

Intervalllic Structure and Formal Design in Debussy: A Reading of *Sirènes**

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In his book on Debussy, Charles Koechlin writes on *Sirènes*, the third movement of the *Nocturnes*:

Sirènes has a subtle charm, and an irresistible and fatal sensuality emerges from the slow vocalises. If its construction appears a little uncertain - especially after the precision of *Fêtes* - this uncertainty is surely intentional. An excellent performance (a rare occurrence) could, I believe, counter the impression of length sometimes experienced in this otherwise exquisite music.¹

The apparent “uncertainty” of construction that Koechlin notes with regard to *Sirènes*, undoubtedly arises from the absence, in this composition, of a formal structure as clearly defined as that of *Fêtes*, which Jean Barraqué in his monograph on Debussy doesn’t hesitate to identify as a “scherzo” - “a ternary form” - in the same way that *Nuages*, he notes, follows the ternary form of a lied.² This tripartite structure, however, is also present within *Sirènes*, as Barraqué continues, based on the distinction in this movement between two principal tempos, close to each other (as is often the case with Debussy), but clearly established nevertheless: *Modérément animé* (Tempo I) and *Un peu plus lent* (Tempo II, m. 56), with Tempo I returning explicitly at m. 111 (the performance direction at m. 101 is *Revenir progressivement au 1^o Tempo*).³ To the question on what the unity of these three sections is based, Barraqué only offers the hardly convincing beginnings of an answer in his brief analysis. While emphasizing that “if [*Sirènes*] also follows a tripartite division,” “it does so in a very novel manner,”⁴ Barraqué limits himself to describing, by way of an explanation, the presence of three “themes,” whose particular destiny he mentions as follows:

After a relatively static introduction, the first theme of the orchestra appears in the English horn [Example 1a], the opening of which will serve as a counterpoint to the choral theme [Example 1b]; in fact, this choral theme originates in the orchestral theme. A new theme appears in the central section, *un peu plus lent* [Example 2b]. A transition returns *progressivement au 1^{er} tempo*. The third section is then initiated with an inverted reprise of the themes: the choral theme passes quickly to the strings, in counterpoint with the voices, which perform the theme of the central section. It is only in the course of the *plus lent et en retenant jusqu’à la fin* that the orchestral theme reappears.⁵

* This text is the revised version of an article published in French under the title “Structures d’intervalles et organization formelle chez Debussy: Une lecture de *Sirènes*,” in *Claude Debussy: Jeux de formes*, ed. Maxime Joos (Paris, France: Rue d’Ulm, 2004), 189-219.

¹ Charles Koechlin, *Debussy* (Paris: Henri Laurens, 1956), 18.

² Jean Barraqué, *Debussy* (Paris: Seuil, 1962), 109.

³ These tempo marks, which appear in the edition published by Fromont in 1900, were not revised in the manuscript corrections made by the composer. See *Nocturnes*, ed. Denis Herlin, *Œuvres complètes de Claude Debussy*, Série V, vol. 3 (Paris: Durand, 1999).

⁴ Barraqué, *Debussy*, 109.

⁵ *Ibid.*, 110.

ex tempore

Example 1 consists of two musical excerpts, labeled a) and b).
 a) A single melodic line in treble clef, key of D major (two sharps). It begins with a piano (*p*) dynamic. The melody features a triplet of eighth notes, followed by a quarter note, another triplet of eighth notes, and a quarter note. A long horizontal line is drawn below the staff.
 b) Two staves. The top staff is for Violins, marked *pp* (pianissimo). It features a triplet of eighth notes, followed by a quarter note, another triplet of eighth notes, and a quarter note. The bottom staff is for Sopranos, marked *p* (piano). It features a triplet of eighth notes, followed by a quarter note, another triplet of eighth notes, and a quarter note. A long horizontal line is drawn below the staff.

Example 1: Themes found by Jean Barraqué in his analysis of *Sirènes* (a: “orchestral theme”; b: “choral theme”)

In reality, these details are not sufficient to dissipate all sense of “uncertainty.” On the one hand, hearing formal divisions based solely on the change of tempo is far from providing concrete evidence (the difference between the tempos is so minimal that it frequently disappears during performance), whereas other formal unities marked by clear-cut caesuras emerge in the course of the composition. Above all, the very identification of these “themes” that Barraqué enumerates is problematic, as is the fact of talking about them as if they simply marked the course of a development whose logic remains external to their own structure.

A similar hesitation appears in the analysis of *Sirènes* published recently by Richard S. Parks who, after having also subscribed to the notion of a tripartite form,⁶ now proposes a division of the work into five sections:

For the purpose of this analysis I have divided *Sirènes* into five sections, all similar in length (though not identical), partitioned not so much by changes in thematic material as by significant disruptions in the otherwise smooth flow of material. The overall form is more or less continuous, alternating between two important and related motto themes that are stated and repeated, over and over, separately and together. From time to time a clear winding down of activity disrupts the formal continuity, often reinforced by a temporary slowing of tempo.⁷

Parks is right in taking into consideration the caesuras articulated in the “formal continuity” of the piece, although his “formal plan” inexplicably omits the importance of the moment where the initial tempo returns (m. 111), relegating it instead to an internal

⁶ Richard S. Parks, *The Music of Claude Debussy* (New Haven and London: Yale University Press, 1989), 250-253. Ignoring the existence of the two principal tempos - he goes so far as to write that tempo in *Sirènes* is an “inactive parameter” (Ibid., 250) - Parks places the beginning of the third section at m. 101, incorporating what Barraqué considers the “transition” leading to Tempo 1. Barraqué, *Debussy*, 110.

⁷ Richard S. Parks, “Music’s inner dance: form, pacing and complexity in Debussy’s music,” *The Cambridge Companion to Debussy*, ed. Simon Trezise (Cambridge: Cambridge University Press, 2003), 225.

event within the fourth section (mm. 87-118).⁸ But neutralizing the thematic dimension by treating it as a simple epiphenomenon, and instead favoring the delineation of different sections based on criteria such as the duration of musical gestures or the complexity of ostinatos,⁹ is no less problematic than hypostasizing the role of thematicism in Debussy (what Barraqué himself avoids doing in his long analysis of *La Mer*). In addition, in his recent study, Parks retains only two of the three “themes” identified by Barraqué. The melodic *design/pattern* of whole tones, heard for the first time in mm. 83-86, is now assigned the status of “motive” [Example 2]. In his first analysis of *Sirènes*, Parks also mentioned what Barraqué called the “orchestral theme,” although he referred to it also as a “motive” and, what is more, a “transitional motive.”¹⁰

Example 2: Thematic material from *Sirènes* according to Richard S. Parks (2003)
(a: Motto-theme 1; b: Motto-theme 2; c: Whole-tone motive)

The difficulty of addressing Debussy’s music from the point of view of thematicism derives from what the thematic dimension (as important as it is) is lacking in this music of genuine autonomy. Inviting us to understand the Debussyst form “as a proliferation of determining instants, which includes all the amalgams, the ellipses, the opposition of motivic forces,” Barraqué emphasizes this problem in the conclusion (*Une nouvelle esthétique*) of his book on Debussy:

These last [motivic forces] do not necessarily reside in the recognition of literal thematic structures, but involve the passage of one to the other, through “poetic mutations” where the placement of “*thèmes-objet*” creates neutral zones.¹¹

⁸ As in the book published in 1989, Parks disregards the precise role that Debussy accords to tempo in the formal organization of *Sirènes* (see footnote 6 above).

⁹ Parks, “Music’s inner dance,” 227-230.

¹⁰ Parks, *The Music of Claude Debussy*, 250. See also Example 11.3, 249.

¹¹ Barraqué, *Debussy*, 180ff. These lines implicitly refer to the analysis of the third movement of *La Mer*, developed on p. 153ff.

What technically constitutes the possibility of such “mutations” in the transition from one thematic structure to another appears only if one looks prior to phenomena of this nature. The motifs or themes that can be located in the music of Debussy are simply the interpretation, in endlessly renewed forms, of various intervallic configurations, whose significance resides in the scales he employs and that are the basis of the composer’s language. André Schaeffner emphasizes the importance of this element in Debussy’s music:

Except for Schoenberg of course, no musician has challenged the issue of tonality like Debussy; no one has attached more importance to the choice of scales. Of the numerous pages of Debussy, one can say that the essence of their content resides in the scale itself.¹²

In order to understand the role played by scales in Debussy’s music, one must, as Schaeffner notes, start from the way in which Debussy’s music breaks with tonality and tonal thought. While all tonal composition, in essence, involves a material defined by a unique way of structuring the harmonic space - from which it also acquires its unity and internal coherence - a composition by Debussy has recourse to *different* materials during its unfolding, defined by specific - and sometimes antithetic - ways of organizing this space. In this sense, Debussy’s music ceases to unfold in a homogenous space, where the internal structure is predetermined once and for all (in the manner of a painting that is governed by a unified perspective). Where there was once a powerfully organized system based on the single major/minor scale, there is now a multiplicity of scales, capable of generating specific idioms. These scales are of two types, depending on whether the fifth and the cycle of fifths play a determining structural role (as in the pentatonic and heptatonic scales),¹³ or whether this structural role falls to another interval (the major second in the whole-tone scale, the minor third in the octatonic scale).¹⁴

¹² André Schaeffner, “Debussy et ses rapports avec la musique russe,” in *Essais de musicologie et autres fantaisies* (Paris: Le Sycomore, 1980), 201 (reprinted in: *Variations sur la musique*, Paris: Fayard, 1998, 299).

¹³ The standard heptatonic scale is one that corresponds to a continuous segment of the cycle of fifths, regardless of which note is taken as the point of departure. It is often referred to as the “natural” heptatonic scale. This scale can be altered through the substitution of one or two of its constituent notes with one or two foreign notes. For example, in the case of the acoustic scale beginning on G: G-A-B-[C sharp]-D-E-F-G (see note 17 below) - or of the doubly altered mode that Ravel uses at the end of the “Nocturne” in *Daphnis et Chloé* (transposed to G: G-A-B-[C sharp]-D-[E flat]-F). In these examples, the structural role of the fifth is never in question.

