (1985), 127-45; Livesey, 'The Oxford Calculatores, Quantification of Qualities, and Aristotle's Prohibition of Metabasis', *Vivarium*, 23:1 (1986), 50-69;

[14] Carl B Boyer, *The History of the Calculus and its Conceptual Development* (New York: Dover, 1949), 73

of the final line suggest that enumeration is not necessarily the only aspect of *Pearl*'s heavenly landscape.

Lesse is a particularly powerful end-word for this series of stanzas because it is relational (unlike *fewer*, which would denote discrete, calculable entities).[15] At the same time, while *lesse* ends every stanza of Fitt 15, the longer phrase *neuer the lesse* does as well, and this phrase has the capacity to modify the comparative function of *lesse*. *Neuer*, it should be noted, cannot be the subject or the predicate of a proposition, and as such is a type of word medieval scholars called *syncategorematic:* a word which contributes to the formal structure of a proposition, but which operates outside of the distinctions of Aristotle's *Categories*. The introduction of *neuer* before *lesse* places the *lesse sous rature*, reinterpreting it to mean any number of things: *nevertheless* (besides), *neuer lesse* (always more), as well as *neuer lesse* (always fewer, a quantifiable amount, rather than less, an unquantifiable comparative term).

> Lasse of blysse may non vus bryng
> That beren thys perle vpon oure bereste,
> For thay of mote couthe neuer mynge
> of spotlez perlez that beren the creste.
> (ll. 853-856)

Scholars are divided over whether Fitt 15's six stanzas are intentional, or the result of an editorial or authorial mistake.[16] The numerology of Cotton Nero A.x as a whole supports the inclusion of all six stanzas: with the sixth stanza in Fitt 15, *Pearl* runs to 101 stanzas, the same number as in *Gawain*. Edward Condren's monograph on the *Pearl*-poet notes that the sixth stanza in Fitt 15 is of numerical importance to the poem – and Cotton Nero A.x as a whole.[17] Condren's study notes not only the number of stanzas of

[15] *Pearl* uses this language elsewhere; compare 15's use of *lesse* with Fitt 3 (*more and more*), 10 (*more*), and 11 (*inoghe*).

[16] Charles Osgood proposed, for instance, that the second stanza of Fitt 15 is otiose, whereas Andrew and Waldron propose that all of Fitt 15's stanzas are intentional. Malcolm Andrew and Ronald Waldron, *The Poems of the Pearl Manuscript: Pearl, Cleanness, Patience, and Gawain and the Green Knight* (Exeter: University of Exeter Press, 2002), 94; Charles C. Osgood, ed. *The Pearl* (Boston and London: Heath, 1906).

[17] Edward I. Condren, *The Numerical Universe of the* Gawain-Pearl *Poet* (Gainesville: University Press of Florida, 2002).

Pearl and *Gawain*, but also goes further: *Pearl* and *Purity* both have 12 extra lines than a round number (and 1200 and 1800 = 3000) and *Patience* and *Gawain* have 31 extra lines (and 500 and 2500 also = 3000).[18] He also notes that the manuscript's total line numbers adhere to the Golden Ratio (that is, a:b::b:c, and a+b=c). But here Condren should be regarded a little more carefully. The numbers are close to the Golden Ratio, but not nearly as exact as to allow us to reject or accept a stanza from *Pearl* based on his calculations. For instance, if *Pearl* contains its current number of 1212 lines, *Purity* 1812, *Patience* 531, and *Sir Gawain and the Green Knight* 2351, then *Purity* + *Patience* = a (2343), *Pearl* + *Gawain* = b (3563), and the totality of the manuscript = c (5906), a:b::b:c is not exact (a:b = 0.6576 and b:c=0.6033, a difference of 8.60% from the mean). Taking away a stanza from *Pearl* would not only make the poem itself a round number (at 1200 lines), but it would also affect the Golden Ratio calculation by an almost insignificant amount (a:b = 0.6598 and b:c = 0.6025, a difference of 8.61% from the mean).

