Olivier Messiaen: Music, Art and Literature

Edited by
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The record of realism in Messiaen's bird style

ROBERT FALLON

Ever since Messiaen proudly claimed that his birds were 'parfaitement authentiques' in the preface to his first all-bird composition, Réveil des oiseaux (1953), musicians have wondered whether his imitations are indeed accurate. Until now, measuring his accuracy has proved impossible because his live blackcaps and chiffchaffs have long since flown away, and their descendents are unreliable substitutes because songbirds learn their songs, and learned songs change over time and across space. In the absence of Messiaen's own models, conclusions about his accuracy have been restricted to three positions: his birds are accurate, inaccurate, or the issue does not matter. In 1960 Norman Demuth argued that the birds are accurate, calling the style oiseau 'impressionistic verism' (Demuth, 1960). Pronouncing verism 'irrelevant', however, Trevor Hold compared a real nightingale to one from Réveil des oiseaux and found the imitation inaccurate (Hold, 1971, p. 119). Meri Kurenniemi (1980) argued that the question of accuracy is 'not essentially the problem at all', because it rested on the subjective issue of the listener's perception. Paul Griffiths went a step further, conceding Messiaen's 'relative accuracy' because his birds were more complex than previous birds in the repertory. Though he wrongly assumed that the most complex depiction must be the most accurate, he agreed with Kurenniemi that the 'accuracy of the copy seems rather beside the point' (Griffiths, 1985, pp. 168–9, 174 and 188).

Unlike Kurenniemi and Griffiths, I believe that the issue of Messiaen's accuracy is critical – not for proving or disproving Messiaen's claim of authenticity, but for addressing the more interesting issue of his aesthetic of representation. Messiaen admitted that he deformed the tempo, tessitura, tuning and timbre of the original

¹ The quotation refers specifically to the birds of *Catalogue d'oiseaux*. In 2000 the late Robert Sherlaw Johnson attempted to prove Messiaen's accuracy by showing how closely a nightingale's song matches a bird in *Catalogue d'oiseaux* ('Birdsong in *Catalogue d'Oiseaux*: An Imitation of Nature?', unpublished paper delivered at 'Ratios and Radiance, Feathers and Faith: The Music of Olivier Messiaen', Brown Symposium XXII, Southwestern University, February 2000). Johnson's method of reordering the bird's strophes so that they match Messiaen's music is conceived around a false logic, because the project is not to show how closely birds imitate Messiaen, but rather how closely Messiaen imitates birds.

birdsongs to comply with the limitations of human performers (Samuel, 1994, p. 95). But if we knew *how* he altered his models, then we could examine his representation of nature critically. The genesis of *Oiseaux exotiques* (1956) offers this opportunity because it is the only work for which there exists a model – a set of 78 rpm records – from which Messiaen transcribed his birds.

From these records, I shall first analyse Messiaen's imitations, and show that his music conforms to his models about two-thirds of the time. I shall then argue that Messiaen prized representation for its spiritual potential — an aesthetic he shared with artistic movements such as Surrealism and musique concrète, and with contemporaries such as Père Marie-Alain Couturier, Jacques Maritain and Salvador Dalí. But the most articulate voice of Messiaen's aesthetic comes from St Bonaventure, the thirteenth-century 'Master of Paris' and Franciscan counterpart to the Dominican St Thomas Aquinas. Bonaventure's doctrine of exemplarism—a belief that nature leads to God—directly informs Messiaen's aesthetic, an aesthetic I have called 'double realism' because it conflates the medieval metaphysics of realism with the modern aesthetic of realism.

The sources of Oiseaux exotiques

While transcribing a tawny owl in Baden-Baden at 8:00 p.m. on 6 October 1953, just a few days before the première of *Réveil des oiseaux*, Messiaen recorded what may represent his first thoughts about *Oiseaux exotiques* (Bn-Fr, Ms. 23001, p. 9).² Below his transcription of the owl, he listed the habitats of birds that later appear in both *Oiseaux exotiques* and *Catalogue d'oiseaux*. Two of the seventeen lines in his list begin 'oiseaux exotiques:' and are followed by species like the minah and the shama that soon appear in *Oiseaux exotiques*. The other lines enumerate different types of habitats – such as vineyards, pine forests and high mountains – and their characteristic species. Many of these species, such as the Alpine chough, the curlew, and the tawny owl itself are cast in starring roles in *Catalogue d'oiseaux*. Their shared billing on this list suggests that he originally conceived these works as a single composition scored for solo piano, even though he later distinguished their mimetic principles, calling *Oiseaux exotiques* 'deceitful' and *Catalogue d'oiseaux* 'truthful' (Rößler, 1986, p. 33).

Messiaen transcribed *Oiseaux exotiques*'s species from outside North America at the Sixième Salon des Oiseaux, held at the Hôtel Moderne in the Place de la République on 11–14 November 1955 (see Figure 8.1; Bn-Fr, Ms. 23039). He visited the Salon each day except for Sunday the 13th, when he would have been playing the organ at masses in the Trinité. The Salon, with its theme of 'Life from



Figure 8.1 Advertisement for the Sixième Salon des Oiseaux, source of the non-North American birdsongs in Messiaen's Oiseaux exotiques

birds or death from poison chemicals', was sponsored jointly by the *Journal des Oiseaux* and the Ligue pour la Protection des Oiseaux, whose mission was to protect birds and their habitat in order to control insect overpopulation for the agriculture industry. At the twenty-one booths where aviculturalists displayed exotic birds (*Journal des Oiseaux*, 51, p. 7), Messiaen transcribed the red-whiskered bulbul, the white-crested laughing thrush, the common myna, and the yellow-shouldered blackbird, among other species. He completed *Oiseaux exotiques* ten weeks after the Salon, on 23 January 1956.

Messiaen transcribed most of the species in *Oiseaux exotiques* not at the Salon, however, but from a set of commercial recordings. In his notebooks dated 1954–55, he wrote the names of birds and their habitats not only in French but also in English, a language he rarely used: Birds of the North Woods, Birds of Northern Gardens and Shade Trees, Birds of Southern Woods and Gardens, and so on (Bn-Fr, Ms. 23036). These headings of habitats and all their species are handwritten in the same order as those in a set of six 78 rpm records published in 1942 as *American Bird Songs* by Comstock Publishing, which is now an imprint of Cornell University Press with ties to the Cornell Laboratory of Ornithology (see Figure 8.2).⁵ He transcribed all 72 species from the set and selected only the

² I thank Mmc. Catherine Massip and Mmc. Yvonne Loriod-Messiaen for their generous support and permission to access the Cahiers de notations de chants d'oiseaux held in the Bn-Fr. Fonds Messiaen, without which this study would not have been possible.

