MUSIC AND SPIRITUALITY

THEOLOGICAL APPROACHES, EMPIRICAL METHODS, AND CHRISTIAN WORSHIP

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5. Religion, Science, and Music: An Augustinian Trinity

Bennett Zon

Although, as Sir John Templeton claims, 'god is revealing himself ... through the astonishingly productive research of modern scientists',[1] it is fair to say that religion and science have not always seen eye to eye, particularly since the late nineteenth-century. Indeed, a culture of suspicion continues to haunt their relationship today despite valiant efforts, like Templeton's, to resolve their differences. Music can help. Music can bring religion and science together, and not simply because of its capacity to reveal spiritual realities, but because—as this chapter argues—music is intrinsically unifying. Music not only brings people together, it also brings ideas together, and it does so because it is itself unified by the very features of its own design. In this sense, music not only helps us discover spiritual realities; music is, as Augustine (354–430) suggests, those spiritual realities themselves; it is, as Templeton suggests, God revealing himself. This essay responds to those suggestions in two ways: firstly, by hypothesising a relationship between religion, science, and music today; and secondly, by testing that hypothesis against Augustine's theo-psychological understanding of music. The conclusion summarises my findings, and points to future plans, of which the present chapter may serve as a type of pilot.

1 Cited in John Templeton Foundation, 'Sir John Templeton 1912–2008', *John Templeton Foundation*, https://www.templeton.org/about/sir-john

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I. Religion, Science, and Music

(a) Religion and Science

We begin with a presumption: 'Yes, there is a war between science and religion ... science and religion are not only in conflict ... but also represent incompatible ways of viewing the world'[2] Reprising a nineteenth-century argument heavily disputed today in both theology and the history of science, Jerry Coyne claims that science and religion are not just incompatible, but have been at war since the beginning of science and religion themselves. Coyne's hostility to religion is nothing new. Richard Dawkins, for example, opens *The God Delusion* with an anti-prayer: 'If this book [*The God Delusion*] works as I intend, religious readers who open it will be atheists when they put it down'.[3] Dawkins does more than just evangelise science against religion, he also reinforces an historical stereotype that began with atheistic classics like *History of the Conflict between Religion and Science* (1875), *A History of the Warfare of Science with Theology in Christendom* (1896) and *Landmarks in the Struggle between Science and Religion* (1925).[4] These historical books not only christen what would become a long-standing stereotype, but by the middle of the twentieth century it had become scientific gospel—or so the likes of Coyne and Dawkins would have us believe. In fact, some thinkers make a strong and compelling counterclaim. They claim that 'it was possible to present a historical overview of the relationship between science and religion without relying on the conflict thesis'.[5] According

2 Jerry Coyne, 'Yes, There Is a War between Science and Religion', *The Conversation*, 21 December 2018, https://theconversation.com/yes-there-is-a-war- between-science-and-religion-108002.

3 Richard Dawkins, *The God Delusion* (Boston, MA, and New York: Houghton Mifflin, 2008), p. 11.

4 John William Draper, *A History of the Conflict between Religion and Science* (New York: D. Appleton and Company, 1875); Andrew Dickson White, *A History of the Warfare of Science with Theology in Christendom* (New York: D. Appleton and Company, 1896); James Young Simpson, *Landmarks in the Struggle between Science and Religion* (London: Hodder and Stoughton, 1925).

5 Bernard Lightman, 'Introduction', in *Rethinking History, Science and Religion: An Exploration of Conflict and the Complexity Principle*, ed. by Bernard Lightman (Pittsburgh, PA: University of Pittsburgh Press, 2019), pp. 3–16 (at p. 5); for other recent examples, see Peter Harrison and John H. Roberts, eds, *Science Without God?: Rethinking the History of Scientific Naturalism* (Oxford: Oxford University Press, 2019), and Alister McGrath, *The Territories of Human Reason: Science and Theology in an Age of Multiple Rationalities* (Oxford: Oxford University Press, 2019).

to John Hedley Brooke, for instance, there was no conflict; rather, the relationship of science and religion was 'complex'; as he says, 'Serious scholarship in the history of science has revealed so extraordinarily rich and complex a relationship between science and religion in the past that general theses are difficult to sustain. The real lesson turns out to be the complexity'.[6]

This chapter, and the project it recommends in conclusion, expands upon Brooke's complexity theory by using music 'to reveal something of the complexity of that relationship between science and religion as they interacted in the past'.[7] For Brooke, as for most historians of science today, there is 'no such thing as *the* relationship between science and religion'—only 'relationships'. But what are these relationships, and how should we understand them? Ian Barbour categorises them into four increasingly collaborative groups—conflict, independence, dialogue, and integration:[8]

1. *conflict* is relegated to historical prejudice 'perpetuated by the media'[9]
2. *independence* keeps science and religion apart by separating and differentiating their questions, domains, and methods[10]
3. *dialogue* 'portrays more constructive relationships between science and religion ... [by emphasising] similarities in presuppositions, methods, and concepts',[11] and, lastly,
4. *integration* calls 'for reformulations of traditional theological ideas', coming in three distinct versions—natural theology (science makes us more aware of design in nature), the theology of nature (science helps us reformulate theological ideas, such as creation and human nature), and a systematic synthesis (science and religion influence metaphysics).[12]

6 John Hedley Brooke, *Science and Religion: Some Historical Perspectives* (Cambridge, UK: Cambridge University Press, 2014), p. 6.
7 Ibid., p. 438.
8 See Ian Barbour, *Religion in an Age of Science* (San Francisco, CA: Harper and Row, 1990), and its expanded revision Ian Barbour, *Science and Religion: Historical and Contemporary Issues* (London: SCM Press, 1998).
9 Ian Barbour, *When Science Meets Religion: Enemies, Strangers, or Partners?* (San Francisco, CA: HarperCollins, 2000), p. 10.
10 Ibid., p. 17.
11 Ibid., p. 23.
12 Ibid., pp. 27–28.