However, the *Pearl*-poet is obviously concerned with number and magnitude, and Fitt 15's particular concern with numerosity makes an extra stanza here both appropriate and ironic. When, for instance, line 853 suggests that none of the Brides of Christ may have *lasse* of bliss, this suggests that *blysse* exists as part of the qualitative, rather than quantitative role of medieval categories of language and/or being. If in some hypothetical heaven, the maiden were to become less blessed, would she also lose her status as a *worthyly wyf*? This brings us back, once more, to the latitude of forms: a person may become more or less hirsute and remain just as much a person as they were before; the same person may not become more or less alive and remain a human being.[19] Is bliss the former type of quality, or the latter? This stanza suggests that to lessen the Pearl-Maiden's degree of *blysse* is impossible without changing her substance, and that her state of pearl-white spotlessness is literally the *least* blessed she can possibly be.[20] The six-stanza form of Fitt 15 performs the

[18] See also Cary Nelson, *The Incarnate Word: Literature as Verbal Space* (Urbana: University of Illinois Press, 1973).
[19] Tanay, 79.
[20] F.A.C. Mantello and A.G. Rigg, *Medieval Latin: an Introduction and Bibliographical Guide* (Washington, DC: Catholic University of America Press, 1996) 355-6.

superfluity of perfected bliss; any diminution of it would return Fitt 15 back to the mundane, normal formal structure of the other fitts.

> We thurȝoutly hauen cnawyng;
> Of on dethe ful oure hope is drest.
> (ll. 859-60)

The Pearl-Maiden's paradoxical status as perfectly, and yet least, blessed redounds again in these lines, as her knowledge is defined as *thurȝou*: complete knowledge of perfection, the sum total of all possible knowledges about the *perle* (l. 854), the *Lombe* (l. 861), and his *dethe* (l. 860); this is the epistemic equivalent of infinite aggregation, as all knowledges of particulars eventually lead to the singularity, which is an understanding of salvation. These lines juxtapose the *ful*ness of hope with Christ's sacrifice, a contrast between the immeasurable infinite and the idea of singularity, *on dethe* serving as the basis of all accounting.[21]

A similar idea appears in Julian of Norwich's *Revelations*, which contemplate *lesse*ness, blessedness, and the death of Christ. Near the beginning of the Short Text, Julian describes her spiritual vision as something like a pearl: a small object the size of a hazelnut.

> [The Lord] shewed me a litille thinge the quantite of a haselle nutte, lygande in the palme of my hande, and, to my understandinge, that it was as rounde as any balle. I lokede theropon, and thought: 'Whate maye this be?' And I was answerde generaly thus: 'It is alle that is made.' I merveylede howe that it might laste, for methought it might falle sodaynlye to nought for litille. And I was answerde in mine understandinge: 'It lastes and ever shalle, for God loves it.'[22]

Only a few lines later, Julian notes that when she is 'substantiallye aned' (united in substance) to God she will have 'full reste' and 'varray blisse,' which is essentially what is happening in *Pearl* in lines

[21] For discourses of medieval accounting, see Rosemary O'Neill, *Accounting for Salvation in Middle English Literature* (PhD diss, University of Pennsylvania, 2009).
[22] Julian of Norwich, *Writings,* 69.

859-60.[23] This was a common technique in the medieval period: as the worshipper ascended from meditation to the higher rungs of contemplation, one common maneuver was to reduce the object of meditative fixation away from complex images and narratives down to their smallest form.[24] This abnegation of imagination provided for the operation of the affective powers of the soul. *Pearl* repeatedly toys with the distinction between meditation, with its reliance on narrative, description, and images, and contemplation, with its desire to break free from the imagination for the sake of the lapidary object. These issues are not unique to *Pearl*, or Julian, and indeed are commonplaces of mystical texts, especially those in the pseudo-Dionysian tradition.[25] *On the Divine Names,* Chapter 5, discusses the possibility of number as it relates to heaven:

> Every number preexists uniquely in the monad, and the monad holds every number in itself singularly. And every number is united in the monad; it is differentiated and pluralized only insofar as it goes forth from this one. All the radii of a circle are brought together in the unity of the center that contains all the straight lines brought together within itself. These are linked one to another because of this single point of origin and they are completely unified at this center. As they move a little away from it they are differentiated a little, and as they fall farther they are farther differentiated. That is, the closer they are to the center point, the more they are at one with it and at one

[23] Julian of Norwich, *Writings*, 69.