^{3 &#}x27;La vie par les oiseaux ou la mort par les poisons chimiques.'

⁴ Reports about the Fifth and Seventh annual Salons indicate that many of the non-American species transcribed by Messiaen in *Oiseaux exotiques* were present there. See, for example, 'Le Septième Salon des Oiseaux', *Bulletin de la Société Ornithologique de France*, 27 (1er trimestre 1957); pp. viii–ix.

⁵ The set of records from which Messiaen transcribed his birds was *American Bird Songs*, six 78 rpm records recorded by Albert R. Brand Bird Song Foundation, Laboratory of Ornithology, Cornell University (Ithaca, NY: Comstock Publishing [1942]). Cornell University Press provided me with the year of publication, 1942, which most library catalogues incorrectly list as some time in the 1950s. This situation probably results from confusion with another release with the same name and bibliographic information, published in 1955 in two volumes of LPs. The later release uses updated recordings of birdsong.



Figure 8.2 Record jacket to American Bird Songs, source of the North American birdsongs in Messiaen's Oiseaux exotiques

most compelling songs for his composition, rejecting the slate-coloured junco and the yellow-bellied sapsucker, for instance, because they sing only one plaintive pitch.⁶

Departing from his usual openness, Messiaen never publicly acknowledged the records' existence. At his acceptance speech for the 1971 Erasmus Prize, he even implied that he collected these birdsongs overseas:

In the course of my tours abroad, I used the break between two concerts to continue notating birdsongs. This is how I was able to write my 'Oiseaux exotiques', in which will be found songs of birds from India, China, Malaysia and from both the Americas. (Messiaen, 1971, p. 45)⁷

Happily, this is untrue. He heard the North American birds in *Oiseaux exotiques* – 38 of the 48 species in the score – on his own record player.⁸

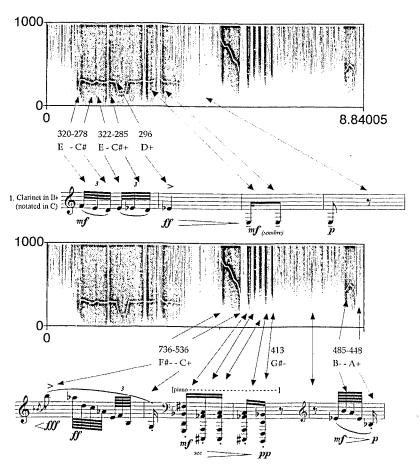


Figure 8.3a Prairie chicken, spectrogram and *Oiseaux exotiques*, pp. 14–15 (Olivier Messiaen, *Oiseaux exotiques* © 1959 by Universal Edition [London] Ltd, London/UE 13154)

The accuracy and technique of Messiaen's bird transcriptions

The five spectrograms in Figures 8.3a-e, which offer 39 different pitches for comparison with Messiaen's transcription, show that Messiaen's birds generally match the pitches of the recorded birdsong. He normally sets the bird's pitches in the upper voice of his harmonizations, building his chords below the natural

⁶ The examples discussed below can be heard at http://www.oliviermessiaen.org/birdsongs>. The author and editors are grateful to Malcolm Ball for hosting these files.

⁷ Likewise, there is no evidence to support Robert Sherlaw Johnson's contention that the birds were transcribed in the Jardin des Plantes (Johnson, 1995, pp. 250, 254).

⁸ The last species to be introduced in the score, the blue-headed vireo, is also known as the solitary vireo and the plumbeous vireo. The latter is the name under which it appears on the records.

⁹ The spectrograms plot frequency (IIz) over time (sec.). Numbers below the spectrograms indicate the frequency at that point, accompanied by the corresponding letter name of the musical pitch. 1 D 1 + 1 means a sharp D 1 ; 1 + 1 means a flat G 1 . Arrows align the spectrogram with the transcription; they do not indicate matching pitches. The indicated frequencies depend on the turntable speed used in the digital transfer, which must be close to what Messiaen heard because of the preponderance of matched frequencies.

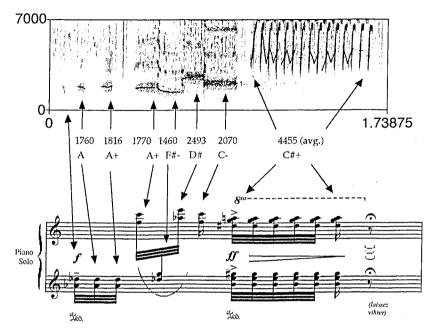


Figure 8.3b Wood thrush, spectrogram and *Oiseaux exotiques*, p. 5 (Olivier Messiaen, *Oiseaux exotiques* © 1959 by Universal Edition [London] Ltd, London/UE 13154)

cantus firmus. Only 23 per cent of his pitches are exact octave equivalents of the recorded bird, but 56 per cent come within a half-step, a discrepancy I attribute to the birdsongs' microtonality. Messiaen lowers the original frequency by two octaves in the Baltimore oriole, wood thrush and cardinal, but by only one octave in the lazuli bunting and the prairie chicken. On at least five occasions, however, the bird's pitch appears as the bottom note in Messiaen's harmony. If these notes are regarded as deriving from the original, then Messiaen's rate of accuracy within a half-step increases from 56 to 66 per cent. Only 61 per cent of the 112 notes in Figure 8.3, including repeated pitches and the notes Messiaen set in the bass, sound within a half-step of the recording.

If the five transcriptions in Figure 8.3 are assumed to be representative of his *style oiseau*, then his birds conform to their model between 51 and 81 per cent of the time when only different pitches are sampled and between 52 and 70 per cent of the time when repeated pitches are sampled. Because Messiaen's handwriting for his outdoor transcriptions appears to be no more hurried than for the recording, there is no reason to suppose that his transcriptions from the records are any more or less accurate than his live transcriptions. The pitches of his mature (post-1952) bird style thus remained faithful to his model about two-thirds of the time.

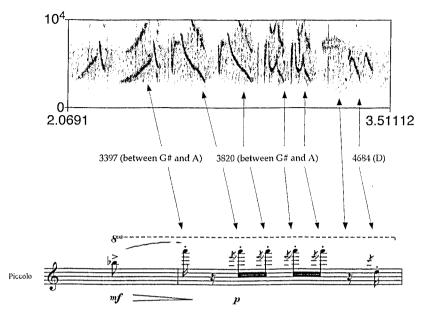


Figure 8.3c Lazuli bunting, spectrogram and Oiseaux exotiques, p. 75 (Olivier Messiaen, Oiseaux exotiques © 1959 by Universal Edition [London] Ltd, London/UE 13154)

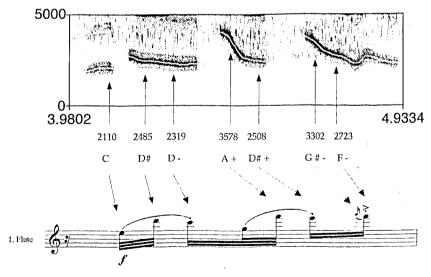


Figure 8.3d Baltimore oriole, spectrogram and *Oiseaux exotiques*, p. 6 (Olivier Messiaen, *Oiseaux exotiques* © 1959 by Universal Edition [London] Ltd, London/UE 13154)

¹⁰ These percentages are based on a 95 per cent confidence interval.