The similarly-minded John Polkinghorne describes these same categories, but substitutes terminology in the last two from dialogue and integration to consonance and assimilation. In consonance, 'science and religions retain their due autonomies in their acknowledged domains, but the statements they make must be capable of appropriate reconciliation with each other in overlap regions';[13] in assimilation, 'there is an attempt to achieve the maximum possible conceptual merging of science and theology. Neither is absorbed totally by the other ... but they are brought closely together'.[14]

Regardless of terminology, if, as these categories suggest, complexity accounts for different types of relationships between religion and science, it is nevertheless curious that the term 'complexity' itself has received so little critical attention in the literature on their relationship. When Brooke describes their relationship as complex what exactly does he mean? What do we mean by the term 'complexity', and does it refer to more than just different levels of collaboration between science and religion? And when science and religion actually meet, how do we gauge their level of complexity accurately when the very circumstances of their relationship are so unique—when, as Brooke opines, 'there is no such thing as *the* relationship between science and religion'?[15] Bernard Lightman asks similar questions when he raises concerns over the very idea of the 'complexity thesis'. If it is 'actually a misnomer', he asks, 'then what kinds of stories can we tell about the relationship between science and religion?'[16]

(b) Religion, Science, and Music

How can music help us understand the complex relationship between religion and science?—and perhaps, more importantly, why should we even go to music for help? Why music, in other words? Firstly, because both science and religion believe that music 'is at the centre of what it

13 John Polkinghorne, *Science and Theology: An Introduction* (London and Minneapolis, MN: SPCK/Fortress Press, 1998), p. 22.
14 Ibid., p. 22.
15 John Hedley Brooke, 'Science, Religion, and Historical Complexity', *Historically Speaking* 8 (2007), 10–13 (at 11).
16 Lightman, *Rethinking History, Science and Religion*, p. 7.

means to be human':[17] indeed, for cognitive psychologist Daniel Levitin the 'embodied nature of music, [and] the indivisibility of movement and sound' makes it 'Evolution's #1 Hit';[18] and secondly, because music shows us how religion and science can cooperate in a way that no other art can. It gives us a template for cooperation, not warfare, and a model for collaboration. For science, music is 'a sacred cue',[19] and a window into the evolutionary neuroscience of perception and aesthetics;[20] for religion, it is 'social, biological and cultural, sensory and symbolic'.[21] Amalgamating these beliefs, ethnomusicologist Chris Small asserts that music has the unique capacity to express the relationship 'between person and person, between individual and society, between humanity and the natural world and even perhaps the supernatural world'.[22]

An obvious, if admittedly contentious, way to elaborate these considerations is to do what Brooke himself suggests: to look for the same thing across both disciplines—'to look for patterns behind the complexity,'[23] and this is exactly what this chapter aims to do, by using music effectively as an experimental 'constant'—as a common denominator against which patterns in the relationship of science and religion can be tested. This approach is unusual because historians of science and religion seldom venture outside the comfort-zone of their own home disciplines into the unknown territory of the arts—least of all into music. There are few exceptions: one is polymath, physicist, and natural philosopher Tom McLeish. In most of his work McLeish

17 Stephen Malloch and Colyen Trevarthen, 'The Human Nature of Music', *Frontiers of Psychology* 9 (2018), 1680.

18 Daniel Levitin, *This is Your Brain on Music: Understanding a Human Obsession* (London: Atlantic Books, 2007), p. 157.

19 Martin Lang, Panagiotis Mitkidis, Radek Kundt, Aaron Nichols, Len Krajčiková, and Dimitris Xygalatas, 'Music As a Sacred Cue?: Effects of Religious Music on Moral Behavior', *Frontiers in Psychology* 7 (2016), 814.

20 Mireille Besson and Daniele Schön, 'Comparison Between Language and Music', in *The Cognitive Neuroscience of Music*, ed. by Isabelle Peretz and Robert Zatorre (Oxford: Oxford University Press, 2003), pp. 269–93 (at 274).

21 Candace C. Alcorta, 'Music and the Miraculous: The Neurophysiology of Music's Emotive Meaning', in *Miracles: God, Science, and Psychology in the Paranormal*, ed. by J. Harold Ellens, 3 vols (Westport, CN, and London Praeger: 2008), III, pp. 230–52 (at 231).

22 Christopher Small, *Musicking: The Meanings of Performing and Listening* (Middletown, CN: Wesleyan University Press, 1998), p. 13.

23 Brooke, 'Science, Religion, and Historical Complexity', p. 11.

engages in what could be called 'scientific theology'.[24] But, following a recent trend in the development of Music Theology, in one of his last books *The Poetry and Music of Science* (2019) he connects directly with music (for example, Robert Schumann's *Konzertstück* for Four Horns and Orchestra (1849); or Johann Sebastian Bach's fugues).[25] Music Theology is the disciplinary descendent of Jon Michael Spencer's 'theomusicology'[26] (itself a descendent of Jaap Kunst's 'ethno-musicology'),[27] and it considers music—and by extension writings about music—to be intrinsically theological in nature.[28] Like most Music Theologians, McLeish never presses theological beliefs upon his readers, but tries to let the music speak for itself. Linking its structural characteristics (harmony, rhythm, tonality, and so on) to mathematical cosmology, he does with Schumann what this chapter, and its emergent project, intends to do more broadly—using music to illuminate patterns behind the 'complexity' characterising the relationship of science and religion.

Exploration of those same patterns has tended to elude scholarship because music has never been adequately triangulated. Ideological predisposition replicating the 'conflict theory', for example, often prevents musicology from accepting theological conclusions, for fear of lapses in scholarly objectivity. Published by the Society for Interdisciplinary Musicology, *The Journal of Interdisciplinary Music Studies* is emblematic, omitting only theology from its otherwise 'interdisciplinary' list of roughly forty contributing disciplines, despite claiming to include 'all subdisciplines or paradigms of musicology'.[29] The journal *The Psychology of Music* is not dissimilar, having only published three articles including the word 'theology' since it was

24 Thomas F. Torrance, *Reality and Scientific Theology* (Eugene, OR: Wipf and Stock Publishers, 2001).

25 Tom McLeish, *The Poetry and Music of Science* (Oxford: Oxford University Press, 2019).

26 Jon Michael Spencer, *Theological Music: Introduction to Theomusicology* (Westport, CT: Greenwood Press, 1991).

27 Jaap Kunst, *Musicologica: A Study of the Nature of Ethnomusicology, Its Problems, Methods, and Representative Personalities* (Amsterdam: Indisch Instituut, 1950).