[24] Michelle Karnes, *Imagination, Meditation, and Cognition in the Middle Ages* (Chicago: University of Chicago Press, 2011); Mary Stallings-Tany, ed. *Meditaciones vite Christi, olim S Bonauenturo attributae*, Corpus Christianorum Mediaevalis vol. 153 (Turnholt: Brepols, 1997), chap 49, ll 45-53.

[25] This includes Robert Grosseteste and Albertus Magnus' translations and commentaries on the pseudo-Dionysian corpus, as well as Aquinas and Bonaventure, who cite him and praise him throughout their work. In addition to this, late medieval mysticism was frequently reliant on the *via negativa.* This includes mystics such as Marguerite Porete, Meister Eckhart, Johannes Tauler, Jan van Ruusbroec, *The Cloud of Unknowing*, and Nicholas of Cusa.

> with each other, and the more they travel away from it the more they are separated from each other.[26]

Pearl suggests that *on dethe*, like the pearl itself, is the monad which serves as the basis of number, it is the singular thing on which infinitude rests.[27]

> And with him maidens hundrethe thowsande,
> And fowre and forty thowsande mo.
> (ll. 869-70)

The specific number of maidens is borrowed from John's Revelation in 7:1-7, which tallies 12,000 from each tribe of Israel for a total of 144,000, although here there are twelve groups of twelve thousand virgins each. Notably, this number is later changed to 100,000: '*Hundreth thowsandes I wot there were*,' the Narrator remarks in Fitt 19 (l. 1107). Why this discrepancy? Part of the reason is metrical, but part of the point of Fitt 15 is a negation of the power of specific enumeration. This account is numerically true in the same sense that '*the mo the myryer*' (l. 850) is true and in the same way that the maiden says '*uch on enle we wolde were fyf*' (l. 849). That is, both 100,000 and 144,000 maidens are type of perfection, a form of *neuer the lesse* which presents itself as quantitative but is in fact qualitative. Having already negotiated the coincidence of opposites in the infinitesimal/infinite in lines 859-60, *Pearl's* numerical contradiction proposes the coincidence of quantity and quality.

> A hue fro heuen I herde thoo
> Lyk flodez fele laden runnen on resse;
> And a thunder browez in torrez blo.
> That lote, y leve, was never the les.
> (ll. 873-876)

This stanza continues the Johannine revelation which comprises stanzas three through five, although it greatly elaborates on the

[26] Pseudo-Dionysius, *The Divine Names*, in Pseudo-Dionysius, *The Complete Works*, (Mahwah: Paulist Press, 1987), pp. 99-100.
[27] For more on the monad, see Peck, Russell A. 'Number as Cosmic Language,' in *Essays in the Numerical Criticism of Medieval Literature*, ed. Caroline D. Eckhardt (London: Associated University Press, 1980), 15-64.

quality of the song sung by the throng of the blessed in the Biblical account. This is also one of very few references to hearing in *Pearl*, and is the only sustained call to attend specifically to the text's sonic environment. Until this point in *Pearl* and particularly in Fitt 15, the balance between quantitative and qualitative measurement has been held in tension: the *spotlez perlez* of the heavenly brides representing the potential for both enumeration and its impossibility. Pearls are metonymies for completion, but are also counting-stones (*calculi*), individual entities.