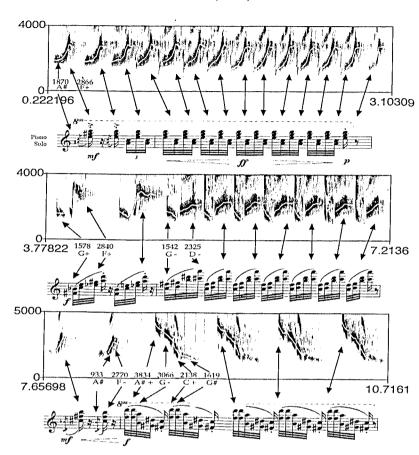


Figure 8.3e Cardinal, spectrogram and *Oiseaux exotiques*, pp. 8–9 (Olivier Messiaen, *Oiseaux exotiques* © 1959 by Universal Edition [London] Ltd, London/UE 13154)

The transcriptions usually stay true to the small-scale form of the original – the syllables and strophes as ornithologists call them – but not to the large-scale structure of the entire song. The prairie chicken's silence, for example, results in a quaver rest and five clucks become five chords. Similarly, the cardinal's fourteen syllables in the first spectrogram become fourteen pairs of chords. Yet Messiaen is not beholden to the number of syllables. In the third spectrogram of the cardinal, he changes the bird's four syllables to five in order to increase the number of repetitions to one of his beloved prime numbers, since there was a prime number of syllables (seven) in the second spectrogram and twice seven syllables in the first. Similarly, he squares the syllables of the western tanager with a prime number when he increases them from 22 to 23: While he generally preserves the syllables that comprise a strophe, he sometimes manipulates the number of

strophes, increasing them in the cardinal from four to seven, and decreasing them in the wood thrush from seven to six.

Messiaen occasionally alters the syllables of the original song. In the repeated notes at the end of the lazuli bunting's song, and in the middle of the prairie chicken's, he lowers the last notes by an octave or a diminished octave in order to increase melodic interest. Sometimes he adds notes in order to change a bird's character, as in the song of the Baltimore oriole," or to invent his own roulades, as in the last measure of the wood thrush. In performance the duration of the strophes of Messiaen's birds is on average 66 per cent longer than his model, though some of his birds sing as quickly as those on the record.

Messiaen's concern for accuracy wanes for birdsongs destined for the obscurity of the tuttis. Though his first transcription of the western tanager remains true to the recording, the score changes its rhythm and pitches considerably. And although most of his birds do not conform to his modes of limited transposition, he adds new pitches to his initial, accurate transcription of the black-headed grosbeak so that it sings in the sixth transposition of his seventh mode. These examples indicate that he took care to be accurate with his soloists, but that he allowed himself more creative freedom in the choruses in order, ironically, to control the sonorities more tightly.

Messiaen's first transcriptions, which include dynamics and articulations, differ from his final scores mainly in instrumentation. For example, he initially noted that the Baltimore oriole will be played by the flute, clarinet, glockenspiel and piano, but changed this in the score to the flute, oboe and two clarinets, placed an octave higher than his first transcription (Bn-Fr, Ms. 23036, p. 25). Similarly, he first assigned the wood thrush and cardinal to a wind ensemble, but set them in the score as prominent piano solos. Sometimes he doctored his harmonization by adding a fourth voice to his original three, or by changing octaves into diminished octaves, as he did with the prairie chicken (Bn-Fr, Ms. 23036, p. 7). 12

Because Messiaen took liberty with the sequence of strophes he heard, changed details of prominent songs to make them more interesting, and reinvented birds buried in thickets of polyphony, his transcriptions attest to his artistry rather than his mimicry. Nevertheless, his preservation of pitches and gestures succeeds in capturing what birders call the 'jizz' of a species's musical identity.\(^{13}\) The *style oiseau*, therefore, accurately conforms to its model at the level of the syllable and strophe, but not at the level of the song's structure as a whole.

¹¹ Where the oriole sings an anacrusis followed by three descending iambs, Messiaen's added G creates two anapests that rise steeply and descend slightly, followed by a descending iamb.

¹² The prairie chicken's notes after the triplets are E's, as they sound in the recording. In the score, p. 14 for example, he lowers the final notes a diminished octave.

¹³ Kurenniemi (1980, p. 122) objected to Hold's use of the word 'jizz', though the word is well understood among birders to mean the combination of traits that identify a species in the field.

Surrealism, musique concrète and politics

Messiaen evoked sensible reality with accuracy in order to awaken a sense of spiritual reality. His approach participated in an aesthetic movement that linked representation with spirituality. Prominent in this movement was Père Marie-Alain Couturier, the co-editor of the journal L'Art sacré, where several reviews of Messiaen's concerts appear. In the April 1939 issue an article by Couturier on stained glass faces an article by Messiaen himself (Messiaen, 1939a), so Messiaen could hardly have been unaware of him. 14 In an article well known for its stance against Cubism (Couturier, 1937), Couturier argued that religious art must be representational: 'If religious art is characterized by its reference to the supernatural world, how could [Cubism], which does not even refer to the natural world ... be religious?'15 Salvador Dalí agreed with his 'great friend' Couturier's feelings about representation in the May 1952 issue of Liturgical Arts. In what he called his 'Credo', Dalí flamboyantly pronounced that 'abstractionists are, above all, those who believe in nothing ... I predict a sensational renascence of modern art which ... will be anew figurative and representative of a new religious cosmogony' (Dalí, 1952, p. 75). Explaining his 'paranoiac-critical method', Dalí similarly states that 'the reality of the external world is used for illustration and proof, and so comes to serve the reality of the mind' (Dalí, 1930, p. 415).

Another friend of Couturier, the Roman Catholic philosopher Jacques Maritain, also championed the idea that representation serves spirituality. In *Art et scholastique*, which Messiaen probably read as a teenager (see Massin, 1989, p. 178), Maritain says that the more art is representational, the more it is symbolic and therefore beautiful (Maritain, 1923, p. 57). ¹⁶ He calls not only for 'Resemblance, but a *spiritual* resemblance. Realism, if you like, but transcendental realism'

(Maritain, 1923, p. 96). Like Couturier, he asserts that imitation is a necessary condition for spiritual art:

The evocation or imitation of things is in no way the *object* of art, but ... art nevertheless cannot recompose its peculiar world, its autonomous 'poetic reality', without first of all distinguishing, in whatever is, the forms it manifests, and so *resembling* things in a more profound and mysterious manner than any direct evocation possibly can.