¹⁴ These different scales are listed by Schaeffner, and although he does not identify the octatonic scale as such - whose real nature eludes him - he clearly describes it when he writes: “...finally classic tonality itself, greatly expanded, suspended between two tonics, now reaching toward a true bi-tonality, spread out rather than tacked on.” Ibid. The octatonic scale is explicitly mentioned by Messiaen in *Technique de mon langage musical*, in the chapter devoted to “modes of limited transposition” (Messiaen’s mode 2): “modes” whose particularity, as Messiaen explains, is to be “in the atmosphere of several tonalities simultaneously, *without polytonality*.” See Olivier Messiaen, *Technique de mon langage musical*, Vol.1 (Paris: Leduc, 1944), 51 (composer’s emphasis). However, it was not until the publication of Arthur Berger’s article on Stravinsky - “Problems of Pitch Organization in Stravinsky,” *Perspectives of New Music*, 2/1 (1963): 11-42 - that one began to take note, in musicology, of the particular status of this scale and of the role it had played in music at the beginning of the twentieth century. On this point, see the observations of Richard Taruskin: “It was Arthur Berger who made the first analysis of the illustrious ‘*Petrushka* chord’ that ‘subsumed’ [it] under a single collection with a single referential order, i.e. the

One interval plays therefore a critical role: the tritone, or to identify it in a more neutral manner, interval class 6. This interval already played a special role in the tonal idiom. It is no exaggeration to say that tonality rests entirely on a specific interpretation of the tritone, the only interval of all the intervals contained in the natural heptatonic scale to occur once. The property of tonality is to hear the tritone as a dissonant interval tending to resolve chromatically (due to two half-steps in the scale) to the consonant third within the tonic triad. In this sense, the tonal system could only develop the Ionian and Aeolian modes (which transform into the major and minor scales), the only modes where the notes of the tritone do not belong to the tonic triad. What Debussy finds in these modes (in particular the Mixolydian and Dorian modes), is the possibility of breaking with this tonal interpretation of the tritone and taking advantage of the interval in a totally different manner: in “savoring” it for itself. His attention focuses on the particularity unique to interval class 6, its potential to be analyzed in two different ways: as a segment containing either three whole tones or two minor thirds. In the tonal system, this characteristic makes the “tritone” an eminently ambiguous interval in the way it resolves, depending on whether it is thought of as an augmented fourth or a diminished fifth, on the one or the other of two consonances the farthest in the cycle of fifths: B-F (diminished fifth) to C-E; B-E sharp [C flat-F] (augmented fourth) to A sharp-F sharp [B flat-G flat]. This type of duality does not interest Debussy, for whom the tritone is an interval in its own right - and not an *altered* interval (fourth or fifth) - and his concern is rather to reconcile the diversity of materials with which he works and the unity of the composition. But if the heptatonic mode remains defined by an internal hierarchy based on the fifth relationship between the first and fifth scale degrees (creating an asymmetric division of the octave),¹⁵ the two subdivisions of interval class 6 refer to symmetrical divisions of the octave, from whence proceed - according to the cycle of chosen intervals - the two principal scales “of limited transposition”: the whole tone scale and the octatonic scale. Thus the tritone becomes the interval in which the interpenetration of the scales occurs most naturally.

Since the unity of a composition is no longer to be guaranteed by the resources of a unique system, and since this unity is placed in danger by the multiplicity and diversity of the scales employed, Debussy grants a decisive role to some intervallic structures within the scales themselves, i.e., the intervallic structure common to two or more scales, which are capable of unifying the musical discourse. Thus, various symmetrical

octatonic scale, [so that] the dubious concept of ‘polytonality’ need no longer to be invoked [...]” See Richard Taruskin, *Stravinsky and the Russian Traditions*, Vol. 1 (Oxford: Oxford University Press, 1996), 738 [Arthur Berger, *ibid.*, p. 22ff.]. See also “Chernomor to Kashchei: Harmonic sorcery; or, Stravinsky’s ‘Angle,’” *Journal of the American Musicological Society* 38 (1985): 74. However, this awareness of the octatonic has remained largely within the Anglo-Saxon world, at least until recently, which explains Schaeffner’s misunderstanding.

¹⁵ Constantin Brailoiu’s remarks concerning the “ambiguity of the tonic” in pentatonic melodies can also be applied to the use of the heptatonic scale: it can be used without unequivocally assigning a referential note on such and such a degree, and therefore without any mode being clearly defined. See Constantin Brailoiu, “Sur une mélodie russe,” in *Problèmes d’ethnomusicologie*, ed. Gilbert Rouget (Genève: Minkoff, 1973), 349 and 360; George Perle, “Berg’s Master Array of the Interval Cycles,” in *The Right Notes* (Stuyvesant: Pendragon Press, 1995), 216-218; and Arthur Berger, “Problems of Pitch Organization in Stravinsky,” 12-14.

tetrachords are omnipresent in Debussy's music. For example, the continuous segment of whole tones contained within interval class 6 (tetrachord 4-11 in the nomenclature of George Perle,¹⁶ common to the whole-tone scale and to modes from the natural heptatonic scale, and extended to five notes in the case of the "acoustic scale"),¹⁷ or the tetrachord resulting from the combination of two tritones a major second apart (Perle 4-7) is found in the whole-tone scale, the octatonic scale (where it always appears in two forms, belonging to C₂₀ and C₂₁ respectively),¹⁸ the acoustic scale, and also in the tonal idiom, where it assumes the form of a dominant seventh chord with a lowered fifth [Example 3].¹⁹ Such

¹⁶ The catalogue of pitch-class collections established by George Perle in *Serial Composition and Atonality*, 6th ed. (Berkeley: University of California Press, 1991) is preferable to that of Allen Forte (although the use of the latter is more widespread) in that the collections are classified according to the function of their structural properties, a number of which are or are not transposable and/or symmetrical.

¹⁷ The "acoustic scale," so-called because of the fact that it contains the first six odd partials of the harmonic spectrum (corrected by the exigencies of equal temperament) can frequently be heard, especially in Debussy, as an altered Mixolydian mode (the fourth degree raised a half-step). Barraqué prefers to see it as "a composite mode that results from the intersection of the Mixolydian and Lydian modes through the tritonization of the fourth degree." (Barraqué, *Debussy*, 151). One can also describe it as a seven-note collection - concurring with what Perle classifies as symmetrical pitch-class collection 7-7 [1,2,4,6/6,8,10,11] - and consequently state that it results from a particular modal interpretation of the latter (derived by beginning on scale degree 4 [4,6,8,10,11,1,2] = acoustic scale on E if 0 = C). Another possible interpretation of the same collection (starting on scale degree 11 [11,1,2,4,6,8,10]) creates the "ascending melodic minor scale" of the tonal idiom. In his work on Debussy, Richard S. Parks - surprisingly enough - chooses to identify in this way the collection in question (for him, it is pitch-class set 7-34 in the nomenclature of Allen Forte).

¹⁸ From this point on, the cycles of intervals are labeled according to the system adopted by Perle. See in particular, *The Operas of Alban Berg*, Vol. 2: *Lulu* (Berkeley and Los Angeles: University of California Press, 1985), 199. For example, C₂₀ is the cycle of interval class 2 including the *pitch class* 0 (i.e., the whole-tone scale including C), C₃₁ the cycle of minor thirds including the *pitch class* 1 (C# = D flat), etc. The three octatonic scales are named for the combination of the cycle of minor thirds they contain: for example, C_{30,1} is the scale combining C₃₀ and C₃₁. Finally, the segment of the cycle of fifths is identified by its starting note within the cycle. For example, F in the case of the scale corresponding to the white keys of the piano = C₅₅. In order to distinguish between the pentatonic and heptatonic scales, it is necessary to indicate (p) or (h). C₅₀(p) is the pentatonic scale C-D-E-G-A, C₅₅(h) is the heptatonic scale F-G-A-B-C-D-E (whatever modal interpretation one arrives at).

¹⁹ On the role of this tetrachord in Debussy, see Jean-Louis Leleu, "Le modèle mis en défaut. À propos de l'analyse par Fred Lerdahl du Prélude de Debussy 'La Terrasse des audiences du clair de lune,'" [The model disproved: Concerning Fred Lerdahl's analysis of Debussy's Prelude 'La Terrasse des audiences du clair de lune'] in *Les modèles dans l'art*, ed. Márta Grabócz (Strasbourg: Presses Universitaires de Strasbourg, 1997), 87-89. See also, on this subject, Dmitri Tymoczko, "Scale Networks and Debussy," *Journal of Music Theory*, 48/1 (2004): 234f., in which the question of "intersections" between what the author calls the four "locally diatonic scales" (*diatonic*, *acoustic*, *octatonic* and *whole-tone*) is treated from a theoretical point of view. In a text published in 1994, Richard Bass had already underlined the role played by the [0,2,6,8] tetrachord in what he calls the "octatonic and whole-tone interaction," which he even proposes as the basis for the description of the entire octatonic scale itself: "Virtually every exposition of the octatonic scale describes its construction (in addition to the alternating half-step, whole-step pattern) as the combination of two diminished-seventh chords or [0,3,6,9] set types. For purposes of the present discussion, however, it is advantageous to view an octatonic collection as a union of two 'French sixths,' or [0,2,6,8] tetrachords, at T₃ or T₉." ("Models of Octatonic and Whole-Tone Interaction: George Crumb and His Predecessors," *Journal of Music Theory*, 38/2 (1994), p. 158).

intervallic configurations are heard everywhere in Debussy: unfolded horizontally - they are (as melodic designs) frequently invested with a thematic function: unfolded vertically - see the particular status accorded to the major ninth chord (independent of all dominant function and in direct relation to the Mixolydian mode), which contains all the notes resulting from the double subdivision of the tritone (both a whole-tone segment and a segment of minor thirds) - and/or unfolded obliquely, as we will see in *Sirènes*.

Example 3: Inscription of the 4-7 tetrachord in the various systems

Example 4: *Sirènes*, m. 14 (mezzos)

The symmetrical tetrachord can appear just as frequently in “diatonic” configurations, such as [0,2,3,5] (Perle 4-4)²⁰ contained within the interval of a fourth, which, in *Sirènes*, is heard for the first time in m. 14 in the mezzo-sopranos and provides an ideal connection between the heptatonic modes and the octatonic scale [Example 4]. Linked to itself, this tetrachord generates the Dorian mode or the octatonic scale depending on whether the interval separating the two segments is a major or minor second.²¹ In *Ibéria*, the section of the development of “Par les rues et par les chemins” [by the streets and roads] preceding the eruption of the fanfare of four horns (mm. 122-127) acquires its unity and internal logic from this double interpretation of the tetrachord. The first phase of the development, constructed entirely on the octatonic scale C3_{1,2}, is articulated around the polarity E/B flat. The tetrachord F-G-A flat-B flat (α), tonally centered on B flat, is immediately emphasized first in the clarinets, then in the English horn and trumpet [Example 5a]. The complementary tetrachord (β)-B natural-C sharp-D-E (centered on E) - provides the material for the solo viola and oboe’s melody (*soutenu et très expressif*) that unfolds starting from m. 140. A change of scale (and consequently color) occurs in m. 152: the polarity of E/B flat disappears and in its place an altered Dorian mode on E appears (therefore heptatonic). This mode retains tetrachord β , still emphasized in the passage

²⁰ According to the logic he adopts in his nomenclature for pitch-class collections, Perle notes this tetrachord [9,11/0,2], where 9 and 2 on one side, and 11 and 0 on the other, form two symmetrically related dyads of the same “sum of complementation” (11).

²¹ Richard Taruskin emphasizes the importance of this double combination - and the resulting “diatonic-octatonic interpenetration” - in Stravinsky’s *Les Noces*. See *Stravinsky and the Russian Traditions*, Vol. 2, 1386.