28 See Bennett Zon, 'Music Theology as the Mouthpiece of Science: Proving It through Congregational Music Studies', in *Studying Congregational Music: Key Issues, Methods, and Theoretical Perspectives*, ed. by Andrew Mall, Jeffers Engelhardt, and Monique Ingalls (New York and London: Routledge, 2021), pp. 103–20.

29 Zon, 'Music Theology as the Mouthpiece of Science', p. 107.

founded in 1973. Recent work of mine illuminates the extent of this systemic cross-disciplinary distrust,[30] but also reveals an important underlying observation; namely, the fact that when various branches of musicology reach out to religion or science, they often do so in asymmetrically reciprocal disciplinary pairs. Perhaps inevitably, these tend to favour one disciplinary approach over the other—some, of the many, indicative examples of pairings include musicology and theology,[31] or theology and musicology;[32] ethnomusicology and theology,[33] or theology and ethnomusicology;[34] but owing to the nature of interdisciplinarity, and the way it seldom genuinely succeeds in achieving methodological parity, there are undoubtedly more pairings to be observed in other branches of religion, theology, and musical sciences.[35] There are, inevitably, more arguably symmetrical pairings as well—in Maeve Louise Heaney's *Music as Theology: What Music Says about the Word*,[36] or Chelle Stearns's *Handling Dissonance: A Musical Theological Aesthetic of Unity*,[37] to name just a few amongst a very wide range of, in many instances classic, examples. My own work is, similarly, aimed at resolving disciplinary disparities, by using musicology to converse with science,[38] with theology,[39] or with

30 Zon, 'Music Theology as the Mouthpiece of Science'.

31 See, for example, Julie Brown, *Schoenberg and Redemption* (Oxford: Oxford University Press, 2014).

32 See, for example, Richard Bell, *The Theology of Wagner's Ring Cycle I: The Genesis and Development of the Tetralogy and the Appropriation of Sources, Artists, Philosophers, and Theologians* (Eugene, OR: Cascade, 2020).

33 See, for example, Monique M. Ingalls, *Singing the Congregation: How Contemporary Worship Music Forms Evangelical Community* (Oxford: Oxford University Press, 2018).

34 See for example, Peter Ward, *Liquid Church* (Eugene, OR: Wipf and Stock, 2002).

35 See, for example, William Forde Thompson and Kirk N. Olsen, eds, *The Science and Psychology of Music: From Beethoven at the Office to Beyoncé at the Gym* (Santa Barbara, CA, and Denver, CO: Greenwood, 2021), especially pp. 140–204.

36 Maeve Louise Heaney, *Music as Theology: What Music Says about the Word* (Eugene, OR: Pickwick, 2012).

37 Chelle L. Stearns, *Handling Dissonance: A Musical Theological Aesthetic of Unity* (Eugene, OR: Pickwick, 2019).

38 See, for example, Bennett Zon, 'Evolution: Music in the Autobiologies of Darwin and Spencer', in *The Oxford Handbook of Music and Life Writing*, ed. by Paul Watt and Michael Allis (Oxford: Oxford University Press forthcoming); and Bennett Zon, *Evolution and Victorian Musical Culture* (Cambridge, UK: Cambridge University Press, 2017).

39 See, for example, Bennett Zon, 'Elgar *as* Theology', *The Oxford Handbook of Music and Christian Theology*, ed. by Steve Guthrie and Bennett Zon, 5 vols (Oxford:

both theology and science.[40] Regrettably, this same aspiration is not evident in chronologically broad interdisciplinary histories of music;[41] and neither do histories of religion and science ever seem to enter musicological territory.

(c) Methodologies

In the broadest possible sense, this chapter (and its larger project) responds to those challenges by using music to debunk the idea that religion and science were—and are to this very day—locked in some

Oxford University Press, forthcoming), III, 'Context'; and Bennett Zon, 'Music', in *Handbook of Religious Culture in Nineteenth-Century Europe*, ed. by Anthony J. Steinhoff and Jeffrey T. Zalar (Berlin: De Gruyter, forthcoming).

40 Zon, 'Music Theology as the Mouthpiece of Science'; Bennett Zon, 'Religion and Science', in *The Oxford Handbook of Music and Intellectual Culture*, ed. by Michael Allis, Sarah Collins, and Paul Watt (Oxford: Oxford University Press, 2020), pp. 387–408; Bennett Zon, 'Evolution', in *Edinburgh Critical History of Nineteenth-Century Theology*, ed. by Daniel Whistler (Edinburgh: Edinburgh University Press, 2018), pp. 124–42; and Bennett Zon, 'Music', in *The Oxford Handbook of Nineteenth-Century Christian Thought*, ed. by Joel D. S. Rasmussen, Judith Wolfe, and Johannes Zachhuber (Oxford: Oxford University Press, 2017), pp. 459–70.

41 See, for example, (1) long histories of music and cosmology: Michael J. Montague, *The Science of Music and the Music of Science: How Music Reveals Our Brain, Our Humanity and the Cosmos* (St Louis MO: Cosmic Music, 2019); Jamie James, *The Music of the Spheres: Music, Science, and the Natural Order of the Universe* (New York: Copernicus, 1993); Joscelyn Godwin, *The Harmony of the Spheres: A Sourcebook of the Pythagorean Tradition in Music* (Rochester NY: VM, Inner Traditions International, 1993); Joscelyn *Godwin*, *Harmonies of Heaven and Earth: Mysticism in Music from Antiquity to the Avant-Garde* (Rochester VM: Inner Traditions International, 1987); (2) sources on the historical and cultural relationship of music and science: Michael Spitzer, *The Musical Human: A History of Life on Earth* (London: Bloomsbury, 2022); Peter Townsend, *The Evolution of Music through Culture and Science* (Oxford: Oxford University Press, 2020); Alan Harvey, *Music, Evolution, and the Harmony of Souls* (Oxford: Oxford University Press, 2017); Adam Ockelford, *Comparing Notes: How We Make Sense of Music* (London: Profile, 2017); Gary Tomlinson, *A Million Years of Music: The Emergence of Human Modernity* (Princeton NJ: Princeton University Press, 2015); and (3) academic studies with a chronologically narrower focus: Jacomien Prins and Maude Vanhaelen, *Sing Aloud Harmonious Spheres: Renaissance Conceptions of Cosmic Harmony* (Routledge: Abingdon and New York, 2019); Andrew Hicks, *Composing the World: Harmony in the Medieval Platonic Cosmos* (Oxford: Oxford University Press, 2017); Philipp Jeserich, Michael J. Curley and Steven Rendall, *Musica Naturalis: Speculative Music Theory and Poetics from Saint Augustine to the Late Middle Ages in France* (Baltimore MD: Johns Hopkins University Press, 2013); and Alexander Rehding and Suzannah Clark, *Music Theory and Natural Order from the Renaissance to the Early Twentieth Century* (Cambridge: Cambridge University Press, 2001).