'The image', writes Reverdy, 'is a pure creation of the mind. It cannot emerge from a comparison but only from the bringing together of two more or less distant realities.' (Maritain, 1923, pp. 191–2, n. 116b)

Maritain's reference to Reverdy, one of Messiaen's favourite poets, illuminates the intersection between Christian thought and Surrealism because André Breton later quoted Reverdy's same words in his *Manifeste du surréalisme* (1924) in what became perhaps the best-known definition of Surrealism.¹⁷

Messiaen himself compared Surrealism with Christianity. He told Claude Samuel that 'the arts ... allow us to penetrate domains that are not unreal, but beyond reality. For the Surrealists, it was a hallucinatory domain; for Christians, it is the domain of faith' (Samuel, 1994, p. 233). According to Breton, Surrealists intended to spark visions of a 'higher' reality by juxtaposing realistic but incongruent representations of 'lower', sensible reality. Messiaen regarded himself as a Surrealist at roughly the time that he turned to birdsong. Midway between May 1952, when Dalí published his 'Credo', and October 1953, when *Réveil des oiseaux* premièred, Messiaen told an interviewer: 'I am not a mystical musician, but a Surrealist musician who exceeds his desire of the surreal by the supernatural' (Guth, 1953, p. 4). 18

Messiaen's music was never more surrealistic than in *Timbres-Durées* (1952), his only foray into *musique concrète*. In 1948 a reviewer called Pierre Schaeffer's 'Concert de Bruits' the first Surrealist concert (Schaeffer, 1952, pp. 30–31), while in 1952 Schaeffer compared his own music to surrealist collages (Schaeffer, 1990, p. 107). In 1958 Messiaen, too, called *musique concrète* 'electronic surrealism' (Messiaen, 1960, p. 6). Rejecting the abstraction of post-war serialism that he

¹⁴ The article by Couturier is on p. 122.

^{15 &#}x27;Si l'art religieux se caractérise par sa référence au monde surnaturel, comment cet art qui ne se réfère même pas au monde naturel, qui garde en soi-même toutes ses raisons de joie, qui referme sur soi toute sa portée et tout son sens, pourrait-il être religieux?' During the Second World War Couturier backed away from his condemnation of Cubism, but he never wholly abandoned his suspicion of it. In *La vérité blessée* (Couturier, 1984), a collection of his notes, he wrote numerous statements that reveal his mistrust of modern art: 'Souvent je m'inquiète de la *vraie* valeur des peintres modernes' (p. 155); 'Je ne vois vraiment pas ce que l'art gagnera à ce que la peinture ayant divorcé de la Réalité s'en aille maintenant épouser la Littérature. Il est bien remarquable que si l'on parle aux vrais maîtres Picasso, Braque, Léger, sur les débuts du cubisme, ils soient bien incapables de vous dire ce qu'ils cherchaient' (p. 92); 'La loi du tableau peut très bien devenir la loi de la réalité, c'est-à-dire régler souverainement des ressemblances fidèles: un coucher de soleil représentera très bien un coucher de soleil, un portrait cette dame en question – sans que le tissu des formes en soit le moins du monde relâché' (pp. 144–5).

^{16 &#}x27;And the more knowledge there is, the more things given to the mind, the greater will be the possibility of joy. For this reason art, as ordered to beauty, never stops ... at sounds or words, considered in themselves and as things ... but considers them also as making known something other than themselves, that is to say as symbols. And the thing symbolised can be in turn a symbol, and the more charged with symbolism the work of art ... the richer and the higher will be the possibility of joy and beauty.'

¹⁷ See André Breton, *Manifestoes of Surrealism*, trans. Richard Seaver and Helen R. Lane (Ann Arbor, MI: University of Michigan Press, 1972), p. 20. Reverdy's words appear in *Nord-Sud* of March 1918; Maritain quoted them in *Art et scholastique* in 1920; and Breton quoted them in *Manifeste du surréalism* in 1924.

^{18 &#}x27;Je ne suis pas un musicien mystique, mais un musicien surréaliste, qui dépasse son désir de surréal par le surnaturel.'

¹⁹ By 10 July 1953 Schaeffer argued that the aesthetic of *musique concrète* tends either toward atonality or toward surrealism. See Pierre Schaeffer (ed.), *Vers une musique expérimentale*, special issue of *La revue musicale* 244 (1959): pp. 19–20. He even asserts that the abstract, serial pieces of *musique concrète* (of which Messiaen's *Timbres-Durées* is one) were initially combined with surrealist tendencies.

²⁰ See also Messiaen's preface to *Vers une musique expérimentale* by Pierre Schaeffer (Messiaen, 1959). In this special issue of *La revue musicale* he remarks that Schaeffer's latest work, *Étude aux allures*, has no 'surrealist anguish', implying that his earlier work did. On the presentation of a record

had helped to make possible, Messiaen turned simultaneously to the two most representational resources available to him as a composer in May 1952: musique concrète and birdsong. Indeed, he frequently compared his bird style to musique concrète (see, for example, Samuel, 1994, p. 95). Schaeffer's composition of bird imitations from 1950, L'oiseau RAI, may even have prompted him to explore birdsong more closely.

In addition to being inspired by Couturier, Maritain and Surrealism, Messiaen devoted himself to birdsong in part, I contend, because of politics. On 7 and 9 May 1952 Messiaen performed at an international festival sponsored by the Congrès pour la Liberté de la Culture, where Cold War politics invaded the Parisian musical scene. The festival, funded partly by the CIA, pitted East versus West, communism versus capitalism, and socialist realism versus the Western avantgarde. As detailed in Mark Carroll's Music and Ideology in Cold War Europe, serialists like Boulez and Messiaen were marginalized at the festival. They sought an independent position that was politically non-committal and aesthetically free of the debate pitting Stravinsky's neoclassicism against Schoenberg's dodecaphony (Carroll, 2003, pp. 1-24). Only a week later, on 14 May, Messiaen recorded the first notations of birdsong preserved in the Cahiers de notations, thereby initiating his obsession with birdsong.²¹ Neither abstract like serialism nor tonal like neoclassicism, yet representational like socialist realism and modernist like the Western avant-garde, Messiaen's style oiseau offered a middle ground that enabled him to escape the political and aesthetic polarization he discovered in Paris. The following week, at a festival fringe concert on 21 May, Timbres-Durées was first performed in Pierre Henry's realization. Like the bird style, Timbres-Durées combines sensible reality and spiritual reality by splicing together tape recordings of water drops measured to prime numbers of centimetres.²²