[Example 5b].²² At the intersection of these two moments (mm. 152-153), the English horn links the entire scale in a single stroke. In the last phase of the episode (mm. 166-177), the same tetrachord is reinterpreted within a “natural” mode, first heard distinctly as a Dorian mode on B (where β is supported this time by its bass note), but which, beginning in m. 170, gravitates toward the Lydian mode on D, through the establishment of the fifth D-A in the low strings [Example 5c].²³ Thus, tetrachord β has been present for the entire passage, changing its status twice - or even three times - according to the scale and the modal perspective within which it occurred. At the end of this episode, a new complementary tetrachord γ (F sharp-G sharp-A-B) - also established on its bass note (either the fifth or third degree of the mode, depending on whether one hears B or D as the “final”) - sounds in the melodic line of the viola and oboe in the form of a very supple melisma, which contrasts with the rigidity of the endlessly repeated formula in which the “principal” tetrachord was fixed.²⁴

The image shows three musical staves, labeled a), b), and c), each in treble clef. Staff a) is labeled C₃_{1,2} and shows an octatonic scale with notes: C4, D4, E4, F4, G4, A4, B4, C5. Brackets above the staff indicate tetrachords α (C4-D4-E4-F4) and β (G4-A4-B4-C5). Staff b) shows a mode with notes: C4, D4, E4, F4, G4, A4, B4, C5. Brackets above the staff indicate tetrachord β (G4-A4-B4-C5) and δ (C4-D4-E4-F4). Staff c) is labeled C₅₂ (h) and shows a scale with notes: C4, D4, E4, F4, G4, A4, B4, C5. Brackets above the staff indicate tetrachord β (G4-A4-B4-C5) and γ (F4-G4-A4-B4).

Example 5: *Ibéria*, “Par les rues et par les chemins” (mm. 122-177), successive arrangements of the 4-4 tetrachord (a: octatonic scale from mm. 122-152; b: mode from mm. 153-165; c: scale from mm. 166-177)

This extract from *Ibéria* demonstrates how Debussy interprets, in a mature work, a given configuration of intervals so that it fulfills a double structural function. That is to say, it assures both the cohesion and internal articulation - through its successive reinterpretations within different scales (in relation to such and such a “tonal center”) - of a complete formal unit. In this way, the composer creates a form of logical continuity, endeavoring to link the different moments of a sustained musical unfolding through a procedure both supple and new (apart from any rhetoric or discursivity of tonal genre), rather than a loose succession of “juxtaposed instants, each isolated from the other,” as Michel Imberty describes - problematically at very least - the musical unfolding in certain

²² One of the two cycles of minor thirds of the preceding scale (C₃₁) is retained here, B flat transforming into A sharp (leading to the fifth degree B).

²³ See note 15 above.

²⁴ At the moment of the change of scale (m. 153ff), the viola and oboe’s melody becomes fixed on a secondary tetrachord - A sharp-B-C sharp-D (δ) - common to both the preceding octatonic scale and the new “altered” mode (see note 22). For its part, this (also symmetrical) tetrachord is contained within the interval of a diminished fourth [0,1,3,4] or [10,11/1,2] = Perle 4-8.

Préludes.²⁵ The literature devoted to Debussy frequently emphasizes the “stasis” of his music, which is presented as a natural consequence of the neutralization of harmonic functions. Yet this music progresses, displaying unique fluidity. In a letter addressed to Albert Carré during the first rehearsals of *Pelléas* at the Opéra-Comique, Debussy complained of the darkness in the auditorium, which prevented the orchestral musicians and singers from seeing the conductor and impeded the “quality of the performance.” He continued: “The musical movement of *Pelléas* is quite delicate so that we did not attach importance to it.”²⁶ This expression of “musical movement,” which surely does not apply only to *Pelléas*, identifies very precisely what needs to be taken into account here: the carefully controlled effect of a rigorous and, at the same time, free (that is, devoid of all schemes) musical unfolding which, although completely different from tonal logic, is no less able to provide the internal articulation of a composition and, consequently, the organization of large forms.²⁷

²⁵ Michel Imberty, “De la perception du temps musical à sa signification psychologique: à propos de ‘La Cathédrale engloutie’ de C. Debussy,” *Analyse musicale* 6 (1987): 29. In his earlier *Les écritures du temps*, Imberty describes the music of Debussy as “a music of the *instant* and not of *becoming*”: “...while in Brahms we have a discursive and rhetorical time, where the thematic architecture organizes the thread of the continuous flux, where each part depends closely on what precedes and follows it, in Debussy we have a discontinuous time, where the parts do not take their meaning from their immediate environment, but from the power of evocation of more or less distant reminiscences, immobilizing or breaking the flow that disintegrates in the instant.” *Les écritures du temps* (Paris: Dunod, 1981), 113 (author’s emphasis).

²⁶ Undated letter of April 1902. See Claude Debussy, *Correspondance (1872-1918)*, ed. François Lesure and Denis Herlin (Paris: Gallimard, 2005), 645f. (composer’s emphasis). The same expression is found in a letter sent almost six years earlier to Eugène Ysaÿe, in which Debussy, arguing against the idea put forward by his friend to perform fragments of *Pelléas* in concert (in order to make the work better known), insists in these terms on the essential link that unites music and stage in his opera: “If this work has some merit, it is especially in the connection between the scenic movement and the musical movement.” *Ibid.*, 325f. (letter of 13 October 1896). That Debussy evinces this preoccupation since *Pelléas* contradicts the thesis put forward by Andreas Liess according to which the composer would have progressed from a “pure impressionism” represented by *Pelléas* and the *Nocturnes* - where the harmony, defined in terms of its “color” and “sonority,” remains essentially static - to a form of “orchestral expressionism” (*La Mer*, *Ibéria*, etc.) where a true “kinetic tension” develops through the medium of the melodic “line,” and which would have emerged in a “neo-classic” period reconciling “melody and color.” (Andreas Liess, “L’harmonie dans les Œuvres de Claude Debussy,” *La Revue musicale* [January 1931], 39, 42, and 53) See also 54: “If the music of Debussy takes as its point of departure sound understood as color, the elements of melodic-energetic nature appear later and come to contradict pure impressionism [...] If pure impressionism corresponded to a stagnant harmony, the latter becomes fluent in developing itself increasingly in the linear sense; it is now a flux of color where the coloristic element and the linear element are in balance.”) That said, the commentary of Liess, which is directly inspired by Ernst Kurth’s musical “energetic,” is worthwhile on account of its constant desire to avoid all oversimplicity, as demonstrated by this reflection on “color”: “[...] color comprises a kinetic impetus in itself; it is not absolutely static. One must admit that there is a force here, a will to movement, incomparably more delicate than kinetic force but which exists and acts even in pure sound, alone, and independently of kinetic energy.” *Ibid.*, 44.

²⁷ At a conference organized in Paris in 1962 to commemorate the centenary of the composer’s birth, André Souris also emphasized the importance of “movement” in Debussy’s music. His remarks led to the following conclusion, to which this article unreservedly subscribes: “If movement in itself constitutes the fundamental theme of Debussy’s music, it is then necessary to infer that all other elements are only its *mediums*. And especially the melodic-harmonic apparatus, whose elements cannot be separated from their context without losing their true properties. It is why traditional

The configuration at the beginning of *Sirènes* is pentatonic, so that the interval of the tritone is absent. Like *Voiles*, the “system” chosen by Debussy hints at the black keys of the piano, the system of F sharp = C₅₆(p), with the fifth F sharp-C sharp firmly established in the bass.²⁸ From the outset, the music is freed from all reference to tonal logic. F sharp is not presented here in a network of relations that confers a dominant function of B and, despite the key signature, there is no place to speak (as Barraqué still does) of any “B major.”²⁹ The horns play a first figure, made up of two major seconds in contrary motion covering a perfect fifth (m. 2). This figure formulates the symmetrical tetrachord [0,2,5,7] (Perle 4-5), which will remain the pentatonic reference formula until the end of the work.³⁰ In m. 5, the whole initial complex is transposed up a minor third to A.³¹ This choice of interval (dissonant with regard to the prevailing pentatonicism) creates a shift, a sort of drift, which foreshadows not only a radical alienation but also a cyclic motion. A first tritone occurs in this passage, emphasized by the handling of the parts. In fact, the melodic pattern that sounds in m. 4 in the horns, D sharp-C sharp-B-A sharp - where B is foreign to the pentatonic structure leads to an A natural (in the same register) played by the third bassoon on the third beat of m. 5, while the violins’ trills, containing the same notes, emerge on the first beat of m. 5 into the major third A-C sharp. With this tritone (D sharp-A), the first whole-tone configuration of the work appears in the form of tetrachord 4-11, belonging to C₂₁ [Example 6].

C₂₁

Example 6: *Sirènes*, mm. 4-5 (4-11 tetrachord)

analysis, continuing to valorize would-be “themes” or tonal schemes, only achieves mediocre results.” André Souris, “Poétique musicale de Debussy,” in *Debussy et l’évolution de la musique au xx^e siècle*, ed. Edith Weber (Paris: Éditions de CNRS, 1965), 137. Reprinted in *La lyre à double tranchant. Écrits sur la musique et le surréalisme*, ed. Robert Wangermée (Sprimont: Mardaga, 2000), 229 [author’s emphasis].

²⁸ See note 18 above. Here I am borrowing from Brailoiu’s terminology. The “system” is defined by the pyknon, i.e., the conjunct segment of three notes present in the pentatonic scale. To say that one is in the “system of F sharp” means that F sharp is at the base of the pyknon. See Constantin Brailoiu, “Un problème de tonalité,” in *Problèmes d’ethnomusicologie*, 410.

²⁹ Barraqué, *Debussy*, 110.

³⁰ From this point on, the reader is invited to consult the reduction of the score given in the appendix, which shows how the successive intervallic structures heard in *Sirènes* are organized in relation to each other.

³¹ Therefore, the music moves from the system of F sharp to one on A - what Brailoiu refers to as a “métabole” (“Un problème de tonalité,” 63) - all while remaining in the same “mode” (the system remains established on the lowest note of the pyknon). For more on the pentatonic modes, see Brailoiu, “Sur une mélodie russe,” 351ff., and “Pentatonismes chez Debussy,” 438ff. in *Problèmes d’ethnomusicologie*.

A new transposition of this pentatonic complex by the same movement of a minor third occurs four measures later (m. 8). Established on C (C-D-E-G-A), at a distance of a tritone from the opening, there is not a single note in common with the initial collection. The last beat of m. 7 anticipates the move from C sharp to C natural (the tritone F sharp-C occurs discreetly here), which helps to create a sense of arrival in the new harmonic structure (rather than simply marking a stage within a given progression), and the entire complex is rearranged in this spirit. Of the initial two major seconds figure only the melodic interval A-G is retained, now in the inverted motion opening out to the sixth A (m. 8). After sounding in two octaves in the horns with a great intensity (mm. 8-9), this figure is neutralized and ultimately dissolves into the orchestral texture.

A break occurs at m. 12. The English horn plays (*un peu en dehors*) what Barraqué calls the “orchestral theme” (from this point on designated by the letter *x*). For the first time, a melodic figure unfolds within the framework of a tritone (G_4 -C sharp $_4$) whose structural notes subdivide this tritone according to the two modalities outlined above: G-F-C sharp ($C2_1$) - this trichord (Perle 3-11), a subset of tetrachords 4-7 and 4-11, will play an important role in *Sirènes* - and C sharp-E-G ($C3_1$).³² Moreover, the English horn theme is harmonized by major ninth chords, and the resulting harmonic color strongly distinguishes this theme from the preceding music. The F_4 where the English horn’s melodic line comes to rest in the middle of mm. 12 and 13, is held for a half note on an E flat chord, which is noteworthy in that the whole-tone segment it contains (vertically) coincides with the one deployed horizontally in the melodic line [Example 7a]. The F_4 is played simultaneously by the first horn and the English horn, blending their timbres.