This stanza departs from the language of *discreta* in what will be a twenty-five-line comparative analysis of musical sound. First, the text focuses on music as *flodez, thunder*, and *torrez* which *run* and *brow*, undifferentiable and totally unified. This *hue* manifests as a continuous, which makes it fundamentally different from the divisible sound which comprises spoken language. St Augustine's description of music as *rhythmus continuus* had broad implications when thinking about the nature of time, motion, and number as it applied in a musical context.[28] Dorit Tanay notes the importance of this way of thinking to late medieval sound-science, where the very idea of continuity was considered antithetical to the idea of the particle. 'Nothing continuous,' she notes, was thought to be

> composed of indivisibles. A line cannot be composed of points, the line being continuous and the points indivisible, for the extremities of two points can be neither one.[29]

This idea again is borrowed from Aristotelian physics and categories, which forbade the metabasis of continua (which were qualitative) and discrete numbers (which were quantitative). From Zeno (d. ca. 430 BC) onward, discourses of measurement dealt with the coincidence of opposites (also known as dichotomy), that is, how infinity might be constructed of infinitesimals, as part of a discourse on movement and change. Zeno's paradox is famous, and illustrative of the point: in order to cover a distance from point A to

[28] Allan Fitzgerald and John C. Cavadini, eds., *Augustine Through the Ages: An Encyclopedia* (Grand Rapids: Eerdmans, 1999), 473.
[29] Dorit Tanay, *Noting Music, Marking Culture: The Intellectual Context of Rhythmic Notation, 1250-1400* (American Institute of Musicology: Hänssler-Verlag, 1999), 103.

point B, first Socrates must cross from point A to halfway to point B (point C). From C to B, one must pass half of that distance (point D), and from D to B, half that distance again. This same halving of the distance can be done *ad infinitum*, and therefore, Zeno posited, Socrates will never reach his goal. In fact, he posited, all movement whatsoever is impossible. In order to resolve Zeno's paradox, one must understand that the series (½ + ¼ + 1/8 + 1/16 + 1/32 … = 1); that is, that an infinite sum of infinitely smaller fractions, in this case, results in a rational number. This was an unsettling problem for medieval mathematicians, who, apart from a few figures (like Tewkesbury, Oresme, or the Oxford Calculators) considered Zeno's paradox to be highly problematic, if not insoluble.[30] Augustine's description of musical temporality depended this type of continuity, wherein its parts must also be continua, and never infinitesimals. The revelatory opening of *Pearl*'s musical awareness operates within the classical numero-metrical vein.

However, in the late thirteenth and early fourteenth centuries, a new type of mathematical thought was introduced into music theory through the use of the latitude of forms. John Tewkesbury's *Quatuor principalia musicae* suggests that music might be both continuous and discrete. 'There is no doubt that music is made up of both quantities,' he said, '*musica plana* is constituted in one way and *musica mensurabilis* in the other.' [31] Tewkesbury differentiates between two types of music in his description of musical divisibility. The first, *musica plana*, or plainsong, is continuous. The second, *musica mensurabilis*, mensurable music or polyphony, is discrete. This difference arises from the quality of plainsong and polyphony in the context of both theory and in performance. Plainsong, with its long melismatic phrases and its independence from concerns about voicing and harmony, concerns

[30] Elzbieta Jung and Robert Podkonski, 'Richard Kilvington on Continuity,' in *Atomism in Late Medieval Philosophy and Theology*, ed. Christophe Grellard and Aurâelien Robert (Leiden: Brill, 2009), 65-84.

[31] *Quatuor principalia musicae*, CS IV:254; *Cum omnis quantitas aut est continua aut discreta…* (following Boethius)… *in utraque quantitae musicam esse constitutam non est dubium; sed aliter plana et aliter mensurabilis musica se habet.* Dorit Tanay, *Noting Music, Marking Culture: The Intellectual Context of Rhythmic Notation, 1250-1400* (American Institute of Musicology: Hänssler-Verlag, 1999), 115.

> the raising and lowering of the voice […] which consist in continuous quantity. Such a quantity begins with a finite magnitude, but decreases to infinity. For if we take a line of a foot long […] it can be divided equally in two, and its half can be cut in half again. And in turn its half can be divided in half, and no limit can ever be set to dividing a magnitude.[32]

Tewkesbury's *musica plana* and the *torrez* of sound are theoretically different from mensurable music, because plainsong is infinitely divisible into continua which never become infinitesimals, that is, their *lote is neuer the lesse* – never the smallest in size. When *Pearl* first represents Saint John's sonic revelation, he experiences it as a continual entity.