Prime numbers and elemental music

Although Messiaen stated that he had favoured prime numbers since his childhood (Samuel, 1994, p. 79), he introduced them into his compositions largely in conjunction with his bird style. In 'Les Anges' from *La Nativité du Seigneur*, the

left-hand birdcalls comprise *five* quavers plus a semiquaver, or *eleven* semiquavers in duration (see Messiaen, 1944, ex. 10). His best known use of primes is in the 'Liturgie de cristal' from the *Quatuor pour la fin du Temps*, where the piano and cello accompany the birdsong in the clarinet and violin with melodies whose pitches and durations relate to prime numbers. The score's preface explains the symbolism: 'Transpose [the birds and the accompaniment] onto the religious plane: you have the harmonious silence of heaven.' Messiaen's preface calls this movement a 'réveil des oiseaux', so it is unsurprising to find that the birds and primes return in the orchestral *Réveil des oiseaux*, where the duration of each bird strophe in the opening piano solo is a prime number. The *Quatuor*'s technique of accompanying the birds with underlying primes also reappears in *Oiseaux exotiques*'s use of Indian rhythms and in the length of every strophe until the first piano cadenza (Figure 8.4).

Messiaen correlated birds and primes in order to symbolize the presence of God in creation, or what Catholic theologians call the principle of sacramentality. He said that prime numbers represent the indivisibility of God (Samuel, 1994, p. 79). This indivisibility fascinated him like the 'charm of impossibilities' he found in his modes of limited transposition and symmetrical rhythms. 'The strange charm of impossibilities', he argued, '... will lead [the listener] progressively to that sort of *theological rainbow* which the musical language ... attempts to be' (Messiaen, 1956, p. 21; 2001b, p. 18). He also associated prime numbers with 'une force occulte' (Samuel, 1994, p. 79) that he may have derived from esoteric traditions in India, Egypt, China and Greece (*Traité I*, annexes A–D). Prime numbers similarly play a role in the kabbalistic practice of gematria, in which Hebrew letters from scripture are converted to their numeric equivalents in order to reveal hidden messages.²³

Messiaen's symbolism depends on the way prime numbers comprise the elements of all integers, for any non-prime number can be expressed as the product of prime numbers, just as all matter is composed of the chemical elements. Thus Messiaen makes the unusual leap between prime numbers and atomic numbers in his *Traité*, where, without comment, he lists nitrogen (7), sodium (11), aluminium (13), chlorine (17), and so on (*Traité III*, p. 350).²⁴ In assigning numbers to

of *musique concrète* in 1956, Jacques Lonchampt described the *Symphonie pour un homme seul* as surrealistic. See Jacques Lonchampt, 'Le premier enregistrement mondial de musique concrète', *Le journal musical français* (29 September 1956), cited in Schaeffer, 1990, p. 100.

²¹ Leaving aside the birdsong in his works written before 1953, whose provenance from actual birds is uncertain, the only extant transcriptions that predate 14 May 1952, the earliest date in the Cahiers de notations, are Examples 116–19 in *Technique de mon langage musical* (Messiaen, 1944).

²² Only fragments of Messiaen's notes for realizing *Timbres-Durées* have been published; see Karkoschka, 1972, pp. 164–5 and Goléa, 1957, p. 42. Compare the Karkoschka to Henry's 'L'antiphonie' in Goléa, 1957, p. 40. In December 2004 *Timbres-Durées* was made publicly available for the first time in more than fifty years as part of a box set of recordings from the GRM archives, INA 276 502 276512.

²³ The use of prime numbers in gematria is discussed in, for example, Aryeh Kaplan, Sefer Yetzirah: The Book of Creation in Theory and Practice, revised edn (Boston, MA: S. Weiser, 1997), p. 119, and Hyman Gabai, Judaism, Mathematics, and the Hebrew Calendar (Northvale, NJ: Jason Aronson, 2002), pp. 19, 28–30. The diversity of numerological approaches in kabbalistic gematria is documented in Gershom Scholem, Kabbalah (New York: Meridian, 1978), pp. 337–43. Occultist Aleister Crowley wrote a treatise on prime numbers; see the chapter 'Liber 777' in his 777 and Other Qabalistic Writings of Aleister Crowley, ed. Israel Regardie (York Beach, ME: S. Weiser, 1973). A modern form of relating primes to the Bible is discussed in Jeffrey Satinover, Cracking the Bible Code (New York: Quill, 1998), Technical Appendix B.

²⁴ Even more surprising than Messiaen's relating primes with elements is the chemist Peter Plichta's replication of this odd association in his book *God's Secret Formula: Deciphering the Riddle of the Universe and the Prime Number Code* (Rockport, MA: Element Books, 1997). Mathematicians



Figure 8.4 Prime numbers determine phrase durations in *Oiseaux exotiques*, pp. 2–3 (Olivier Messiaen, *Oiseaux exotiques* © 1959 by Universal Edition (London) Ltd, London/UE 13154)

Figure 8.4 concluded



creation, he was undoubtedly influenced by a verse from the Book of Daniel that explains the three mysterious words *mene*, *tekel* and *parsin* as meaning 'numbered, weighed, divided' (Dn 5:25). Messiaen had quoted this verse in *Des canyons aux étoiles...* and told Claude Samuel that he 'imagined these words written in the stars to signify the order of the world' (Samuel, 1994, p. 164).

As primes are the elements of numbers and matter, so Messiaen felt that birdsong expresses the elements of music. 'In the domain of music, birds have discovered everything', he said before reciting a litany of bird vocalizations, including trills, plainchant neumes, retrograde motion, *Klangfarbenmelodie* and Greek and Indian rhythms (*Traité V:1*, pp. 18–19).²⁵ If birds are the source of all earthly music, then as musical symbols of creation they are also messengers of heavenly music – or as he put it, 'le silence harmonieux du ciel'.

Epigraphs and exemplarism

For Messiaen, the bird style embodied theology by representing nature. Thus he begins *Tome V* of the *Traité* (the volume on birdsong) with four epigraphs that identify God as the Alpha and Omega of creation. The first two epigraphs establish the view that God is co-extensive with creation and that birds, as representatives of creation, unveil the elements of music in their song. The last two epigraphs entreat the reader to spend time among rocks and trees because the secrets of nature come from and lead back to God.