Example 7: *Sirènes*, mm. 12-13 (analysis)

Although it contrasts with the unity of mm. 1-11, this new tone complex is at the same time part of its continuity. The three parallel major ninth chords link according to the same cycle of minor thirds ($C3_0$) that previously governed the movement of the roots, and which is now completed. Moreover, the G_4 that begins the melodic motif of the English horn (m. 12) is the same pitch played by the first and third horns in m. 8.³³ The chord on C

³² The characteristics of this theme bear a striking resemblance to the theme at the opening of the *Prélude à l'après-midi d'un faune*, whose structural notes (those coinciding with the quarter-note pulse within 9/8) subdivide the tritone C sharp $_5$ -G $_4$ (the exact complement of the one in *Sirènes*) in the same way, i.e., into two minor thirds (C sharp-A sharp-G), and a major third followed by a major second (G-[A]-B-C sharp). It is interesting to note that this structure is the same as the tetrachord Stravinsky used throughout *L'Oiseau de feu*, first occurring in the opening of the ballet's Introduction in the double form A flat-F flat-D-F natural-A flat (cellos and basses) and A flat-C flat-D-B flat-A flat (trombones).

³³ In the edition of the *Œuvres complètes*, this G_4 is repeated by the English horn in m. 10, which tightens the connection between the two passages. It occurs as an allograph addition present in

reappears as well in this new sound complex, while changing structure and timbre. Finally, the melisma of the mezzo-sopranos in m. 14 (G-A-B flat-C), while prolonging the melodic line of the English horn, repeats and continues the rising major second left incomplete by the horns in mm. 8-9. This melisma represents the first clear occurrence of tetrachord 4-4 in the work (see Example 4 above). If one connects this design of four notes to the two descending major seconds (mm. 4 and 5) heard at the highpoints of the pentatonic complex at the beginning of the piece (Dsharp-Csharp-Fsharp-E), one obtains the complete octatonic scale $C3_{0,1}$. This octatonic scale is employed progressively across different phases of the musical progression and is none other than the projection, in the uppermost voice, of the movement of the roots F sharp-A-C ($C3_0$). The complementary cycle, $C3_1$ - introduced by the English horn (C sharp-E-G) in mm. 12-13 and immediately completed by the mezzos (G-B flat-[C sharp]) in mm. 14-15 - unfolds simultaneously, due to the movement by minor thirds, within the sequence of parallel major ninth chords [Example 7b]. At no time, however, is the octatonic scale heard for itself: its presence remains diffuse.

The passage of mm. 12-14 is repeated in mm. 17-19. It twice emerges into a kind of breakthrough (*forte subito*), marked by the surge in the high register of the sopranos' melisma A-G. The intensity of the dynamic surge makes this melisma "ring" harmonically with altered motion by minor third in the bass: the first time, this movement descends as the bass falls to A, but the second time it ascends as the bass rises to E flat. As a result, the soprano motif appears alternately in the perspectives of A and E flat, a distance of a tritone: in the first case, the scale is the Mixolydian mode on A, in the second it is the acoustic scale on E flat. The A of the motif, which initially coincides with the first degree of the mode, sounds next as the fourth degree of the acoustic scale, a tritone away from the first degree. In the second half of mm. 15 and 16 and of mm. 20 and 21, a variant of x occurs where only the descending melodic contour remains (rhythmically even and more fluid). This motif is first performed successively by the first oboe and the first bassoon, then by the two oboes and two bassoons. In the oboe(s), the motif is written within a perfect fourth, A-E and E flat-B flat (x'), while in the bassoon(s), the initial tritone is reestablished exactly, subdivided into whole tones. First, the bassoon echoes the English horn motif of mm. 12-13 with the complementary tritone, C sharp₄-B₃-G₃ (mm. 15-16), then with the original tritone, G₄-F₄-D flat₄ (mm. 20-21). In the imitation between the oboe and the bassoon, the same tritone is also heard subdivided into minor thirds, the uppermost note of the bassoon (C sharp) now forming the bass. $C3_1$ appears in its entirety: G-E-C sharp (mm. 15-16) and D flat-B flat-G (mm. 20-21). While some traces of the octatonic scale $C3_{0,1}$ are still perceptible, in mm. 12-21 it is the whole-tone scale that gradually comes into the forefront and becomes structural. This happens in a meaningful way from the viewpoint of the formal organization. Without this scale ever being affirmed, the particular color of the whole-tone configurations becomes more and more penetrating in the passage, a tendency that is confirmed in m. 20 by the appearance of the acoustic scale on E flat, which contains five of the six notes of $C2_1$. The succession A-G-E flat-D flat that is formed between the sopranos and oboes through the

the two copies annotated by Debussy (see the editorial notes, *Œuvres complètes*, 182). This addition already appeared in the posthumous edition published by Jobert in 1930. As for the marking "*sourdines*" (mutes) for the horns in mm. 8-9, it occurs only in the score of the orchestral autograph. It seems therefore that Debussy later abandoned it (*Ibid.*, 181).

appearance of the acoustic scale, is the first occurrence of tetrachord 4-7 in *Sirènes*. The complete motif A-G-E flat-D flat-B flat-G, however, is also contained within the scale C3_{0,1}.³⁴

In m. 22, the two tritones abruptly disappear and a five-note structure on E flat is reestablished. This pentatonicism (E flat-F-G flat-B flat-D flat) differs from that of the opening measures and, due to the fact that the third is now flatted, a new modal color emerges (the memory of C natural suggests the Dorian mode). For the first time, the motif of the ascending major second E flat-F (a residue of the preceding harmonic collection) rests on the first degree of the mode. The effect of stability, however, is contradicted by the manner in which the fifth is emphasized: B flat is sustained throughout mm. 22-26 in the horns and flutes, then in the clarinets. As a result, the musical flux seems to be suspended rather than immobilized. Even as the contours of the harmonic structure fade away (the tremolos of the basses becoming more and more indistinct), the “musical movement” is not extinguished but only waiting to be restarted.

A second large formal unit begins in m. 26, where the sopranos present (what Barraqué calls) the “choral theme” in counterpoint with a new variant of theme x in the violins. Or, more precisely, a variant of x', the version of the theme that was performed by the oboe(s) in mm. 15-16 and 20-21, contained within the interval of a perfect fourth (see Example 1b). The transition with the preceding measures occurs smoothly, the beginning of the sopranos' theme being none other than the motif E flat-F inverted³⁵ and rewritten enharmonically as E sharp-D sharp. For the first time, the root of the harmony moves by the interval of a major third (E flat-B), so that C2₁ continues in this section. The note B will later be affirmed as the principal “tonal center” of *Sirènes*, but the manner in which it functions here as “tonic” could not be further removed from tonal logic. The sopranos' motif E sharp-D sharp gives way to a rhythmic undulation that is prolonged in the upper register by the line D sharp-E sharp-F sharp-G sharp (and back to D sharp), in which one detects the tetrachord 4-4. The melody thus unfolds within the ambitus of a perfect fourth, as well. Indeed, this complete configuration is an exact repetition of m. 20, with the motif of the

³⁴ In his work on Debussy, Parks, who works with both Forte's theory and the four categories of pitch-class genera (diatonic, whole-tone, chromatic, and octatonic, in addition to a “complex” genus formed by the pitch-class sets 8-17/18/19), takes mm. 12-25 of *Sirènes* as an example of the way in which the diatonic genus, predominant within the work - and represented here by the major ninth chord (pc set 5-34) - undergoes constant “distortions.” Parks states that “The tendency of pc materials to mutate from diatonic to the 8-17/18/19-complex genus culminates in mm. 20-25, where set 8-19 emerges as the summary set.” *The Music of Claude Debussy*, 248. (On the “8-17/18/19-complex genus,” see 106ff). However, in Parks's analysis, this “complex genus,” remains a collection of undifferentiated pitch classes. In the absence of any hierarchy, passing notes are taken into account in the same way as structural notes, e.g., the D natural and F sharp played respectively by the oboes and bassoons in mm. 20-21. But the finesse with which Debussy takes advantage of existing connections between the scales or between scales and modes demands that one be extremely attentive to the specific structure of the different materials, and especially to their internal hierarchies. Even the differentiation between the modes is not mentioned by Parks who confines himself to identifying the “diatonic genus,” describing it furthermore as if it had a close relation to tonality (see note 17 above).

³⁵ The F in the mezzos fades away on the first quarter-note of m. 26.

violins now superimposed over the sopranos' melisma instead of coming after it. The two major seconds (B-A and E sharp-D sharp) thus form tetrachord 4-7.

As in m. 20, the modal color of m. 26 is the acoustic scale: the E sharp sounds a tritone away from the first degree B, firmly established with its fifth in the bass.³⁶ Without this support, one could interpret it as the octatonic scale C3_{0,2} (the interlacing of the violin and soprano lines has an undeniable "hint" of octatonicism.) C3_{0,2} differs in fact from the acoustic scale on B only by the internal subdivision of its major third B-D sharp: B-C-D-D sharp in the case of C3_{0,2} (the fifth degree, E sharp); B-C sharp-D sharp in the case of the acoustic scale (the fifth degree, F sharp). But critical notes are absent in mm. 26-29, which prevents the identification of either scale from the outside; only the internal hierarchy governing the structure permits this distinction.³⁷ Logically, the use of the octatonic scale should present a polarity of B-E sharp or, eventually, B-G sharp (D is not present). But neither E sharp, in the absence of its fifth B sharp, nor G sharp (which appears only at the highpoint of the vocal line) are explicitly treated as possible "tonics," as opposed to B, which is clearly assigned this function. As a result, the acoustic scale is established. When the same music returns in mm. 34-35 (considerably varied), the octatonic color is more pronounced, due to the fact that the motif derived from x (B-A-F sharp) is replaced by a sustained melodic line rising to C natural in the violins (A-B-C-B), doubled in the violas and the mezzo-sopranos. This implies the perspective of E sharp (heard as F) rather than B. In

³⁶ In her article "L'harmonie 'formante' de la fusion des timbres dans *Sirènes* de Debussy," Marinella Ramazzotti defends the thesis that harmony in *Sirènes* should be considered in terms of static "accords-timbre," whose "défonctionnalisation" should favor the perception of a "flux sonore" founded upon timbral relations. She cites mm. 26-27 as an example of the "processus de fusion verticale et d'intégration horizontale" which are, according to her, characteristic of this harmonic thought. "The theme of the sopranos," she writes, "is enclosed within an E major dominant seventh harmony, stripped of its harmonic function by the E sharp appoggiatura, which is foreign to the tonality of the chord and thus acts on the agglomeration as a 'note-son.' The perceptive integration of the vocal 'note-son' to the tonal chord is supported by the fact that it belongs to the spectral content of the fundamental as the eleventh harmonic... The interval of the eleventh, although foreign to the E major dominant, transforms the chord into a unity of timbres joined by the harmonic spectrum." See *Cahiers Debussy* 26 (2002): 15-29, and especially 19-23. It is quite plausible that the harmonic spectrum, as a model of "natural" organization of the sonorous space, is not irrelevant in Debussy's music and that, in our example, the E sharp acquires the status of "note-son" as a harmonic of B (according to the terminology introduced by Barraqué that Ramazzotti adopts here: see Barraqué, *Debussy*, 150). But to consider E sharp as an "appoggiatura," i.e., a foreign tone, within an "E major dominant seventh harmony" is completely contrary to the spirit of this music. As the fourth degree of the acoustic scale, this note forms an integral part of the harmonic complex *in the same way* as D sharp, A and even B: the four notes form a homogenous configuration of whole tones within the scale. Its particular quality stems from the fact that it is what determines, in its relation to A, the modal color (if there were an A sharp in the structure, it would belong to the Lydian mode). Not only is it farfetched, cognitively speaking, to imagine that a "note-son" can be opposed within the aggregate to "note-tons" (belonging to the dominant chord) whose harmonic function thus would be neutralized. But interpreting the chord tonally also means reinstating in Debussy's harmony a mode of listening and thought from which it just liberated itself.