> A note ful new I herde hem warpe
> To lysten that watz ful lufly dere.
> As harporez harpen in her harpe,
> That nwe songe thay songen ful cler,
> In sounande notez a gentyl carpe;
> Ful fayre the modez thay fonge in fere.
> Ry3t byfore Godez chayere
> And the fowre bestez that Hym obes
> And the aldermen so sadde of chere,
> Her songe thay songen, neuer the les.
> […]
> Nowthelese non was never so quoynt,
> For alle the craftes that ever thay knewe,
> That of that songe myght synge a poynt
> Bot that meyny the Lombe that swe

[32] *Quatuor principalia musicae*, CS IV:254; *Elevationis namque vocum et depositionis certa limitatio, per pondera et per mensuram ut in cordarum extentione inventa est, ut patet in Secundo principale cap. 2, ex quibus, plana musica et ejus proportiones exordia sumpserunt quae in continua consistun quantitate, de quibus dictum est superius. Quae quidem quantitas incipit a magnitudine quae finita est, sed decrescit in infinitum. Nam si sit vel pedalis linea vel cujuscumque alterius modi, potest in duo aequa dividi, ejusque medietas in aliam medietatem secari. Rursusque ejus medieta in aliam medietatem dividi, ut nunquam dividendi magnitudinem ullus terminus fiat.* Dorit Tanay, *Noting Music, Marking Culture: The Intellectual Context of Rhythmic Notation, 1250-1400* (American Institute of Musicology: Hänssler-Verlag, 1999), 115-16.

For thay arn boȝt, fro the vrthe aloynte,
As newe fryt to God ful due,
And to the gentyl Lombe hit arn ajoynt,
As lyk to Hymself of lote and hwe.
(ll. 879-96)

A new type of sound appears on the musical landscape in the fourth and fifth stanzas, one that aligns itself with Tewkesbury's *musica mensurabilis* and discrete sound. As the apostle John begins to distinguish notes within the rushing *flodez* and *torez* of song, he gains the capacity to elaborate on its qualities: the song is *showted scharpe*, (l. 877) and consists of *modeȝ* – a technical term which implies a growing ability to analyze aural experience. Some elements of this song are still beyond his reach. For instance, St. John remains incapable of singing it himself – he isn't *quoynt* (l. 889) enough to sing a *poynt* (l. 893) of it – and some of its elements remain ineffable, a reality which becomes apparent when the one of the most self-reflexive lines in all of medieval poetry is invoked to describe the song (*A note ful new I herde hem warpe / as harporez harpen in her harpe*) – but this *nwe songe* contrasts with the music of the earlier stanza by adhering to the language of divisibility and differentiation. Gone are the *flodez*, and in their place are *notez* and *poyntez*. Compare St. John's second description with Tewkesbury's *musica mensurabilis*, which uses the concept of infinitesimals to inscribe the timespace of song:
Musica mensurabilis, which is prolonged by numbers, extends through time in discrete quantity. For every measured note or sound lasts for the number one, two, or three. Although it can increase by doubling or trebling to infinity, as will be shown below, it decreases to the finite, that is, to unity.[33]

There is a new idea here, namely, that brevity might be measurably compared to duration – that is, that categorical opposition could be described in terms of the latitude of forms described by Scotus, Johannes de Muris, and others, by dividing continuities into countable parts.[34]

[33] Dorit Tanay, *Noting Music, Marking Culture: The Intellectual Context of Rhythmic Notation, 1250-1400* (American Institute of Musicology: Hänssler-Verlag, 1999), 115-16.