The first epigraph paraphrases St Andrew of Crete: 'O Cross, reconciliation of the world – height of heaven – depth of earth – extent of everything visible – breadth of the world' (*Traité V:1*, p. 9).²⁶ Messiaen probably discovered Andrew's writings in the 1972 revision of the Liturgia Horarum (Liturgy of the Hours), which quotes neighbouring passages of Andrew's sermon for the 14 September Feast of the Exaltation of the Cross.²⁷ The office's prayers share the themes of creation, freedom and joy with Messiaen's bird style. Excerpts from Psalm 147 refer to clouds, mountains and the 'calls of ravens' and Psalm 8 praises God through the 'birds of the air'. The feast also celebrates the doctrine of Christ's victory over death and the consequent liberation of humanity from sin. The first responsory, for example, claims that 'Through him we are saved and set free'. Freedom was

commonly call primes the elements of numbers, but they make the comparison metaphorically, not literally. See Marcus du Sautoy, *The Music of the Primes: Searching to Solve the Greatest Mystery in Mathematics* (New York: HarperCollins, 2003), p. 5.

one of the principal subjects of Messiaen's bird symbolism. 'The bird', he plainly told Antoine Goléa, 'is the symbol of freedom' (Goléa, 1960, p. 234). Finally, in response to the freedom from sin for which the cross is traditionally glorified, the office also thematicizes joy in quotations from Psalm 96 ('all the trees of the wood shout for joy') and an antiphon ('the wood of the cross has brought joy to the world'). Even more than freedom, joy is the central message of Messiaen's birds. In his scores many species are marked 'joyeux', while in his *Technique* he calls them 'little servants of immaterial joy' (Messiaen, 1956, p. 34; 2001b, p. 38) and in the *Vingt Regards*, he states 'La joie [est] symbolisée par des chants d'oiseaux.'

But while the breviary's readings may have attracted Messiaen, he took the first epigraph instead from the breviary's source, Jacques-Paul Migne's *Patrologiae Graecae*. The sermon repeatedly refers to the cross as 'the tree of life' – a suggestive metaphor in the context of birds – and conveys an ecstatic oratorical style, full of anaphora that is absent from the edited version in the *Liturgia Romanum*. The epigraph thus retains the idea that the boundaries of the cross are synonymous with all of creation, but expresses it with a breathless fervour missing from the office.

The second epigraph, by Messiaen himself, discovers every element of music in the microcosm of birdsong: 'An ornithologist out of passion, I am also one by way of reason. I have always thought that Birds were great masters and that they had discovered everything: modes, neumes, rhythmics, melodies of timbres, and even collective improvisation' (*Traité V:I*, p. 10).²⁹ Resonating with the symbolism of prime numbers, the first two epigraphs evoke the Pythagorean notion that number in creation harmonizes with number in music. Birdsong is nature's response to the music of the spheres.

The third epigraph, by St Bernard of Clairvaux, asserts the superiority of edification by nature over education by books. It advises a studious young friend that in order to enrich his spiritual life, he should encounter nature first-hand: 'One learns more in the woods than in books. Trees and rocks teach you things that you would not hear elsewhere' (*Traité V:1*, p. 11).³⁰ Messiaen must have felt that he was a model student of nature to have overlooked the irony of his using such a bookish source for a lesson in anti-intellectualism.

^{25 &#}x27;Dans le domaine musical, les oiseaux ont tout trouvé.'

^{26 &#}x27;Ô Croix, réconciliation du Cosmos – hauteur du ciel – profondeur de la terre – étendue de tout le visible – largeur de l'univers.'

²⁷ Catholic Church, *Liturgia horarum iuxta ritum Romanum* (Rome: Typis Polyglottis Vaticanis, 1972), vol. 4, pp. 1124–5. For an accessible English language edition, see Catholic Church, *The Liturgy of the Hours*, trans. International Commission of English in the Liturgy (New York: Catholic Book Publishing Co., 1975), vol. 4, pp. 1389–91.

²⁸ J.-P. Migne (ed.), *Patrologiae cursus completus; series graecae* (Paris: J.-P. Migne, 1860), vol. 97, p. 1022. Messiaen's epigraph in French paraphrases Migne's original Greek and Latin.

^{29 &#}x27;Ornithologue par passion, je le suis aussi par raison. J'ai toujours pensé que les Oiseaux étaient de grands maîtres et qu'ils avaient tout trouvé: les modes, les neumes, la rythmique, les mélodies de timbres, et même l'improvisation collective.'

³⁰ My translation of the French epigraph, gives 'entendre' as 'hear' rather than 'understand': 'On apprend plus dans les bois que dans les livres. Les arbres et les rochers vous enseigneront des choses que vous ne sauriez entendre ailleurs'. The original Latin reads: 'Experto crede: aliquid amplius invenies in silvis quam in libris. Ligna et lapides docebunt te, quod a magistris audire non possis.' St Bernard of Clairvaux, *Sancti Bernardi Opera*, ed. J. Leclercq et al. (Rome: Editiones Cistercienses, 1957), vol. 7, p. 266, Epistle CVI, para. 2.

Following from Bernard's advice to study nature, the fourth and most significant epigraph, by St Bonaventure, says that nature will lead to God: 'All creatures of the sensible world lead us to God: they are the images of the Source, Light, [and] eternal Fullness of the Sovereign Archetype. They are the signs that have been given as by the Lord himself' (*Traité V:1*, p. 12).³¹ I have located the source of this epigraph in Bonaventure's *Itinerarium mentis in Deum* [The Mind's Journey to God] (1259):

From these first two steps by which we are led to behold God in vestiges, like the two wings drooping about the feet of the Seraph, we can gather that all creatures in this visible world lead the spirit of the contemplative and wise man to the eternal God. For creatures are shadows, echoes, and pictures of that first, most powerful, most wise, and most perfect Principle, of that eternal Source, Light, Fullness, of that efficient, exemplary and ordering Art. These creatures are exemplars, or rather illustrations offered to souls as yet untrained and immersed in the senses, so that through these sensible things that they see they may be transported to the intelligible, which they do not see, as through signs to that which is signified. (Bonaventure, 1956, ch. 2, para. 11, p. 61)³²

The *Itinerarium* is Bonaventure's least scholastic, most mystical and most explicitly Franciscan work. It outlines six steps of ascent to God, the second of which captured Messiaen's imagination because it concerns the apprehension of God in creation:

We may behold God in the mirror of visible creation, not only by considering creatures as vestiges of God, but also by seeing Him in them; for He is present in them by His essence, His power, and His presence ... We ought to be led to the contemplation of God in every creature that enters our mind through the bodily senses. (Bonaventure, 1956, p. 51)

The epigraph by Bonaventure defines a metaphysical relationship between Gocl and creation called exemplarism.³³ Borrowed from Augustine, exemplarism holds that all things derive their being from participation in a divine ideal; the Creator is to creation as an exemplar is to its examples. Frederick Copleston defines this doctrine as the belief that 'God is the exemplary cause of all things' (Copleston, 1993, p. 259). The strongest biblical justification for exemplarism is in the Letter of Paul to the Romans: 'Ever since the creation of the world his eternal power and divine nature, invisible though they are, have been understood and sectathrough the things he has made' (Rm 1:20). Messiaen referred to this verse when

he said that, 'Like Saint Paul, I see in nature a manifestation of one of the aspects of divinity' (Samuel, 1994, p. 32). Like his use of prime numbers, Messiaen's quotation of Bonaventure suggests that he regarded birdsong as carrying traces of insensible divinity. For him as for Bonaventure, subjective perceptions were as real as prime numbers. Read as a progression, the four epigraphs claim that God makes creation (Andrew of Crete), that creation in birds makes music (Messiaen), and that creation should be studied (Bernard), because it will lead the mind to God through exemplarism (Bonaventure).