³⁷ Failing to take this internal hierarchy into consideration (see note 34 above), Parks, in an analogous situation (a passage from Debussy's String Quartet) mistakenly identifies the octatonic scale instead of the acoustic scale. See *The Music of Claude Debussy*, 102 and mm. 3-4 of Example 4.3.

mm. 34-35, it is actually C sharp that appears first, very discreetly in the sextuplets of the first cellos (also performed by the English horn in m. 35) as if endeavoring to establish a major ninth chord on B.³⁸ But this C sharp disappears on the third beat in favor of C natural, and when the passage repeats in mm. 36-37 with different instrumentation, C sharp no longer appears, apart from on the last beat of m. 37, in the chromatic motion of the transition to the following section.

If the new harmonic complex beginning in m. 26 revisits and condenses various elements heard during the course of the first large section, then it breaks with its logic: the major third now replaces the minor third.³⁹ The section of mm. 26-29 therefore repeats a major third lower. The immediate effect of this transposition is to bring out the whole-tone segment E sharp-D sharp-C sharp-B in the voices (sopranos, then mezzos), the first explicit occurrence in *Sirènes* of tetrachord 4-11,⁴⁰ which will play a vital role later in the movement (henceforth annotated as ω). But the transposition of the initial tetrachord 4-7 by a major third actually generates the entire whole-tone scale C2₁, the complementary whole-tone segment (B-A-G-F) employed at the same time as the first, in the instrumental counterpoint (violins, then flutes and English horn).⁴¹

³⁸ The note B, however, is *avoided* by the cellos here, which helps to remove the intensity of this scale degree (the fifth B-F sharp is reestablished in the cellos in mm. 36-37). In the original edition, the low B (*pizz.*) is performed by only half of the basses.

³⁹ In these different chord progressions one could see a simple illustration of what Nicolas Meeùs has called the “harmony of mediant,” which describes the way Debussy liked to link chords a major or minor third apart. Meeùs explains Debussy’s predilection for third relations: “In classical harmony, passages a third apart are created ‘by two common pitches.’ Of all the possible progressions, this motion by thirds creates the most discreet movement of the parts; they are the most static and the most fluid passages. [...] The tonal ambiguity created by these third progressions, on the other hand, contributes to the creation of a fluid and continuous motion by eliminating cadential articulations that make the harmonic structure too apparent.” See Nicolas Meeùs, “*Le Prélude à l’après-midi d’un faune: une analyse harmonique*,” *Analyse musicale* 13 (October 1988): 87. Meeùs has also emphasized the importance of the interval of the tritone in Debussy’s music. See “À propos du rôle de l’harmonie des médiantes dans l’œuvre de Debussy,” in *Mélanges de Musicologie* (Louvain: Institut Supérieur d’Archéologie et d’Histoire de l’Art, 1974), 29. In Debussy’s music, the role played by “common tones” in chordal passages is not in doubt, nor is the fact that there is a divergence between passages a third apart and the spirit of tonality, such as the paradigmatic presence of the phenomenon of the cadence (i.e., the dominant-tonic relation). However, the procedure dubbed “harmony of mediant” is only one element of harmonic thought that needs to be described more globally, showing how this type of passage is composed and, in particular, what relationship it has to the use of scales and modes. On this subject, also see Avo Somer, “Third-Relations and Tonal Structure in the Songs of Debussy,” *Music Theory Spectrum*, Vol. 17/2 (1995), 215-241.

⁴⁰ See above p. 10 and Example 6.

⁴¹ A study of the sources shows that Debussy frequently hesitated with regard to the instrumentation of the motif in the woodwinds (mm. 30-33). In the first edition, the flutes and English horn were doubled by the clarinets (in two octaves). The copies annotated by the composer offer two alternative instrumentations: in one, the English horn disappears, and the flutes are doubled at the octave by two clarinets in unison; in the other, the English horn doubles the flutes at the octave. It is this latter version that is used for the edition of the *Œuvres complètes*, critical notes, 186.

At the end of the section (mm. 36-37), the mezzo-soprano line brings us back to the starting point. As noted above, these measures reinterpret the music of mm. 26-29, and the expression becomes very intense. But in mm. 38-41, a brief, dance-like episode offers a striking change of mood. A new variant of *x'* appears in m. 38, harmonized by parallel major ninth chords linked by a cycle of fifths beginning on D (D-A/E-B). In mm. 41-42, the parallel chords are replaced by a IV-V-I progression establishing the tonic of B (this is the first, but not the last, time that such an event will occur in *Sirènes*). In fact, only the central chord is tonally conceived in its own structure. But this is paradoxically due to its whole tone configuration, where C₄₂ is strongly emphasized. The central chord is indeed interpreted here as a dominant chord with a raised fifth (F sharp-A sharp-D [= C double sharp]-E-G sharp), which resolves in m. 42 to what can be interpreted as a second inversion tonic harmony in B, oscillating between major and minor (with the added sixth, G sharp). At the same time, the “choral theme” sounds in the lower register of the mezzos (*très expressif et très soutenu*), where the head-motif C sharp-B (resting this time on the tonic) completes the whole-tone segment initiated in m. 34.

The second half of m. 43 returns the focus to E and reestablishes a purely modal logic, indicated by the employment of tetrachord 4-11, D-E-F sharp-G sharp in the melodic line of the mezzos. This is none other than the whole-tone structure present in the major ninth chord on E, which is prolonged in mm. 44-45 (in the Mixolydian mode). The whole-tone structure appears clearly in the winds (where theme *x* emerges, G sharp-F sharp-D), while the strings articulate and isolate the minor third D-B, a subdivision of the tritone D-G sharp according to C₃₂. The entire section (mm. 42-45) then repeats in a varied form (mm. 46-49). In m. 46, the second inversion harmony is replaced by a major ninth chord on C sharp (due to a movement by minor third that conserves C₃₂), and this brings about the reappearance of the whole-tone segment, E sharp-D sharp-C sharp-B (ω). The end of the “choral theme,” now sung by the sopranos, uncovers this configuration in the same ascending motion which, four measures earlier, had led the mezzos to the major ninth chord on E. Measure 48 presents the same chord, this time a step higher on E flat, and the result of this shift is that E sharp (= F) is now contained within the tritone D flat-G, exactly as it was in the first occurrence of theme *x*. This theme is heard anew in the winds, this time in its original transposition (G-F-D flat).

Although varied, the beginning of mm. 46-47 already echoed the music heard during the arrival on C and its dénouement (mm. 8-11), which led to the first caesura of *Sirènes* (just before the appearance of theme *x*). From m. 50, where the tonic C sharp (= D flat) is reestablished, it is the entire pentatonic complex of mm. 8-11 that reappears a half-step higher and with much greater intensity (*forte*).⁴² Of the whole-tone collection (ω) heard in mm. 46-47, only the three highest notes remain, that is those of pyknon D flat-E flat-F, owing to the elimination of the tritone. The diminuendo phrase that follows the climax (mm. 52-55) and signals the end of the first part of *Sirènes* (A) is heard here over four measures instead of two. The women’s voices become fixed on the notes of this pyknon as they echo the major second A flat-B flat of the four horns. With the gradual rhythmic expansion of the melisma, only two notes remain (E flat-D flat).⁴³ More indirectly, this passage also evokes

⁴² The dynamic *forte* has not been heard since the sopranos’ “breakthrough” in mm. 15 and 20.

⁴³ In m. 52, sopranos 5-8 (doubled at the octave below by the second bassoon) continue the horns’ motif, as in m. 10 with the English horn and the first bassoon. But in m. 52, sopranos 1-4 and the

the end of the first large section of A (mm. 22-25), which was marked by a return to a pentatonic structure. There the melisma E flat-F, performed alternately by the winds and the mezzos, was established for the first time on the tonic of the pentatonic system, E flat.⁴⁴ The difference in mm. 52-55 is that the resolution on D flat is conclusive, providing the first moment of repose in *Sirènes*. The movement, however, is not totally extinguished: although slowed, the pulse remains.

The transition to the beginning of the development (in two phases), which forms the central section (B) of *Sirènes* (characterized by the tempo *Un peu plus lent*), occurs quite smoothly. But right away, a critical step is taken in the formal construction of the work. Using the rhythm from the beginning of the “choral theme,” the first and third horns (with mutes), followed by the clarinets and violas, expose the tetrachord ω “obliquely” in the condensed form of two superimposed major seconds a major third apart (while in mm. 26-33 the two major seconds were heard successively). The notes of the motif remain centered on D flat and link seamlessly with those of the pyknon at the end of section A (F-E flat/D flat-C flat). At the same time, mm. 56-59 reinstate the structure of a major ninth chord (with the tritone C flat-F) and the color of the Mixolydian mode.⁴⁵ As at the beginning of the second section of A (m. 26), the same harmonic complex is then transposed a major third lower (mm. 60-61), which leads to the horizontal unfolding, not only of the tetrachord ω , but of the entire whole-tone scale C2₁. The same progression then repeats (mm. 62-65), and Debussy carefully emphasizes the presence of the whole-tone scale by isolating it in the horns at the intersection of the two passages (Example 8).



Example 8: *Sirènes*, mm. 61-62 (horns)

The condensed presentation of ω is thematic and later set to play an essential role. Nevertheless neither Barraqué nor Parks mentions it (both authors are uninterested in tetrachord ω itself). In the central section of *Sirènes*, both identify as a “theme” only the vocal melisma that accompanies the harmonic motion from D flat to A (mm. 58-62, see Example 2b). But the latter is merely a new variant of x (m. 26), now contained within the interval of a major third (played as a diminished fourth A flat-G-E), which parallels the same interval occurring in the bass, D flat-(C)-A. Therefore, this latest variant of $x-x'$ - is no more

mezzos sing the notes of the pyknon. The repetition of the melisma E flat-D flat in m. 55 (mezzos 5-8), as it appears in the original edition, is probably an error. See *Œuvres complètes*, 191.

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See p. 13 above.

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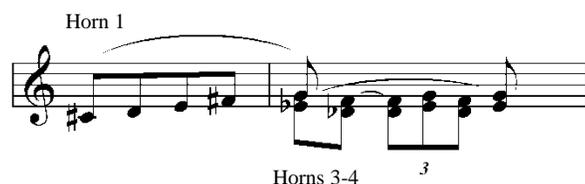
The fourth degree of the mode is heard only in m. 65 in the melodic line of the first horn. The new key signature of six flats, which appears when the tonic D flat is established (m. 50), fully conforms to the “tonal” perspective that begins the B section and which is re-established a second time in m. 87, i.e., D flat in the Mixolydian mode (the corresponding segment of the cycle of fifths moves from C flat to F).

autonomous than ω , which is embodied in the new presentation of the head of the “choral theme.” The entire passage from m. 58 is a recomposition, in a totally new form, of the beginning of the second section of A (m. 26).