kind of mortal conflict, or what Steven Jay Gould famously calls 'non-overlapping magisteria'.[42] Instead, I aim to show how the unity of music can, to paraphrase Barbour, be shown to resolve their conflict; reconcile their independence; illustrate their dialogue; and exemplify their integration. It does that by building upon two intersecting methodologies.

The first methodology adapts a thesis argued in Michael Hanby's *No God, No Science?: Theology, Cosmology, Biology*.[43] Hanby makes a simple claim evident in the title of his book—that science cannot exist without God: that science fails to recognise the metaphysical underpinnings of its own methodology, and that nature cannot be studied objectively when the scientist is part of nature itself (a good example, frequently cited, is Dawkins, in his emblematic book *The God Delusion* (2006)). This essay extends Hanby's argument by treating Augustine as one of religion's first 'music psychologists', and claiming that music cannot be understood—it cannot even exist—outside the collaborative relationship of science and religion.

The second methodology comes from the work of David Christian and his concept of 'Big History'.[44] Although this essay focuses on Augustine, it also aims to create a methodology that uses music to explore the relationship of religion and science within the longest possible chronological framework. Admittedly contentious—and even criticised by historians of science for emplotting evolutionary history[45]—according to Christian, Big History enables us to ask big questions inaccessible through smaller timescales. One set of questions concerns the relationship between the personal and universal: 'who am I?', he asks, 'where do I belong? what is the totality of which I am a part?'[46]

42 See Stephen Jay Gould, 'Nonoverlapping Magisteria', *Natural History*, 106 (March 1997), 16–22.

43 Michael Hanby, *No God, No Science?: Theology, Cosmology, Biology* (Oxford: Wiley-Blackwell, 2013).

44 David Christian, *Maps of Time: An Introduction to Big History* (Berkeley, LA: University of California Press, 2005); David Christian, Cynthia Stokes Brown, and Craig Benjamin, *Big History: Between Nothing and Everything* (New York: McGraw-Hill Education, 2014); David Christian, *Origin Story: A Big History of Everything* (London: Penguin, 2019).

45 Ian Hesketh, 'The Story of Big History', *History of the Present* 4.2 (Fall 2014), 171–202.

46 Christian, *Maps of Time*, p. 1.

Big, comparable questions are also asked in science and religion—for example, 'How did the universe begin'; 'Is evolution compatible with creation'; 'Is science the only true path to truth'; or 'Has science made God obsolete'?[47]—and almost identical questions are asked in music: 'what is music?', 'what does it signal?', and 'what does it mean?'—'why is it important?', and 'what can music tell us about our ourselves, our human evolutionary origins and the origins of the world?'; 'what can it tell us about where we belong, and what part we play in the greater totality of life on earth?'; 'does it just point to God, or is it, as Augustine suggests, God himself?' Again, 'is music God revealing himself: is it a spiritual reality itself?' Let us ask Augustine.

II. Augustine

> Yet if I have the experience of being moved more by the singing than by the subject matter, I admit that I am sinning and deserve punishment and then would prefer not to listen to the singer. Just look at the state I am in! Weep with me and weep for me ... O Lord my God, listen! Look and see and have mercy and heal me; before your eyes I have become a puzzle to myself, and this itself is my weakness.[48]

So Augustine anguishes over the effect music has on his life. For Augustine that effect occurs through two forms of music: through the ordinary music we perform, compose, listen to, and dance to—the music that makes us weep; and through the extraordinary music that regulates the world—harmony, you might say: a sense of attunement with the world, or moving well—being 'groovy', if you will. The two forms of music are interrelated. Ordinary music is created by human beings, themselves created by God, and extraordinary music is directly created by God to reflect and embody the perfection of his unity. Augustine's musical project is to explain how they can be brought together—how the ordinary helps us to understand the extraordinary—the earthly, the spiritual—and how, in fact, we can ascend from one to the other, from the ordinary to the extraordinary. Current research on their relationship is

47 See the chapter headings in Keith Ward, *The Big Questions in Science and Religion* (West Conshohocken, PA: Templeton Foundation Press, 2008).

48 Augustine, *Confessions Books 9 to 13*, ed. and trans. by Carolyn J. B. Hammond (Harvard, MA: Loeb Classical Library, 2016), 10.33.50, p. 155.

wide-ranging, if arguably inconclusive. Giosuè Ghisalberti, for instance, focuses on Augustine's tears as an expression of mourning in Book 9 of his *Confessions*, but merely rehearses Platonic reservations over music's capacity to suppress reason's ability to control emotion.[49] James Jirtle and Brian Brennan, conversely, read Augustine through virtue ethics and the ability to positively harness musical emotion, rather than negatively subordinate it;[50] and Carol Harrison's recent work is in much this same vein, using 'affective cognition' to reassess the nature of Augustine's musical experience and its theoretical import.[51] But altogether this research omits a crucial element in our understanding of Augustine's notion of musical ascent: music brings us closer to the Trinity, and the Trinity brings us closer to God.

(a) The Trinity

Augustine traces this effect mainly in two correspondingly Trinitarian works, the *Confessions* and *De Musica*. The *Confessions* comprise thirteen books: the first nine are autobiographical; the remaining four, philosophical. According to Colin Starnes, books 1 to 9 represent the Father; book 10, the Son; and books 11 to 13, the Holy Spirit, 'while each of the bigger sections can be seen as consisting of three smaller sections, each in turn devoted to one of the three persons of the Trinity'.[52] Some theologians allocate Trinitarian structure differently; some perceive the structure as representing a form of Christian-Platonic spiritual ascent, from autobiography to metaphysical and theological issues, while others, still, see in its two-part division a structure based loosely around philosophical questions over God's omnipresence and transcendence.[53] In many ways *De Musica* is the intellectual yin to the *Confessions*' emotional yang. Trenchantly metaphysical (many would

49 Giosuè Ghisalberti, 'Listening to Hymns and Tears of Mourning in Augustine's *Confessions*, Book 9', *Early Music* 43.2 (2015), 247–53.