Double realism

Realism in art normally functions within a system of conventions. Artists and audiences agree that specific representational features resemble the objects being represented; the greater the perceived verisimilitude, the more realistic the depiction. Messiaen's late birds redefine the conventions of realistic birdsong, bringing them closer to our experience of real birds than to birdsong familiar in Vivaldi, Beethoven, Wagner and Mahler.

Some philosophers regard Messiaen's realism as the supreme example of musical imitation and are quick to point out that imitation is inferior to representation.³⁴ Roger Scruton describes Messiaen's birds in terms of 'imitation' because he finds them purely decorative, whereas they would embody 'representation' if they conveyed ideas about birds but were not reducible to birds themselves (Scruton, 1999, p. 120). Gordon Graham, too, singles out Messiaen's bird style as an example of 'mere' imitation: 'Though [Messiaen's] music may rightly be described as imitative of birds and may prompt us to think of birds, his is not representing, but copying them. And representation is not imitation' (Graham, 2000, p. 76). But according to Peter Kivy, imitation is not even within the 'province' of composers (Kivy, 1991, p. 16).

As I have argued, Messiaen wants it both ways. His birds are imitative *and* representational. Though they may be reduced to the birds themselves, they often function symbolically. For example, according to the preface of the *Vingt Regards*, the bird in 'Regard du Fils sur le Fils' signifies joy, while elsewhere he stated that the skylark in the 'Regard des hauteurs' epitomizes freedom (Messiaen, 1978b, p. 45). In the seventh movement of *Éclairs sur l'au-delà*..., the blackbird conveys consolation,³⁵ and in *Et exspecto ressurectionem mortuorum* the musician wren [uiruparu] represents the voice of Christ.³⁶ The birds therefore belong to his palette

^{31 &#}x27;Toutes les créatures du monde sensible nous conduisent à Dieu: elles sont les images de la Source, de la Lumière, de la Plénitude éternelle, du Souverain Archétype. Ce sont des signes qui nous ont été donnés par le Seigneur lui-même.'

³² Messiaen may have been directed to this passage by Étienne Gilson, who quotes it in his book *L'ésprit de la philosophie médiévale*, 2nd edn (Paris: Librairie Philosophique, 1948), pp. 245–6; see also an English translation of Gilson, *The Spirit of Medieval Philosophy*, 1932, trans. A.H.C. Downes (New York: Scribners, 1936), pp. 243–4.

For an excellent discussion of exemplarism, see Copleston, 1993, pp. 258–60, 265–70.

³⁴ An important, complex and flawed philosophical discussion of Messiaen's birds that *denies* their imitative power is found in Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism & Schizophrenia*, trans. Brian Massumi (Minneapolis, MN: University of Minnesota Press, 1987).

³⁵ See the preface by Yvonne Loriod-Messiaen.

³⁶ Preface to the score. For the third movement, 'L'heure vient où les morts entendront la voix du Fils de Dieu ...', Messiaen writes that the musician wren is a symbol of the voice of the Son of God, which in turn symbolizes the beginning of the Parousia.

of musical symbols: prime numbers, symmetrical rhythms, theological leit m_0 ; ifs, special keys, coloured harmonies, hieratic forms and tone-painting in the m_{ar} ner of Albert Schweitzer's explanations of Bach.

MESSIAEN: MUSIC, ART, LITERATURE

Messiaen's imitation and representation correspond to his use of sensible reality to intimate a higher, hidden reality. He grounded his metaphysics of exemplarism in his aesthetic of accuracy and discussed his bird style in term; of levels of reality. It therefore seems probable that he deliberately superimposed the medieval metaphysics of realism onto the modern aesthetic of realism. He recognized two levels of reality when he explained the symbolism in his opena's staging:

A stylized staging would have been a contradiction to the spirit of Saint Francis, who never ceased to glorify all things on earth, who called the sun and the moon his brother and sister. These are tangible realities, even if they are at the same time symbols of invisible realities. (Samuel, 1994, p. 247)

Similarly, he described his bird style in terms that acknowledge two types of reality in his two modes of transcription, one by hand and the other with a $t_{\xi pe}$ recorder:

What is curious is that the tape recorder gives a very precise reproduction, far more precise than the other notation [by hand]. But this, taken directly in nature, consists of the thousands of variants of reality. It is thus much more artistic. However, a mix of both notations can help to approach reality. (Penot, 1996, p. 68)

If the tape recorder reproduces 'variants' of reality, then reality for Messiaen would seem to rest in a single source from which the variants derive. Yet he says that reality includes a 'mix' [mélange] of the recorded variants and the hand notations. His reluctance to embrace the sensible variants alone helps to explain why he refrained from using recordings of birdsong in his works, unlike, for example, Respighi in *Pini di Roma*. Instead, employing a Platonic vocabulary reminiscent of exemplarism, he referred to his transcriptions by hand as 'idealized':

Obviously they're always idealized [idéalisés], and, how shall I put this, they always form a sort of conglomerate of all the birds of the same species that I've heard. Take the garden warbler, for example, I've heard ten thousand warblers and only written one of them, the epitome of all the others. I've used the best passages of all the others. (Messiaen, 1988a, p. 8)³⁷

His approach rests on the premise that there is an archetypal song for each species. By seeking 'a mix of both notations' (accurate variants as well as imagined idealizations), Messiaen combines the aesthetic of realism with the metaphysic of realism.

Messiaen's frequent references to scholastic philosophy suggest that his 'variants' and 'idealizations' grapple with the problem of universals that engrossed medieval philosophers. The problem of universals concerns the relationship

between an observed thing (a particular bird) and the universal concept of all such things (a species, a genus). Messiaen's 'mix' reconciles universals and particulars in a manner similar to the 'moderate realism' that Bonaventure and Thomas adopted as their solutions to this issue. The tape recorder provided Messiaen with 'variants' or particulars,³⁸ while the prime numbers and idealizations gave him a basis in universals. His dictations by hand represented a middle ground that is rooted in observable reality but that, in accordance with moderate realism, also permits the mind to idealize the individual in order to apprehend its species.