In mm. 66-69, the progression repeats anew, this time a whole step higher: the movement of the bass becomes E flat-(D)-B. In the previous tone complex on A (mm. 60-61), G was the lowest note of tetrachord 4-11 (G-A-B-C sharp). Now the unfolding of C₂₁ begins on G as highest note. Indeed, the same tritone is retained in inversion in the transition from A to E flat, made explicit by the entrance of the horns, where the interval C sharp⁴-G⁴ is first subdivided into two minor thirds (m. 65) [Example 9]. The second time, the major ninth chord on E flat is interpreted tonally in the key of A flat (m. 71), thereby breaking with the logic established since the end of the A section. Following this “modulation,” an episode of great expressive intensity occurs (*En animant, surtout dans l’expression, then Serrez*), soon culminating in a *fortissimo* orchestral tutti (*Retenu, avec force*), which articulates the absolute climax of *Sirènes*. If it is appropriate to speak in terms of a “modulation,” it is because C₂₁ is replaced by C₂₀, from the beginning of the episode (m. 72), continuing throughout this passage up to the new section on D flat (m. 87). The first sequence (mm. 72-73 = mm. 74-75), where motif *x'* returns metamorphosized (*très expressif*) in the violins [Example 10], consists of two tone complexes a tritone apart, established in the Mixolydian mode: the first occurs on A flat, the second on D. The two (complementary) whole-tone complexes 4-11 appear here successively, contained within the tritone G flat-C = C-F sharp. Here, the handling of the melodic lines brings out the subdivision of the tritone into two minor thirds, C₃₂, rather than into three whole tones. For instance, in m. 72, the second violas play [B flat]-C-E flat-G flat, the second oboe plays [B flat]-C-[D flat]-E flat-G flat, and most explicitly: in mm. 73 and 75, the violins and basses perform the contrary melodic motion [D]-C-A-F sharp and F sharp-A respectively.⁴⁶ However, the whole-tone configuration C-B flat-A flat-G flat is then clearly emphasized in mm. 76-78. Melodically, it appears in the counterpoint to the motif of the violins and violas, which feature the head of the “choral theme” (an echo of the beginning of the B section). More obliquely, the whole-tone configuration also appears, in the form of the trichord 3-11 (C-B flat-G flat), in mm. 76-77, where the Mixolydian mode on A flat is re-established (for example, the first 'cellos) and in m. 78, where the tonic becomes G flat, but with C natural (suggesting the color of the acoustic scale).⁴⁷ Moreover, the same whole-tone segment (written as C-B flat-G sharp-F sharp) occurs in the violin and viola parts, drawn out over the three measures leading to the *Serrez*.

⁴⁶ The bassoons also play the F sharp-A third. (On the possible variants in the first and second bassoon parts, see *Œuvres complètes*, 194). Indeed, the whole-tone configurations are already quite present in mm. 73 and 75, notably D-F sharp-D-C. It is worth noting that the figure played on the first two quarter-notes of mm. 72 and 74 repeats the figure performed at the beginning of the movement in the pentatonic complexes on F sharp and A (here F-E flat/B flat-C).

⁴⁷ The D natural at the beginning of m. 76 (a kind of appoggiatura to E flat) already foreshadows the acoustic scale, but with the D flat, the Mixolydian mode is reestablished quickly and unequivocally. In addition, only four quarter-notes are heard in m. 78 (G flat-B flat-C-D flat), which allows one to speak only of an “implied” acoustic scale (or perhaps even Lydian mode).



Example 9: *Sirènes*, mm. 65-66 (horns 1, 3 and 4)



Example 10: *Sirènes*, m. 73 (violins 1)

In m. 79 a diminished seventh chord appears, written as E sharp-G sharp-B-D ($C3_2$), which is inserted into a new cadential progression moving from G flat (= F sharp) to B. Yet this “tonal center” of B, on which the entire movement will eventually stabilize, and which should bring about the return of $C2_0$, is not affirmed here as such (i.e., firmly established in the bass with its fifth). To be sure, the pitch B is introduced forcefully by the basses within the prolongation of the line A flat-B flat (mm. 76-78), but it occurs at the moment when the diminished seventh chord is heard (this having the quality of a “dominant of the dominant”). As the perspective of B is established at the end of the cadential progression (in m. 80), it is the third degree D natural that sounds in the bass, and in the second half of the measure a new “dominant of the dominant” (C sharp-E sharp-G sharp-B) emerges from the minor triad through an internal mutation.⁴⁸ The complete $C3_2$ is present in the resulting harmonic complex (see the second clarinet line B-D-E sharp as well as the first bassoon and second violas), whereas the tritone D sharp-G is analyzed according to both $C3_2$ (see the basses and the third bassoon, but also the first and second bassoons, D-B-G sharp) and $C2_0$ (D-F sharp-G sharp in the first horn, second violins, etc.). Nowhere in *Sirènes* is there a richer, more fraught network of intervallic relations. In the original version of the work (the manuscript and the first edition), the violins and violas played, mm. 80-81, a motif, clearly prominent, derived from the variant of x' previously heard in m. 73 (Example 11), which turned into a commentary here on the bass line D-G sharp-B, contained in the same tritone. In his subsequent re-workings, Debussy deleted this thematic element and aligned the violin and viola parts with the winds, this simplification of the musical texture revealing the intervallic structures themselves and their inherent tensions.⁴⁹

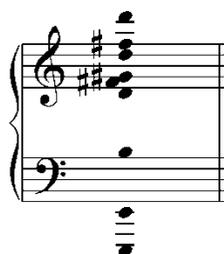
⁴⁸ This mutation is linked via the minor ninth chord (C sharp-E sharp-[G sharp-B]-D).

⁴⁹ See the *Œuvres complètes*, 196. These two measures were the object of many revisions, which would take too long to detail here.



Example 11: *Sirènes*, mm. 80-81 (violins 1), initial version

At the climax (m. 82, *Retenu, avec force*), the “dominant of the dominant” runs into an chord, which, in the abstract, could be interpreted as a major ninth chord on E, but its arrangement and internal equilibrium (acoustically) prevents one from identifying it as such. Within the orchestral *tutti*, the E in the basses, doubled at the octave by the third bassoon, is isolated in the lowest register (E₁, E₂); the fifth B appears only in the fourth horn in the middle register (B₃); and all the other instruments sound the notes D-F sharp in the middle to the highest register, with the exception of the first horn, which plays G sharp₄ [Example 12].⁵⁰ As a result, the whole-tone structure present in the chord (still contained within the tritone D-G sharp, this time with the E) is broken apart.



Example 12: *Sirènes*, chord of m. 82

Eventually, the tension dissipates, and the triad C sharp-E sharp-G sharp leads to a B minor triad on the last note of the triplet in m. 82 (the bass E disappears). In the ebbing motion that follows, the two trumpets and then the first trumpet alone perform what Parks calls the “whole-tone motif” (mm. 83-87; see Example 7-2c). This motif is none other than the melodic presentation of the C₂₀ segment D-E-F sharp-G sharp, which now occurs in the foreground (henceforth called “theme γ ”). It is important to note that this is the first time that tetrachord 4-11 unfolds horizontally in this condensed formation. This whole-tone segment, however, is not stable: it oscillates between the Dorian mode on B⁵¹ and the acoustic scale on D (augmented with C natural). The second time (m. 86), only the whole-tone structure (4-7) C-D-F sharp-G sharp remains, which is in turn heard, tonally, as a dominant seventh of C sharp (= D flat).⁵² The return to the tonic of D flat marks the beginning of the second phase of the development of *Sirènes*.

⁵⁰ In the first version, B was performed by the third and fourth horns, G sharp by the English horn and the first and second horns. See *Œuvres complètes*, 197.

⁵¹ Instead of the fifth D-A played at the beginning by the basses (m. 83), it is the first inversion chord, D-B-F sharp, that is heard the second time.

⁵² See p. 7 above and Example 3.

Although the rhythmic pulse of mm. 87-100-despite the return of the tempo mark *un peu plus lent* - clearly contrasts with the contemplative character of the beginning of section B, this new formal unit is, in fact, nothing but a varied reprise of mm. 56-71. The same musical structure - in the Mixolydian mode - reappears here, with both tetrachord ω and x' (the variant of x contained in the interval of a diminished fourth), and it is twice transposed again, a major third lower (from D flat to A, then E flat to B). As a result, these successive transpositions restore and bring to the forefront the principal whole-tone scale of *Sirènes*, C₂¹. The tone complex itself, however, is reformulated: following the logic of the preceding development, ω is now presented horizontally, C flat-D flat-E flat-F (by two clarinets and the English horn) in a rhythmic variant very close to the trumpets' whole-tone motif of mm. 83-86 [Example 13].

Example 13: *Sirènes*, m. 87 (tetrachord ω)

When the root moves from D flat to A (m. 89), the transposition of ω to G continues the unfolding of C₂¹ naturally, but here the presence of this scale is reinforced by a counter melody in the first violins, where the same linear presentation of tetrachord 4-11 occurs beginning on A. The initial Mixolydian mode thus changes to the acoustic scale. Moreover, with the subdivision of the complementary tritone into two minor thirds occurring throughout this passage (most notably in the second violins), the oscillation between D flat and A in the bass corresponds to an alternation between C₃² and C₃¹ (F-A flat-C flat to C sharp-E-G). Consequently, the octatonic scale C₃^{1,2} begins to emerge. In m. 95, with the transposition by tritone from A to E flat, C₃¹ is retained (in addition to C₂¹), emphasized by the melisma of the second sopranos, E-G-B flat (mm. 93-95). The initial process then repeats, leading this time to the literal return of tetrachord ω in the counter voice of the first violins (mm. 97-98), and to an oscillation between C₃¹ and C₃⁰.

As in m. 70, the motion from E flat to B does not repeat: a break occurs after m. 100. This interruption, however, no longer initiates a new “modulating” episode, but now begins a transitional section that will lead to the return of the initial tempo (*Revenir progressivement au l^o Tempo*) and thus introduce the third and final part of *Sirènes*. At the beginning of this section (mm. 101-102), C₃¹ is presented in the form of a pure “diminished seventh chord” in close position (written C sharp/D flat₄-E₄-G₄-B flat₄).⁵³ This sonority lies within the continuity - if not the logic - of the preceding section, having been prepared, in mm. 99-100, by the subdivision of the tritone D flat-G into two clearly articulated minor thirds in the tremolos of the second violins and first cellos and more explicitly still, by the motif G-B flat/B flat-D flat played by the English horn and the second bassoon (combined here for the first time in the horizontal presentation of tetrachord 4-11). Moreover, the D flat itself was

⁵³ The B flat and D flat (= C sharp) are indeed doubled at the octave below. Speaking of a “diminished seventh chord” does not in the least imply that the passage is heard tonally (the aggregate is perfectly stable).

introduced by the sopranos' line, and already present in the high trill of the first violins (m. 100). The fact that C3₁ sounds in pure isolation has the effect of suspending the musical flux, in letting the tonal perspective "float" as it were, an effect that is emphasized by the change of timbre (*à bouche fermée* in the voices, *près du chevalet* in the violins).⁵⁴ This suspension does not dissipate when, in mm. 103-104, the English horn and first bassoon play the "choral theme" and enrich the harmonic structure with two notes (F sharp and A), thereby suggesting the octatonic scale C3_{0,1}. The music heard here is similar to the presentation of the "choral theme" in mm. 26-27. But m. 103 does not clearly establish a tonal center, which only heightens the effect of "tonal indecision," about which Messiaen speaks in regard to the use of "mode 2."⁵⁵ Remarkably, the note that previously functioned as tonic - here it would be C natural in transposition - does not appear at all in the new harmonic complex. As a result, F sharp tends to sound as the tonic, but this function could equally be applied to A (the polarity of the minor third is, like the polarity of the tritone, inherent in the logic of the octatonic scale, even if it is more rarely exploited).⁵⁶