50 James V. Jirtle, 'Using Music Well: Reassessing Perception in Augustine's *De Musica*', *Augustiniana* 60.3–4 (2010), 263–81; Brian Brennan, 'Augustine's *De Musica*', *Vigiliae Christianae* 42.3 (1988), 267–81.

51 Carol Harrison, *On Music, Sense, Affect and Voice* (London: T&T Clark, 2019), p. 68.

52 Annemaré Kotzé, 'Structure and Genre of the Confessions', in *The Cambridge Companion to Augustine's 'Confessions'*, ed. by Tarmo Toom (Cambridge, UK: Cambridge University Press, 2020), pp. 28–45 (at 37)

53 Kotzé, 'Structure and Genre of the Confessions', pp. 28–45.

say, incomprehensible), *De Musica* mirrors, in part, the spiritual ascent of the *Confessions* but without much of its breezy human accessibility. Written not long after Augustine's conversion in 386 AD (sometime between 387 and 391 AD),[54] as part of a projected set of works on the liberal arts, *De Musica* comprises six books, of which the first five discuss the technicalities of rhythm, metre, and verse; the last, sixth book—the vaguely comprehensible one—addresses the ascent of the soul through music.

Amongst other things, the *Confessions* is renowned for Augustine's legendary ambivalence towards ordinary music: 'The pleasures of the ear', he cries, 'had a more tenacious hold on me, and had subjugated me; but you [God] set me free and liberated me ... my physical delight, which has to be checked from enervating the mind, often deceives me when the perception of the senses is unaccompanied by reason, and is not patiently content to be in a subordinate place ... I have sometimes gone so far as to wish to banish all the melodies and sweet chants commonly used for David's psalter from my ears and from the Church as well'.[55] That tension is never really resolved, and theories explaining his predicament abound. One of the more compelling theories concerns the evolutionary 'selfishness' of language. According to Marica Colish, Augustine felt that, as human beings, we are congenitally predisposed to use language to exert control over our environment.[56] Augustine certainly gives that impression throughout the *Confessions*—'By groans and various sounds and various movements of parts of my body I would endeavour to express the intentions of my heart to persuade people to bow to my will'[57]—but his mistrust of language goes further. Fuelled by a pervasive mistrust of the seemingly truthless emptiness of rhetorical logic (i.e., form over content), he rails against his former self for allowing

54 For research on the dating of *De Musica*, see Martin Jacobsson and Lukas J. Dorfbauer, 'Introduction', in *Augustinus, De Musica*, ed. by Martin Jacobsson, Corpus Scriptorum Ecclesiasticorum Latinorum 102 (Berlin and Boston, MA: de Gruyter, 2017), pp. 1–10.

55 *Saint Augustine Confessions*, trans. by Henry Chadwick (Oxford: Oxford University Press, 1991), book 10, xxxiii (49), p. 207; and ibid., book 10, xxxiv (50), p. 208.

56 Marcia Colish, *The Mirror of Language: A Study of the Medieval Theory of Knowledge* (Lincoln, NE: University of Nebraska Press, 1983), p. 19.

57 Augustine, *Confessions*, book 1, viii (13), p. 10.

his education to be 'aimed more at teaching eloquence than morality'.[58] The link to music is obvious because music and rhetoric are both linguistic. Both have the capacity for abuse, and both have the power to exert control over reason without authority; both, more concerningly, appear doubly entwined in vocal music. The problem for Augustine is moral, as much as it is psychological—when the music is loved more than the meaning its message conveys, and more especially when the message is itself considered to be morally unsupportable: 'woe to you', Augustine opines, 'if you have loved the creatures and abandoned the Creator!'[59] In many respects, Augustine's understandable fear is entirely unextraordinary, and it is easy to stop there at any explanation, but there is more to it than meets the eye, or ear, and it has to do with Augustine's notion of divine simplicity—and the way it unites his theology and psychological science.

(b) Simplicity

When Augustine worries over our sometimes-misguided love for creatures over their Creator, he invokes a relationship borne of divine simplicity; in other words, the hypostatic relationship of the Trinity, and the Trinity's relationship to God's creation. For Augustine, creation and the substance of God are one: 'God is simple, that is, in God all qualities are identical with God's essence'.[60] For Scott Dunham, that means that human participation in creation—being, in as many words—occurs only through our participation in God.[61] Dunham raises an interesting point with implications for Augustine's musical predicament. For Augustine there is a potentially threatening spiritual disconnect, when we allow ourselves to separate the music from the meaning of its messenger—the ordinary from the extraordinary; the

58 Calvin R. Stapert, *A New Song for an Old World: Musical Thought in the Early Church* (Grand Rapids, MI, and Cambridge, UK: Eerdmans, 2007), Kindle Location 2312.

59 Augustine, 'Tractate 2', in *Tractates on the First Epistle of John*, trans. by John W. Rettig, The Fathers of the Church 92 (Washington, DC: Catholic University of America Press, 1995), p. 153.

60 Lewis Ayres, 'The Fundamental Grammar of Augustine's Trinitarian Theology', in *Augustine and His Critics: Essays in Honour of Gerald Bonner*, ed. by Robert Dodaro and George Lawless (London and New York: Routledge, 2000), pp. 54, 60 and 62.