While Messiaen favoured the 'mix', he changed its proportions and ingredients over time. His early (pre-1952) birds – those composed without a tape recorder, conceived largely in his head rather than in the field, and accompanied by prime numbers – were his most idealized. In the early 1950s he undertook detailed transcriptions that heralded greater observable realism and more variants in his bird style. Finally, in the early 1960s his birds decreased their association with prime numbers and, with the use of a portable tape recorder, added even more 'variants'. Messiaen's aesthetic of realism therefore became gradually less idealized and more realistic between the late 1940s and the early 1960s.

Although the last stage of this development coincided with the first time that he quoted St Thomas Aguinas in one of his works (Et exspecto resurrectionem mortuorum), 40 the bird style never completely lost its inclination to idealize. When in the early 1960s his bird style became second nature, so to speak, he returned to overtly religious subjects in his music for the concert hall for the first time since the Second World War, thereby setting his birds in a transcendental context. Furthermore, by overlooking Thomas Aquinas in favour of the more Platonic and Augustinian Bonaventure in the Traite's epigraphs, Messiaen reveals his continued mystical connection with nature. Étienne Gilson identified the Franciscan Bonaventure as being closer to nature than Thomas Aquinas. 'Saint Bonaventure', he said, 'appears to be preoccupied above all with detecting the ties of kinship and dependency that unite creature to creator' (Gilson, 1943, p. 190),41 while Thomas believed that 'between this freely created universe and God the Creator there is an impassable abyss' (Gilson, 1994, p. 362). In the spirit of Bonaventure (rather than Thomas Aquinas), many of Messiaen's works seek to bridge the abyss like the Valhallian rainbow.

³⁷ See also Rößler, 1986, p. 32.

³⁸ Messiaen regarded records as limiting the experience of a birdsong, saying 'a phonograph record is an incomplete tool inasmuch as it only gives us a portion of a song, just as a photograph conveys the snapshot of a single individual' (Samuel, 1994, p. 89).

³⁹ Messiaen's use of the tape recorder in his transcriptions probably dates to no later than the late 1950s. See Loriod's anecdote related in Hill, 1995b, pp. 298–9.

⁴⁰ The text of *O Sacrum Convivium* is traditionally attributed to Aquinas, but see Barbara R. Walters, Vincent Corrigan and Peter T. Ricketts, *The Feast of Corpus Christi* (Pennsylvania State University Press, 2006), pp. 34–6.

^{41 &#}x27;Saint Bonaventure se montre avant tout préoccupé de déceler les liens de parenté et de dépendance qui rattachenet la créature au créateur.'

Bonaventure's writings, like Messiaen's, are full of light imagery, derived from the Augustinian doctrine of 'illumination'. Throughout his *Itinerarium* Bonaventure explores illumination, which 'enables the mind to apprehend the unchanging and stable essences in the fleeting and changing objects of experience' (Copleston, 1993, p. 288).⁴² In other words, it makes spiritual reality (the 'idealizations') apparent within sensible reality (the 'variants') (Copleston, 1993, p. 389)⁴³ and enables sensible objects to provide the first step in the soul's ascent to God, as described in Bonaventure's *Itinerarium* and Messiaen's epigraph.

The contexts and sources of Messiaen's double realism range from his love of nature to Couturier's reaction against Cubism, and from Surrealist manifestos and scholastic philosophies to *musique concrète*, prime numbers, Cold War politics and ornithological recordings. Double realism's use of sensible reality in the ascent to spiritual reality remained Messiaen's unwavering philosophy for the last forty years of his life. Every work he wrote, from *Réveil des oiseaux* (1953) to his unfinished *Concert à quatre* (1992), featured birdsong that he copied on his travels around the world. If Messiaen's birdsongs fail to be 'parfaitement authentiques' one third of the time, he sacrificed their accuracy in order to represent two forms of reality sounding in sympathetic resonance.

Musical analysis according to Messiaen: a critical view of a most original approach'

JEAN BOIVIN

Olivier Messiaen's teaching at the Conservatoire national supérieur de musique de Paris played a defining role in the evolution of European music during the latter half of the twentieth century. 'La classe de Messiaen', as it is known in contemporary music circles, stands as a unique phenomenon in modern music history. His classroom became a major meeting ground throughout the 1950s, 1960s and most of the 1970s for young aspiring composers. At every step of his 37-year official teaching career – from 1941² up to the end of the 1978 spring term – Messiaen profoundly influenced and inspired countless key composers of every allegiance, mainly in Europe but also in Asia and North America. Pierre Boulez, Yvonne Loriod, Pierre Henry, Karlheinz Stockhausen and Iannis Xenakis are just a few of his many famous students, along with such respected English composers as Alexander Goehr (1955–56) and George Benjamin (1977–78).³ A

⁴² Thomas used the word 'illumination' in the *Summa Theologica*, but made it a power of the human intellect, not the divine.

⁴³ Cf. Gilson, 1943, pp. 312-24.

¹ The author warmly thanks Pierre Chénier and Karen Evoy for their valuable suggestions and prose revision.

² Messiaen had taught in the 1930s at the École normale de musique and at the Schola Cantorum, and he also probably had some private students, but little is known regarding these early teaching activities. In the spring of 1941, soon after his release from a German prison camp in Silesia, a harmony class was offered to Messiaen by conservatoire director Claude Delvincourt. Messiaen nonetheless still met a selected group of students in private, as he had done before the war. A music analysis class was created especially for him by Delvincourt in 1947 to make up for a refused nomination as composition teacher, as requested by a delegation of students led by Pierre Boulez. For the next 20 years this class was arguably the most renowned at the Conservatoire. In 1966 Messiaen was finally offered the higher rank of Professor of Composition, a position he held for the last 12 years of his official teaching career (1966–78). Messiaen also occasionally taught summer sessions abroad, for example in Budapest (1947), Tanglewood (1949), Darmstadt (1949, 1952, 1953 and 1961), Saarbrücken (1953), Buenos Aires (1963) and finally, in July 1987, ten years after his retirement from the Conservatoire, at the Centre Acanthes, near Avignon.

³ According to the official registration lists of the Paris Conservatoire (an incomplete source), Messiaen had other British students: Jane Phillips (1946–47), Walter Gareth (1952–53), John Bell and James Roger Fowles (1955–56). The official lists do not include visitors, such as Peter Maxwell Davies (1954–55) and Robert Sherlaw Johnson (1957–58). A few foreign students were allowed in