When the English horn and bassoon pass the "choral theme" to the mezzos (mm. 105-106), the repeated articulation of the oboe (B-A sharp) tips the balance toward F sharp, without totally resolving the ambiguity. It is only when the "choral theme" is performed a major sixth higher by the sopranos (m. 107) - resulting in tetrachord 4-4, F sharp-E-D sharp-C sharp, which paradoxically completes the scale C3_{0,1} - that the perspective of F sharp is stabilized while the Mixolydian mode is established. In m. 107, the head of the "choral theme" is superimposed on its own inversion or, more precisely, on the inversion of the oblique presentation of 4-11 as it had appeared, doubled at the major third, at the beginning of the central section (m. 56). As a result of this contrary motion in major seconds in the voices, the pentatonic formula of the opening of *Sirènes* reappears literally (D sharp-C sharp/G sharp-A sharp). Indeed, this single detail would suffice to show to what degree the construction of *Sirènes* is assured. The reappearance of 4-11 (E-F sharp-G sharp-A sharp) - centered, as before, on its second degree - occurs here within C2₀, the scale that had been established once again in m. 103.⁵⁷ At the end of the section, the harmonic complex established on F sharp (in the Mixolydian mode) is interpreted tonally, as the dominant of B, and a very explicit cadential gesture (V-I) immediately affirms this note as tonic. Together with the tonal perspective of B, however, C2₁ also returns in force.

⁵⁴ The indication "*près du chevalet*" (close to the bridge), retained in the edition of the *Œuvres complètes*, only appears, in fact, in one of the two copies of the 1900 edition later annotated by the composer. See *Œuvres complètes*, 201.

⁵⁵ Olivier Messiaen, *Technique de mon langage musical*, Vol. 1, 57.

⁵⁶ A good example of such a minor third relation is to be found at the end of "Prélude à la nuit" in Ravel's *Rapsodie espagnole*, where the A/E flat polarity, established in the cadence of the two clarinets (Figure 6), gives way - at the same time as a "modulation" from C3_{0,1} to C3_{1,2} - to the C sharp/E (Figure 7), then C sharp/B flat polarities during the cadence of the two bassoons (Figure 8). Or furthermore: at the beginning of the "Nocturne" in *Daphnis et Chloé* - where Ravel has one of the three octatonic scales correspond to each of the three nymphs who begin moving in turn - the pole notes are, for the first and third sequences (Figure 70 and 72), respectively G sharp/D and E/B flat, and for the second (Figure 71) F sharp/A. In his transcription of *Sirènes* for two pianos, Ravel writes from m. 101 A sharp instead of B flat, thus suggesting the minor ninth chord F sharp-A sharp-C sharp-E-G (firmly established on F sharp).

⁵⁷ This "modulation" occurs discreetly through the introduction of the trichord 3-11, E-F sharp-B flat.

The establishment of the “tonality” on B, at the return of *Tempo 1* (m. 111), constitutes the major event in the formal plan of *Sirènes*, an event that Parks surprisingly takes no notice of in either of his two analyses. Everything that was put in place during the course of *Sirènes* culminates at this point, and the rest of the movement forms a dénouement. Indeed, at this moment, both presentations of tetrachord ω - oblique in the voices and horizontal in the first trumpet - ring out simultaneously, firmly established on B (B-C sharp-D sharp-E sharp) [Example 14]. The voices sing the entire “choral theme” in a restrained manner, but with great intensity (*mf expressif et soutenu*), while in the trumpet, tetrachord ω outlines the contour of theme γ , which had been presented in the same instrument in mm. 85-86.

The image shows a musical score for two parts: Trumpet 1 and Sopranos 1-4/Mezzos 1-4. The Trumpet 1 part is in the upper staff, marked *p* (piano) and *doux et expressif*. It features a melodic line with a triplet of eighth notes. The vocal parts are in the lower staff, marked *mf* (mezzo-forte) and *expressif et soutenu*. They feature a melisma of minor thirds, with triplet markings over the notes. The key signature is three sharps (F#, C#, G#) and the time signature is common time (C).

Example 14: *Sirènes*, mm. 111-112 (deployment of the tetrachord ω in theme γ and in the “choral theme”)

The modal color is now unequivocally the acoustic scale, and the additional major second (A-B) that distinguishes this mode from the Lydian mode is isolated, most notably in the second and third (muted) trumpets, whose timbre causes it to stand out (m. 111). Combined with the highest notes of the sopranos’ part, this interval forms tetrachord 4-7, which is, as well, in this new context, very significant. Moreover, the lower half of the voices sing a melisma of minor thirds, which is none other than the subdivision of the complementary tritone D sharp-A (as if one were in the Mixolydian mode).⁵⁸ In m. 115, the same harmonic complex, now varied, is transposed a major third lower to G, according to the same logic that had governed the successive transpositions of tetrachord ω in the central development. Here, this shift has the effect of establishing the tritone F-B as the basis of the 5-note whole-tone segment present in the mode. In mm. 119-120, the whole-tone scale $C2_1$, finally presented in a pure form, takes over the entire orchestral texture, which has the effect of “drowning the sense of tonality”⁵⁹ and immobilizing the “musical movement” for several seconds. The “choral theme,” now played by the first and third horns

⁵⁸ The G sharp that similarly subdivides the tritone E sharp-B is only present in the vocal line of the “choral theme.”

⁵⁹ This expression (“il faut noyer le ton”) [one must drown the tonality], which has remained famous, was used by Debussy in a conversation one day in 1899, with his former composition teacher Ernest Guiraud and taken down by Maurice Emmanuel in his notebook; on this subject, see Edward Lockspeiser, “Debussy’s Concept of the Dream,” *Proceedings of the Royal Musical Association*, Vol. 89 (1962-1963), 50f., and also François Lesure, *Claude Debussy* (Paris: Fayard, 2003), 106.

(starting anew from tetrachord ω), is here entirely integrated into the new system. As a result, its melodic line is contained within the interval of a tritone (E flat-A/C flat-F = ω).

Given the way they are exposed, however, the configurations of whole tones tend to let the tonal perspective of C sharp establish itself (despite the presence of a *tenuto* B in the bass). A double reminiscence (and this entire passage is a collection of reminiscences from the central development) can further orient one's listening in this direction. On the one hand, the movement of the roots G-C sharp is the exact equivalent of the bass movement, which had twice (mm. 66 and 95) followed the initial transposition of tetrachord ω to the major third below. On the other hand, and above all, the oblique presentation of ω -which the repetition of the "choral theme" in the horns literally echoes - was, at first, clearly included in the perspective of D flat (in the Mixolydian mode) and therefore centered on the second degree of the tetrachord. Moreover, mm. 121-124 are themselves a reminiscence of mm. 59-61, where this earlier presentation of tetrachord ω was followed by the apparition in the voices of x' (the variant of x contained in the interval of a diminished fourth). The viola parts in mm. 121-122 are an almost literal repetition of those of mm. 58-59, also written in the perspective of D flat. The harmonic complex is now reformulated so that the whole-tone structure continues to predominate: x' (in the voices) is, to this end, transposed a half-step higher. But this transposition paradoxically favors the emergence of C sharp as tonic. Indeed, the mezzos' line (A)-G sharp-E sharp - since the move to the lower major third does not occur here - fits ideally into the perspective of C sharp, rather than the perspective of B, the note that is held as a pedal point in the bass.⁶⁰ During the repetition of this passage (mm. 125-128), the chromatic descent in the cellos and first bassoon (A-G sharp-G natural) confirms this interpretation. At first, the G sharp harmonically forms a C-sharp triad with the sopranos' E sharp, and then the tetrachord 4-7 (B-C sharp-E sharp-G natural), echoing the climax of mm. 80-82, is heard anew as the "dominant of the dominant" of B (C sharp-E sharp-G natural-B).⁶¹ The resolution on B occurs in mm. 129-130, where the second half of the "choral theme" reappears - contained again within the interval of a perfect fourth - as at the beginning of the development,⁶² but this time in a distinctly conclusive character.

The "musical movement" however, despite having become much slower (*Plus lent et en retenant jusqu'à la fin*), has not yet come to an end. A new, more distant, reminiscence revives the development (mm. 131-132). Theme x is in turn absorbed into the atmosphere of $C2_1$ (where the structure of major thirds $C4_1$ dominates this time). Its original melodic contour, now contained within the tritone E flat-(D flat)-A - and doubled as well at the major third below, which causes ω to reappear in its shadow, here reduced to trichord 3-11 (C flat-A-F) - is combined with the rhythm of the variant of m. 26. The English horn then responds

⁶⁰ Parks rightly notes that mm. 119-120 articulate the endpoint of a "tendency towards diatonic distortion towards whole-tone," which for him, strangely enough, begins in m. 89, whereas "an opposite tendency towards diatonicism may be seen in mm. 121-126, where 6-34 [i.e., the collection G sharp-A-B-C sharp-D sharp-E sharp] results from a distortion of the preceding whole-tone hexachord 6-35 (from mm. 110-120)." *The Music of Claude Debussy*, 249. However, Parks is apparently not interested in how these diatonic configurations take on specific forms, in other words, how they are interpreted *modally*.

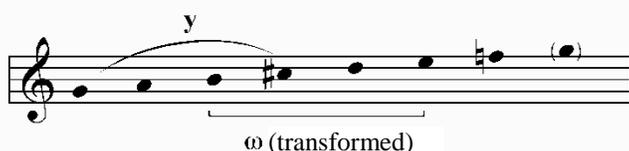
⁶¹ This tonal interpretation of tetrachord 4-7 as a dominant seventh chord with a lowered fifth recalls the passage of mm. 87-88, where the tonic D flat was reestablished.

⁶² However, the A sharp of the bass line here leads to the Lydian mode instead of the acoustic scale.

by recalling theme *y*, as it did in mm. 115-116, but now transposed a tritone lower and tinged with nostalgia due to the fact that it appears in the Dorian mode (on B flat) [Example 15] - a modal color that Debussy had carefully avoided until now.⁶³ The same passage is repeated and varied (mm. 135-139). Theme *x*, transposed down a whole step, is now presented in the complementary tritone of the theme *y* just-heard (G-C sharp). At the same time (despite the supremacy of C₂) the perspective of G emerges, in which theme *y* reappears in the trumpet, exactly as it was played by this instrument in mm. 117-118 [Example 16].