[34] "A whole system based on hierarchy and compartmentalization began here to give way to increasingly daring generalizations which led eventually to the modern notion of variety and diversity as simply the full unfolding of

Certainly, points and continuities refer to mathematical, analytical, and quantitative ideas, but the term *poynt* also has a long and storied history in medieval mysticism, appearing as a central element of texts from pseudo-Dionysius' *Celestial Hierarchies* to Julian of Norwich's *Revelationes* and *The Cloud of Unknowing*, treatises which connect the concept of littleness and *lesse*-ness to language, devotion, and meditation. For instance, the *Cloud* suggests that 'bot a litil worde of o silable' is the best mantra for a sung devotion, 'for ever the schorter [a word] is, the betir it acordeth with the werk of the spirite.'[35] That is, the more that speech is unlike language that unfolds over time – the more it is like the quantum event of musical time – the more power it has to draw the body from its corporeality and into the metaphysical realm. For the *Cloud*-author, language, song, and the human mind are all unfold in quantifiable time: words, ideas, and music occur in discrete temporalities (and are marked by philosophy, knowledge, and also rupture from divinity). On the other hand, angelic awareness is a product of continuous time (expressed in holy love, mysticism, and unification with the deity). This second type of awareness is not natural to humans, and requires a shift beyond anthropological types of thought. How do understandings of quanta, time, and measurability affect its language and music? The *Cloud*-author looks to the same sorts of discussions of infinity and the infinitesimal, of the relation of mathematics to song, as *Pearl* does in this section.[36] The *Cloud*, for instance, attempts to deconstruct sensory perceptibles, concerning itself not with particular sense-modalities, such as hearing or vision, but instead with time, and, in particular, with musical time. Was time itself composed of discrete and numerable atomic units, or was it absolutely continuous, subdividable into infinity, as John of Tewkesbury and others posit?[37]

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an essentially homogeneous formative principle.' Dorit Tanay, *Noting Music, Marking Culture: The Intellectual Context of Rhythmic Notation, 1250-1400* (American Institute of Musicology: Hänssler-Verlag, 1999), 87.

[35] Patrick J. Gallacher, ed., *Cloud of Unknowing,* (Kalamazoo: TEAMS Middle English Texts, 1997), ll. 500-01.

[36] The *Cloud*-author's dedication to apophaticism and proximity to pseudo-Dionysian thought is not at issue here. The *Cloud of Unknowing* encourages the reader to cast herself into a space of ignorance – of the world, of the word, and of God – in order to attain to the realm of spiritual enlightenment.

[37] The Oxford *calculatores* of the fourteenth century would examine the problems of the temporal and spatial aspects of angelic existence from a

Contemplation 'is the schortest werke of alle that man may ymagyn,' says the *Cloud*. Indivisible, it is the fundamental building block of time, 'neither lenger ne schorter then is an athomus; the whiche athomus, by the diffinicion of trewe philisophres in the sciens of astronomye, is the leest partie of tyme.' Contemplative time is 'so litil that, for the littilnes of it, it is undepartable and neighhonde incomprehensible.'[38] The concept of the infinitesimal is analogous to the incomprehensible and illogical nature of contemplation itself, yet it still follows the mathematical logic of astronomical science. It is not illogical; it is merely incomprehensible. The *Cloud* connects this atomic understanding of time to language and devotion. The contemplative takes 'bot a litil worde of o silable' as her prayer. Why? 'For it is betir then of two, for ever the schorter it is, the betir it acordeth with the werk of the spirite.'[39] The shorter a word is – the more it is unlike language that unfolds over time, and the more it is like the quantum building block of the 'athomus' – the closer it is to the operational time of grace. This is a temporality for which the mystic is morally accountable, and this time-account is linguistic:

> This is that tyme of the whiche it is wretyn: Alle tyme that is goven to thee, it schal be askid of thee how thou haste dispendid it. And skilful thing it is that thou geve acompte of it; for it is neither lenger ne schorter, bot even acording to one only steryng that is withinne the principal worching might of thi soul, the whiche is thi wille. For even so many willinges or desiringes – and no mo ne no fewer – may be and aren in one oure in thi wille, as aren athomus in one oure. And yif thou were reformid bi grace to the first state of mans soule, as it was bifore sinne, than thou schuldest evermore, bi help of that grace, be lorde of that stering or

different perspective, their work does not deal specifically with angels. See David Keck, *Angels and Angelology in the Middle Ages* (Oxford: Oxford University Press, 1998), 112; Edith Sylla, 'Medieval Quantifications of Qualities: The Merton School,' in *Archive for History of Exact Sciences* 8 (1971): 7-39; John Murdoch, 'From Scoial into Intellectual Factors: An Aspect of the Unitary Character of late medieval Learning,' in *The Cultural Context of medieval Learning*, ed. John Murdoch and Edith Sylla, (Boston: D. Reidel, 1975), 271-348.