61 Scott A. Dunham, *The Trinity and Creation in Augustine: An Ecological Analysis* (Albany, NY: State University of New York Press, 2008), p. 83.

created from the Creator—because it breaks the bonds of God's divine simplicity. If the Trinity is itself meant to have created the world, it also subverts the principle of the Trinity: 'at the core of Augustine's analogical practice are two basic foci: the created order as a reflection of its threefold Creator; the threefold structure of the process by which the mind is reformed towards God ... [This is already] implicit in this earliest material, but only drawn out more fully in the *Confessiones*'.[62] What this suggests is that Augustine's anxiety over music is in fact representative of a much broader concern to epitomise creation as divine simplicity, and divine simplicity as the only tenable means of interpreting a Trinitarian Godhead. Music, in other words, is a metaphor, and one with uniquely transformative—even redemptive—spiritual powers: as we read elsewhere in the *Confessions*, 'the musical metaphor enables him [Augustine] to encapsulate how a will transformed over time is and remains a fundamentally unified life. It is one song, the "new song" of Christ'.[63]

(c) Simplification

'Why', then, as Harrison asks, 'did Augustine Sing?', if not to become one with the new song: the answer is that, according to Augustine, the soul is 'all too often distracted, fragmented and weighed down by its necessary involvement in sense perception ... the soul should direct its focus towards eternal and immutable rhythms whilst unconsciously attending to the temporal, mutable rhythms of sense perception; it should engage with sense perception—in this case, listening to the line of a hymn being sung—as it were, without noticing it and without allowing it to evoke any reaction from it'.[64] That prescription for simplification does make Augustine sound like a therapist, a psychologist, or even a 'scientist' in the broadest sense;[65] after all, he does define music as

62 Lewis Ayres, *Augustine and the Trinity* (Cambridge, UK: Cambridge University Press, 2010), p. 280.

63 Alex Fogleman, 'Becoming the Song of Christ: Musical Theology and Transforming Grace in Augustine's *Enarratio in Psalmum 32*', *Augustinian Studies* 50.2 (2019), 93–116 (at 144).

64 Carol Harrison, 'Getting Carried Away: Why Did Augustine Sing?', *Augustinian Studies* 46.1 (2015), 1–22 (at 7).

65 See *Augustine and Science*, ed. by John Doody, Adam Goldstein and Kim Paffenroth (Lanham MD: Lexington Books, 2012).

the science of modulating, or moving, well, and he does, as Harrison reveals, provide us with extraordinary insight into Patristic thinking on sense, emotion, memory, and mind, and many other things to do with 'affective cognition'. Those things, in themselves, do not necessarily make his opinion scientific, according to our modern understanding of the term, however. Controversially, philosopher Alvin Plantinga nevertheless calls for an 'Augustinian science' that accepts the non-neutrality of science; in other words, a science used 'in the service of a broadly religious vision of the world'[66] and from 'an explicitly theistic or Christian point of view'.[67] Others are more sceptical, and Josh Reeves even argues that Augustine would himself be suspicious of 'Augustinian science'.[68] While 'of its time', however, Augustine's own view on the utility and objectivity of empirical observation was largely favourable.[69] Augustine himself claims that 'Often a non-Christian knows something about the earth, the heavens, and the other parts of the world, about the motions and orbits of the stars and even their sizes and distances ... and this knowledge he holds with certainty from reason and experience. It is thus offensive and disgraceful for an unbeliever to hear a Christian talk nonsense about such things, claiming that what he is saying is based in Scripture'.[70]

Augustine's contempt for that kind of position is palpable because he sees no fundamental contradiction between the material and spiritual world, or indeed between what we would call today theology and science. For Augustine, the created and the Creator, the ordinary and the extraordinary, cannot be anything but simple, and simple in the clearest possible Trinitarian and incarnational terms. So when, in the course of spiritual ascent, Augustine gives the impression of

66 Alvin Plantinga, 'Science: Augustinian or Duhemian?', *Faith and Philosophy* 13.3 (1996), 368–94 (at 370).

67 Ibid., 369.

68 Josh A. Reeves, 'Science and Christianity: The Three Big Questions', *Journal of Biblical and Theological Studies* 2.2 (2017), 157–69 (at 164).

69 David C. Lindberg, 'The Medieval Church Encounters the Classical Tradition: Saint Augustine, Roger Bacon, and the Handmaiden Metaphor', in *When Christianity & Science Meet*, ed. by David C. Lindberg and Ronald L. Numbers (Chicago, IL: University of Chicago Press, 2003), pp. 7–32 (at 15).

70 Augustine, *On Genesis: A Refutation of the Manichees, Unfinished Literal Commentary on Genesis, The Literal Meaning of Genesis*, ed. by Boniface Ramsey and trans. by O.P. Hill (Hyde Park, NY: New City, 2004), p. 186.

'escaping reality' (i.e., the temptations of the physical world—like ordinary music) in pursuit of higher spiritual communion with God, in fact he does quite the opposite. His is, arguably, an incarnational approach in which the created and the Creator—the ordinary and the extraordinary—are fused as one—they are effectively 'creatored': 'Augustine sees the Incarnation as the primary model for signification, for this path from the physical to the spiritual, from *signum* to the *res*'.[71] Some of his language is perhaps unhelpful, portraying spiritual ascent as linear—as a path from A to B—when in fact the linearly vertical imagery of the ladder of ascent is more complex than that. Inherited from his Platonic days, Augustine's ladders of ascent ascended, or evolved, from the contemplative self-sufficiency of the philosopher to the loving grace of the Christian. According to Martha Nussbaum, at the same time 'it situates ascent within humanity and renounces the wish to depart from our human condition'.[72] In other words, ascent is actually marked not by progression but expansion: by loving God we love his creation; by loving God in humanity we see all humans as equal; and by seeing humans as equal we seek their equality.[73]

Nussbaum focuses on emotion in much the same way Harrison focuses on affect—as something Augustine sees as intrinsically good (because it is part of creation) but potentially bad if it becomes an end in itself. If something becomes an end in itself it tries to separate itself from God's creation and its Creator, and if something tries to separate itself from God it, ipso facto, creates complexity, or compositeness; i.e., the opposite of simplicity. Augustine hints at this when he fears 'the experience of being moved more by the singing than by the subject matter'.[74] Augustine considers it a sin: 'I admit that I am sinning', he opines, 'and deserve punishment and then would prefer not to listen to the singer'.[75] However defined,[76] it is universally agreed that sin

71 John Norris, 'Augustine and Sign in Tractatus in Iohannis Evangelium', in *Augustine: Biblical Exegete*, ed. by Frederick Van Fleteren and Joseph C. Schnaubelt (New York: Peter Lang, 2004), pp. 215–32 (at 215).

72 Martha C. Nussbaum, *Upheavals of Thought: The Intelligence of Emotions* (Cambridge, UK: Cambridge University Press, 2001), p. 547.