Example 15: *Sirènes*, inscription of the notes of *y* in the Dorian mode (mm. 133s., English horn)



Example 16: *Sirènes*, inscription of the notes of *y* and the tetrachord ω (transformed) in the mode of mm. 137-141

The color of the acoustic scale thus reappears one last time and it seems that the music will definitely stabilize with a last echo of the “choral theme” (mm. 139-141), where ω , having now become calm, metamorphosizes into tetrachord 4-4 (B-C sharp-D-E), a substitute for the initial pentatonic formula (4-5) without the pitch A. As a result, only the tetrachord 4-7 (F-G-B-C sharp) remains of C₂. The true calmness, however, occurs with the elimination of the tritones and in particular the tritone F-B, which sounds one last time in three octaves in the form of a descending motion of minor thirds. The arrival on B suddenly confers the status of tonic to this tone.⁶⁴ The effect produced is a luminous transformation of the tritone to a perfect fifth, and the minor third to a major third [Example 17]. The two harps then pluck the notes of the pentatonic scale on B, while the mezzos sing the melisma C sharp-B - the last vestige of tetrachord ω - three times,⁶⁵ each repetition drawn out further.

⁶³ The passage in the “tonality” of B flat can occur naturally from a tonal interpretation (retrospectively) of the sonority of the preceding measure as a dominant chord with a raised fifth: F-A-C sharp-[E flat]-G, or even as a chord on the third degree of the minor mode (D flat-F-A). It is interesting to note that the tetrachord B-C#-D#-E# - most often reduced to the trichord B-D#-E# - also plays a central role in the song “La Grotte” [The Cave] (published in 1904), where Debussy writes it directly in the Dorian mode on G#. The motive of the ascending major second played from the beginning by the piano itself recalls the one which pervades *Sirènes* (notably above in Example 13). The resemblance is particularly striking when, in the last verse (“Les songes de l’eau qui sommeille”) [the dreams of the dormant water], the piano brings out the entire tetrachord (D#-E# / B-C#), centered this time on C#. It is surely not an accident that the very theme of water appears at the heart of the three verses of the Tristan L’Hermite poem chosen here by the composer.

⁶⁴ The melodic third F-D, performed by half of the violins (and with the timbre of the second flute in the lower register) is linked to D sharp in m. 142 in the same instruments, while the other half of the violins move chromatically from G to F sharp (note that the first flute also plays in the lower register). The note B appears only in the vocal line of the mezzos.

⁶⁵ In one of the two copies annotated by the composer (EA2), the last appearance of this melisma is colored by the harmonics of the cellos (sounding an octave above the mezzos). This version is used

The gesture of resolution outlined as of the end of the first part of the movement (in the tonality of D flat) is here brought to completion. In this entire dénouement, no trace of functional tonality can be discerned.

Example 17: *Sirènes*, mm. 140-142 (mutation of the tritone F-B)

In order to understand Debussy's new attitude toward scales, Schaeffner makes this insightful comment:

At the very most, the Five could have inspired Debussy with the taste for the particular color of certain ancient and oriental scales; he alone envisaged the complete system of scales and made their selection an essential component of composition.⁶⁶

It has become commonplace in the literature devoted to Debussy to contrast color with function, and to value the importance of timbre in his music over functional harmony - in other words, to expand upon the differentiation made by Barraqué between “*note-ton*” and “*note-son*” (tone-note vs. sound-note). This view seems simplistic and reductive in that the emancipation from tonal function (and more generally, from tonal thought) that is accomplished in Debussy's music does not necessarily lead to the abandonment of all functional logic. Schaeffner showed a more dialectical approach, by not dissociating in Debussy the taste for the “color” characteristic of some scales from the establishment of a genuine method of composition based on the controlled use of the “complete system of scales.” One gains a great deal by considering that Debussy both manifested acute sensitivity for the particular color of certain intervallic configurations (for example, the color of a given configuration of whole tones, whatever the context of its musical setting) and, at the same time, assigned a precise function to the same specific intervallic structures in the sequence of musical events and in the very layout of the overall form.

in the *Œuvres complètes*. In the other copy (EA2), these harmonics are played by both half the cello section and, an octave even higher, by half the viola section. In the *Œuvres complètes*, 207, this version of EA1 is incorrectly notated. For the correct notation, see Denis Herlin, *Histoire des Nocturnes de Debussy*, Thèse de doctorat (Paris: École pratique des Hautes-Études, 1995), 231.

⁶⁶ André Schaeffner, “Debussy et ses rapports avec la musique russe,” 202 (*Variations sur la musique*, 299).

In the *Nocturnes*, a precise and clever manipulation - methodical without ever being rigid - of the most basic intervallic structures allows the composer to weave close connections between the movements. In particular, the tritone F-B plays an important role in *Fêtes*, in the form of tetrachord ω itself, heard in the trumpets from the very beginning of the piece, but also (contained in the Dorian mode on A flat) in the theme of the "procession."⁶⁷ And *Nuages* is structured in large part from this same tritone and its successive reinterpretations, so that *Sirènes* continually refers implicitly to this first panel of the triptych, although outwardly it seems to bear little resemblance to *Nuages*.⁶⁸ Thus, it is striking that the main theme of *Nuages* immediately unfolds within the *diminished fifth* B-F, and here underscore - within the acoustic scale on G - the notes of the symmetrical tetrachord C sharp-D-E-F (Perle 4-8), that will be totally missing from the passage at the end of *Sirènes* based on the same scale. Indeed, it creates a kind of "photographic negative" of the different incarnations of tetrachord ω marking the unfolding of *Sirènes* and, in particular, of "theme y" as it appears at the beginning of the last section.⁶⁹ Even the end of *Nuages* - where tetrachord 4-11 contained within the complementary tritone (F-G-A-B) plays an essential role - finds its definitive formulation in the final measures of *Sirènes*. Indeed, the ending of *Nuages* remains open: if the *Plus lent* of m. 94 endeavors to affirm the Aeolian mode on B (which would find its stability in the fifth relation between this tonic and its fifth scale degree F sharp), then the fleeting reminiscence of the "tonality" of G in m. 98 (and with it, the acoustic scale on G) leads to the lowering of F sharp to F natural. And when G finally yields to B as the tonic - the only note that continues to sounds after the disappearance of F and D (mm. 99-102) - it is through a simple oscillation within the same scale, where B has F natural as its fifth degree, as in an octatonic scale, without F sharp being present here. The scale heard in the last measures of *Nuages* - which, in fact, consists of only five notes, the very notes that follow from the subdivision of the tritone B-F according to C₂ and C₃ (B-D-F-G-A-[B]) - ensues from an internal mutation of the Aeolian mode where the fifth B-F sharp is lost.⁷⁰ It is precisely this inverted mutation - from B-F to

⁶⁷ At the end of *Fêtes*, in the passage where the last echoes of the "procession" are heard, ω (first "transposed" by a minor third in mm. 236-239, A flat-B flat-C-D) reappears in its original form in mm. 244-247 while, owing to this progression, C₃ is maintained within the complementary tritone.

⁶⁸ Although Barraqué, as regards the three *Nocturnes*, emphasizes "the care that Debussy takes in linking the movements tonally through subtle analogies," his demonstration is not thoroughly convincing. On the one hand, he contents himself with noting that the "tonality" of *Sirènes* (for him, B major) "is easily explained as the parallel major of the B minor tonality of *Nuages*. On the other hand, in acknowledging the tritone link between "the tonality of F (in the Dorian mode on F)" of the theme of *Fêtes* and that of *Nuages*, he merely connects this tritone with the "motif-coda" of the English horn theme in *Nuages*. That is, the simple "melodic motion" B-F played by the horns in mm. 23 and 27. See Barraqué, *Debussy*, 110.

⁶⁹ Tetrachord ω itself appears "obliquely" in mm. 82-83, which briefly establish the perspective of C sharp (notably in the horns).

⁷⁰ The shift from G to B is foreshadowed in mm. 21-28, where Debussy cleverly cultivates, in the acoustic scale on G, the "tonal ambiguity" emphasized by Brailoiu on the subject of pentatonicism (see note 15 above): in this passage, B already tends to supplant G. In so doing, Debussy really treats the acoustic scale as a particular interpretation of the seven-note collection - in itself neutral - that was mentioned above (note 17). The mode on B used in *Nuages* is obtained by beginning, in the notation of the said collection by Perle - [1,2,4,6/6,8,10,11] - with 8 in place of 4 (it is transposed here to G sharp: G sharp-A sharp-B-C sharp-D-E-F sharp-G sharp). Perle's notation clearly indicates that this

the B-F sharp of the pentatonic scale on B - that occurs at the end of *Sirènes*, where the incompleteness of the first panel of the triptych is thus achieved.⁷¹

In *Nuages* and *Sirènes*, one is struck by the simplicity of the means employed and, consequently, by the particular transparency of the composition. The established network of relations is already so dense that *Sirènes* appears as a sketch of the orchestral compositions to follow - notably *La Mer*, the three *Images*, and *Jeux*. In these later works, the manipulation of the system of scales becomes extremely flexible, attaining a suppleness and virtuosity that are truly brilliant. Yet the inherent logic of the discourse in these mature works, if no less assured than in the *Nocturnes*, divulges fewer of its secrets by virtue of the subtlety of the connections that braid the musical form.

translation by Marianne Wheeldon and John Tyler Tuttle
in collaboration with the author

mode is symmetrical to the acoustic scale. In fact, this mode (transposed to D) is heard at the beginning of Bartók's *Cantata profana* and matched symmetrically by the acoustic scale at the end of the work. It appears, however, that this characteristic - in contrast to Bartók's music - is of little importance to Debussy in his three *Nocturnes*.

⁷¹ The long episode with strong pentatonic coloration that begins two-thirds of the way into *Nuages* (m. 64ff.) is written in the system of F sharp, like the beginning of *Sirènes*. But here this system is interpreted "modally" in the opposite way, as the tonic function is assigned to D sharp (and not F sharp). From this perspective, too, the two movements appear to be inversions of one another.

APPENDIX: *Sirènes*, Successive Intervallic Structures

Tempo I

C21 complete

[Harmonic Roots : C30]

Tempo II

(V → 1) (6) C32

Musical score for measures 82-91. Measure 82 has a circled number 82. Measure 83 has a circled number 83 and a [C2₀] label. Measure 85 has a circled number 85. Measure 87 has a circled number 87 and a [C2₁] label. Measure 91 has a circled number 91. The score includes treble and bass staves with various musical notations such as chords, slurs, and dynamic markings like ω and x'' . A performance instruction (8^{va}) is shown in the bass staff at measure 82, and $(V \rightarrow 1)$ is shown at measure 87.

Musical score for measures 95-107. Measure 95 has a circled number 95. Measure 99 has a circled number 99. Measure 101 has a circled number 101 and a C3_{0,1} label. Measure 107 has a circled number 107 and a C5_{1a(h)} label. A box labeled "Return to Tempo I" is positioned above measure 101. The score includes treble and bass staves with musical notations and dynamic markings like x'' .

Musical score for measures 111-129. Measure 111 has a circled number 111. Measure 115 has a circled number 115. Measure 119 has a circled number 119. Measure 125 has a circled number 125. Measure 129 has a circled number 129. A box labeled "Tempo I" is positioned above measure 111. The score includes treble and bass staves with musical notations and dynamic markings like ω and x'' . A 8^{va} marking is present in the bass staff at measure 111.

Musical score for measures 131-139. Measure 131 has a circled number 131. Measure 133 has a circled number 133. Measure 135 has a circled number 135. Measure 137 has a circled number 137. Measure 139 has a circled number 139. A box labeled "Plus lent" is positioned above measure 131. The score includes treble and bass staves with musical notations and dynamic markings like x and ω . Chord labels include C2₁, C5_{1(h)}, C2₁, and C5_{1(p)}. A 4-4 marking is present in the bass staff at measure 139.

Musical
example edited
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