[38] Patrick J. Gallacher, ed. *The Cloud of Uknowing.* (Kalamazoo: TEAMS Middle English Texts, 1997), ll. 301-315.

[39] *Cloud*, ll. 500-1.

> of thoo sterynges; so that none yede forby, bot alle thei schulde streche into the soverein desirable and into the heighest wilnable thing, the whiche is God.[40]

By making time discrete, every moment of a person's life can be counted, and accounted for; every willful action of the soul is granted its own time, and these times in the aggregate 'stretche,' or form the continuity of life out of discreta. *The Cloud of Unknowing*, structures human thought as an aggregate operation of the will. The infinite calculus of this will approaches God. The dimensions of musical temporal possibility shift from qualitative to quantitative in Fitt 15 of *Pearl*.[41]

There is one further excursis that bears on the faculties of the soul and the application of virtue in relation to this passage and the *fowre bestes* of line 886. Obviously, the four animals referred to in this passage can be interpreted as those of the eschatological beasts of Ezekiel 1.4-14 as well as Revelation 7:11. Each creature is shaped like a man, but with four faces: a human, a lion, and ox, and an eagle – symbology which is applied to the four evangelists, Matthew, Mark, Luke, and John, respectively – but which was also used by St Jerome as an allegory for the mind of man: the human face is man's rational function, the lion its affective, the ox the appetitive, and, finally, the eagle the *synderesis*, or what medieval theologians called 'the spark of the conscience.' What exactly is this faculty of the soul? Jerome introduces *synderesis* in his discussion of Cain: Synderesis is 'that spark of conscience wheich was not extinguished even in the breast of Cain… and by which we discern that we sin.'[42] *Synderesis* never errs, and operates in abstract principles, which is what distinguishes it from *conscientia* or conscience. Conscience may err, and may be dampened down or destroyed over time. From Philip the Chancellor (ca 1235) to Bonaventure and Ockham, most theologians dealt with *synderesis/conscientia*, sometimes attributing its power as affective, other times as rational or intellective; conscience was, at any rate, and important area of study in the 13th-15th

[40] *Cloud*, ll. 301-315.

[41] *Pearl* ll. 873-6, above.

[42] 'Even when a person does not feel guilty about having done something which is wrong, he may still regret the consequences… this residue is the 'spark of conscience." Timothy C. Potts, *Conscience in Medieval Philosophy*, (Cambridge: Cambridge University Press, 1980), 10-11.

centuries.[43] By drawing on the symbology of the evangelists/faculties of the soul in this passage, the *Pearl*-poet calls to mind not only the harmonization of the gospels, but also the collaborative work of the human soul as mental and rational as well as visceral and emotional, at the heart of which is the *synderesis*, or the unitary *punctum* of discerning truth from falsehood. The *lesse* which ends every verse of this section contracts and plays with the language not only of musical time, but of ethical space.

Pearl may not consciously present the latitude of forms *contra* categorical qualities in its description of sounds, but two very different languages of numerical analysis occur between these two stanzas as they apply to the music of heaven, the properties of contemplation, and the time of the soul.

> 'Neuer the les let be my thonc,'
> Quoth I, 'my perle thaȝ I appose;
> I schulde not tempte thy wyt so wlonc,
> To Krystez chambre that art ichose.
> […]
> Now, hynde, that sympelnesse cones enclose,
> I wolde thee aske a thynge expresse,
> And thaȝ I be bustwys as a bose,
> Let my bone vayls neuerthelesse.
> (ll. 901-12).