73 Ibid., p. 548.

74 Augustine, *Confessions Books 9 to 13*, p. 155.

75 Ibid.

76 See Jesse Couenhoven, *Stricken by Sin, Cured by Christ: Agency, Necessity, and Culpability in Augustinian Theology* (Oxford: Oxford University Press, 2013); Pier

creates separation from God; for Augustine it is 'any transgression in deed, or word, or desire, of the eternal law. And the eternal law is the divine order or will of God, which requires the preservation of natural order, and forbids the breach of it'.[77] Augustine's sin is a sin against divine simplicity, and that makes music dangerous. When music ceases to 'harmonise' with, and like, the Trinity, or to move well, it also breaks the relational bond of sense and meaning; for Augustine, 'whatever has pleasing sound, that it is which pleases and entices the hearing itself. What is really signified by that sound is what is borne to the mind through the messenger of our hearing ... our praise of the meter is one thing, but our praise of the meaning is something else'.[78] When music does move well, however—when it moves well itself, and when it moves us well—it can heal the sinful disconnect between sense and meaning, between created and Creator. By healing us, music, for Augustine, also simplifies us so that we can, incarnationally like Christ, become music itself—the 'new song'. Music unifies us, not just within ourselves individually and with one another, but with our cosmic creator and the Trinity.

Augustine begins and ends book 6 of *De Musica* with a discussion of Ambrose's famous hymn *Deus Creator Omnium*—God Creates All. Why choose that hymn; why there, and in those places? Many have asked that question, often focusing on Augustine's emotional, psychological reason. His mother Monica had just died, and the hymn was a consolation.[79] But there are, of course, other reasons. In extended discussions of the hymn, Harrison and Guthrie make much the same

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Franco Beatrice, *The Transmission of Sin: Augustine and the Pre-Augustinian Sources*, trans. by Adam Kamesar (Oxford: Oxford University Press, 2013); or Eric L. Jenkins, *Free to Say No?: Free Will in Augustine's Evolving Doctrines of Grace and Election* (Eugene, OR: Wipf & Stock, 2012).

77 Augustine, 'Contra Faustum Manichaeum', ed. by Philip Schaff and trans. by Richard Stothert, 22 (27), p. 388, http://www.documentacatholicaomnia.eu/03d/0354-0430,_Augustinus,_Contra_Faustum_Manichaeum_%5BSchaff%5D,_EN.pdf

78 Augustine, *On Order*, 2.11.34, cited in Carol Harrison, 'Augustine and the Art of Music', in *Resonant Witness: Conversations between Music and Theology*, ed. by Jeremy Begbie and Steven Guthrie (Grand Rapids, MI: W. B. Eerdmans, 2011), pp. 27–45 (at 44).

79 For example, Brennan, 'Augustine's *De Musica*', p. 269; Ghisalberti, 'Listening to Hymns and Tears of Mourning in Augustine's *Confessions*', p. 252; and Steven R. Guthrie, 'Carmen Universitatis: A Theological Study of Music and Measure' (unpublished doctoral thesis, University of St Andrews, 2000), p. 291.

claim. Both describe Augustine's variable (five-, sometimes six-stage) process of spiritual ascent as psychologies of perception,[80] engaging both the physical and spiritual (i.e., mental) resources of our soul. Guthrie helpfully summarises them in five concise questions: is music (1) in the sound—latent in the vibrations of the string itself; (2) in the hearer's sense—passively sensed; (3) in the act of the reciter—given the norms of performance; (4) in the memory because we have learnt it—a conditioned response to sound; or (5) in the judgment—actively constructed by the listener?[81] Augustine himself writes that 'When this verse . . . is sung [(1) in the sound] . . . We both hear [(2) in the hearer's sense] it with occurring rhythms [(2) in the hearer's sense/(3) in the act of the reciter], and recognize it [(3) in the act of the reciter/(4) in the memory because we have learnt it] with the memorized rhythms [(4) in the memory because we have learnt it], and enjoy it with these judicial rhythms [(5) in the judgment], and evaluate it with some others [(5) in the judgment]'.[82] Both Guthrie and Harrison also advocate a holistic interpretation of Augustine's spiritual ascent. For Guthrie, 'Augustine advances a polyphonic account of music: music perception is presented as a unified whole, composed of differentiated parts';[83] for Harrison, 'His [Augustine's] point is that this cosmic harmony—what he here [*De Musica*] calls "equality" (*aequalitas*)—owes its existence to God, the *Deus Creator Omnium*, the Creator of All ... it is through equality that we are able to apprehend Him, for He *is* perfect equality'.[84] Harrison and Guthrie both make an important point: *Deus Creator Omnium* is not just an illustration of music; it is music, and it represents it as well. It is the creation, and it represents it as well; it is God, and it represents him as well—because God the Creator is indivisible from his creation: it is 'a statement of the complete dependence of created reality upon the Creator of All, the *Deus Creator Omnium*'.[85]

80 Guthrie, 'Carmen Universitatis', p. 264; Harrison, *On Music, Sense, Affect and Voice*, p. 36.
81 Guthrie, 'Carmen Universitatis', p. 263.
82 Augustine, *De Musica*, 6.8.23, cited in Harrison, *On Music, Sense, Affect and Voice*, p. 38.
83 Guthrie, 'Carmen Universitatis', p. 264.
84 Harrison, *On Music, Sense, Affect and Voice*, p. 42.
85 Ibid.

(d) Simplification Today

Harrison ends where Augustine ends, with reference to *Deus Creator Omnium* and his concluding statement on the Trinity. But neither she nor other theologians invoke the term 'simplicity' to describe *De Musica*, or the *Confessions*, or other musical references for that matter. If musical ascent is indeed equivalent to a process of spiritual 'simplification', what does that mean exactly, and does it make Augustine any more 'scientific' in his approach?