The final stanza of Fitt 15 continues the dialogue between the Maiden and the Narrator in what Andrew and Waldron see as a shift from 'rebellious pride to obedient humility.'[44] The ecstatic stanzas of the Johannine revelation force the Narrator to recognize himself as a poor debater, and even though he continues to ask questions about

[43] There are many who comment on the conscience, but Philip the Chancellor wrote the first treatise on conscience around 1235. His basic concerns are to describe that the *synderesis* is a series of general principles of virtue that can never be mistaken, whereas *conscientia* is applied *synderesis*, and may err. Following him, Bonaventure, Ockham, Scotus, and Aquinas all weighed in on the relationship of *synderesis* to *conscience*, viewing *synderesis* as more or less intellectual (Aquinas considered it more intellectual Bonaventure less so) or as more or less dynamic (Scotus viewed the *synderesis* as a dynamic principle, whereas others were prone to reserve dynamism for the conscience). See Potts, *Conscience*, 104ff.

[44] Andrew and Waldron, *Pearl Manuscript,* 97.

the spatial aspects of heaven in Fitt 16, it is as a schoolchild rather than a dialectician. Even here, he shows his lack of understanding: had the Narrator paid closer attention in Fitt 15, he would have realized that physical spatiality is unimportant, an inherent reduction of heaven into the space of the categorical logics of quantity and quality akin to the *poynt*. Instead, the import of heavenly space is its ability to produce mental images; the spiritual impact of imagining heaven as spatial provides a referential base for contemplation.

Concluding Remarks

The Pearl-Maiden's response in Fitt 15 elaborates on the discussion begun in Fitt 11, with its end-line of reassuring sufficiency: *for the grace of God is gret inoghe* (l. 612), but in Fitt 15, the Pearl-Maiden's language shifts from the positive descriptions of Fitts 12-14 to language which is increasingly apophatic. Fitt 15 contrasts the idea of sufficiency with the idea of plenitude, where the *lesse* (and *neuer the lesse*) which end each stanza mean simultaneously the inability to change, and the possibility for the total destruction of identity if any change occurs: if the song of heaven is *neuer lesse*, it must continue *ad infinitum*, but if it does admit of diminution, it will cease to be heavenly song. In order to contemplate both of these forms of *lesse*, Fitt 15 relies on two distinctions. The first distinction is between logic/grammar/language on the one hand and being/ontology on the other. The second distinction is between a qualitative understanding of *lesse*-ness (relative change) and a quantitative understanding of it (the logic of infinitesimals). This debate takes a number of different forms throughout the Fitt, from thinking about language, to contemplating mathematical continuity, and from there to imagining the mathematical underpinning of musical performance. It then returns, at the end of the stanza, back to the simplicity (line 909) of the pearl-metaphor. Though the pearl has proven to be generative of complex logical and ontological referentiality, the Narrator's desire for simplicity at the end of this stanza suggests a turn away from heavy philosophical labor towards contemplation. A well-formed categorical proposition is either true or false, but not both. One gets a hint, here, that this does not hold for *Pearl*.

Pearl has been called a 'study in numerology,' a common thread in criticism which endures despite the poem's generic

fluidity.[45] But the numbers which suffuse *Pearl* should not be thought of in terms of the number of maidens in the New Jerusalem nor in the number of lines of stanzas or Fitts which comprise the poem or the manuscript as a whole. Instead, the deep structure which focuses the intellectual or poetic drive of *Pearl* is its tendency to critique and then sublimate the tensions between an categorized, rational, and numbered world with an affective realm beyond – or prior to – the world of enumeration. It is this procedural dance which imbues the poem with its circularity and what Zeeman calls the poem's 'discursive gap' and the Pearl-Maiden's demand for submission.[46] The poem requires a hermeneutic leap away from satisfying philosophical tenets, which are not actually all that satisfying, and towards the potential surfeit of illogic. It does this by combining, in Fitt 15, the discourses of *continua* and *discreta* along with the positive language of philosophical inquiry with the *via negativa* of apophasis and ineffability.

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[45] Nicolette Zeeman, 'Medieval Religious Allegory: French and English' in Rita Copeland and Peter T Struck, *The Cambridge Companion to Allegory* (Cambridge: Cambridge University Press, 2010), 148-161.
[46] Zeeman, 'Religious Allegory,' 158.