That Augustine presents a psycho-scientific model of perception is fairly indisputable. Harrison describes it through modern emotion theory—'affective cognition'—but, as she herself admits, there are plenty of other ways to theorise it, and many other 'scientific' angles we could take on Augustine more generally (some of which have already been discussed). Admittedly, neither theology nor science has arrived at any consensus on Augustine's modern scientific credentials, least of all his seemingly 'scientific', if impenetrable, approach to music. So let me throw my hat in the ring. I think Augustine is concerned about simplicity—divine simplicity—and the relationship of God and his creation. Music is a part of creation, both in its ordinary and extraordinary forms. In all its forms music represents cosmic harmony—it moves well—but only while we, as created human beings, remain united to God our Creator. Being united to God our Creator means being united to more than the cosmos, however; it also means being united to God the Trinity and through the Trinity to the Incarnation of the Son. This makes Augustine's process of musical ascent an almost cyclical process of simplification, not just a spiritual elevation, in which we progress (or rather, *expand*) from our own human complexity to the simplicity of our own creation in God. The simpler we become, the more musical we become, and the more musical we become, the more unified (i.e. harmonised) with our God and His creation.

Simplification comes in many forms, scientifically, as James B. Glattfelder observes:

> Here on Earth, complexity is found everywhere. However, only recently has the human mind deciphered the simple rules behind complex phenomena. This insight came hand in hand with the emergence of information technology, allowing this new domain to be algorithmically

> charted. The prototypical complex system is biological. However, the vast complex systems we humans have created, especially in finance and economics, require a detailed and in-depth discussion. Today, they affect every aspect of life on Earth.[86]

Glattfelder's comments apply equally well to theology. According to Wil Derske, simplicity has as much to do 'with the ordering of the complex', as it does with beauty and transcendence of some kind.[87] Scientists, for example, often refer to their discoveries or experiments in terms of beauty; for Thomas Dubay, it is where science and theology meet.[88] Science and theology also meet in Augustine's musical simplicity because music has the capacity to simplify our lives by focussing on less and less complexity. Decluttering, mindfulness, stress-reduction—these, whether religious or not, are all science-based, empirically-based movements designed to simplify our lives and return it to a more meaningful, essentialised, unified state of existence—to remove the noise and help us concentrate on the true meaning of life. Does Augustine help us declutter? Anita Higman and Hillary McMullan think so.[89] Is Augustine mindful? Jim Highland thinks so, as do others.[90] What about stress-reduction? Bob Stahl and Elisha Goldstein believe that too.[91] What all these people have in common is the basic belief that Augustine teaches simplification, be it theological, scientific, or just plain self-help. If Augustine's psychology of music perception—his 'science' of the science of moving well—is

86 James B. Glattfelder, 'The Simplicity of Complexity', in James B. Glattfelder, *Information—Consciousness—Reality: How a New Understanding of the Universe Can help Answer Ago-Old Questions of Existence*, The Frontiers Collection (Cham: Springer Open, 2019), pp. 181–214 (at 206).

87 Wil Derkse, 'Nice Work: Beauty and Transcendence as Factors in Scientific Practice', in *The Concept of Nature in Science and Theology, Part II*, ed. by Niels Henrik Gregersen, Michael W. S. Parsons, and Christoph Wassermann (Geneva: Labor et Fides, S.A., 1996), pp. 47–55 (at 49).

88 See Thomas Dubay, S.M., *The Evidential Power of Beauty: Science and Theology Meet* (San Francisco, CA: Ignatius Press, 1999).

89 Anita Higman and Hillary McMullan, *Daily Grace for Daily Life: Encouragement for Women* (Uhrichsville, OH: Barbour, 2013).

90 Jim Highland, 'Transformation to Eternity: Augustine's Conversion to Mindfulness', *Buddhist-Christian Studies* 25 (2005), 91–108; and L. Vandenberghe and F. Costa Prado, 'Law and Grace in Saint Augustine: A Fresh Perspective on Mindfulness and spirituality in Behaviour Therapy', *Mental Health, Religion & Culture* 12.6 (2009), 587–600.

91 Bob Stahl and Elisha Goldstein, *A Mindfulness-Based Stress Reduction Workbook* (Oakland, CA: New Harbinger, 2010), p. 16.

about anything, it is about helping to re-unite us with ourselves, even as a first step in the spiritual healing process, because we, too, are music when both it and we move well together.

Conclusion

Brooke suggests that we understand the relationship of science and religion only by looking 'for patterns behind the complexity'.[92] This essay extends that principle to music, using it as a common denominator against which patterns in science and religion can be tested. Theologian, therapist, psychologist—scientist in the broadest sense—Augustine provides a good example through an important, if controversial, theological concept of divine unity—the doctrine of divine simplicity. Encapsulated in the theology of the Trinity, the doctrine of divine simplicity describes the paradox of a God who is both three and one, Father, Son and Holy Spirit, yet one single and indivisible God.[93] St Augustine explains how three Persons can be one God (the Trinity); how the Second Person can be both God and Man (simple and complex); and how music both represents —and actually is —their perfect 'cosmic' relationship. In Templeton's words: 'god is revealing himself' through music.

For Augustine this involves understanding a psychological process of 'simplification' in which 'all finite reality is an image of ultimate reality'[94]—a process scientifically replicated today in Augustinian-influenced programmes of advice on decluttering, mindfulness, and stress-reduction. Are there other examples? There are, and it remains to explore them in a comprehensive 'Big History' using music to map the relationship of science and religion—from what physicist Marcus Chown calls the 'deep hum' of the Big Bang[95] to the latest 'world in a

92 Brooke, 'Science, Religion, and Historical Complexity', p. 11.

93 See for example, Steven J. Duby, *Divine Simplicity: A Dogmatic Account* (London: Bloomsbury, 2015).

94 Gerald P. Boersma, *Augustine's Early Theology of Image: A Study in the Development of Pro-Nicene Theology* (Oxford: Oxford University Press, 2016), p. 135.

95 Marcus Chown, 'Big Bang Sounded Like a Deep Hum', *New Scientist*, 30 Oct 2003, https://www.newscientist.com/article/dn4320-big-bang-sounded-like-a-deep-hum/

roar'[96] of modern composer Sir James MacMillan. What will that history tell us? It will tell us how music can help; how it can help bring religion and science together; how it can bring people together; and how it can bring each of us closer to God. It will tell us not only how, as Templeton claims, modern scientific research can illuminate spiritual realities, but how God reveals himself through music.

96 See Michael Capps, 'Warld in a Roar: The Music of James MacMillan, *Image* 54 (2007), 95–108, https://imagejournal.org/article/warld-in-a-roar-the-music-of-james-macmillan/