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Monotonicity and Scalar Modulation in Sibelius's *Tapiola*

Benedict Taylor

Tapiola, that brooding quintessence of the static, never really leaves B minor; its vast monotonicity is even more telling than its monothematicism; it stands motionless as the sinister forests it depicts.¹

Robert Simpson's eloquent characterization of Sibelius's last surviving major work succinctly draws together a cluster of tropes typically found in its reception. This single-movement tone poem is routinely held up as an exceptional example of a piece that is both monothematic and monotonic (a pronounced organicist orientation that links to a compelling sense of nature, whereby *Tapiola* is able to evoke through its tonal stasis and endless reduplication of a single germinal motive the idea of the vast forests of the north).² Sibelius's distinctive motivic economy and logical development of material reaches a *non plus ultra* across this composition's twenty-minute span. Indeed, such is the total integration that for some commentators Sibelius's achievement appears to admit no further development: *Tapiola* thus leads necessarily to the "silence of Ainola," as the composer lived out the remaining three decades of his life without publishing any further work of significance. Sibelius's subsequent Eighth Symphony might as well not have been written, indeed in a deeper aesthetic sense *could not* have been written (a historical truth that the composer belatedly realized by destroying the manuscript in the early 1940s).³

This latter viewpoint is of course contentious, and the recent rediscovery of what appear to be brief sketches from the Eighth Symphony that escaped the flames has fanned speculation that Sibelius was not in fact "finished" as a composer in the years following *Tapiola* in 1926.⁴ This aside, without disputing either the appropriateness of monothematicism for understanding Sibelius's composition or indeed the idea of the work as being in some important sense monotonic, the broader notion of tonality transmitted by *Tapiola* certainly invites further consideration. Tonality is a complex and multifaceted idea, especially in the forms encountered in early twentieth-century music, and thus the conception of what constitutes "monotonicity" is open to divergent interpretations. Such reservations concerning the complexity of tonality are true especially of Sibelius's later compositions. Timothy Howell has written insightfully of how Sibelius, rather than abandoning tonality as some of his contemporaries were doing, extended and reworked the relation between many of its principles, based on his

“conviction that the tonal system still offered new compositional opportunities,” and in *Tapiola*--recently described by Tomi Mäkelä as the composer’s “most modern” work--the idea of tonality is subject to a radical reformulation.⁵ For Sibelius’s tonal practice in this piece is based neither around first-practice functional harmony, nor around second-practice triadic chromaticism, but rather from the use of distinct scale collections, and their interaction with the thematic process, whereby the network of pitch relations that constitutes tonality becomes drawn into the unfolding of the work’s motivic logic.⁶

To this end, the present study examines *Tapiola*’s scalar organization, and how under Sibelius’s extreme thematicism melodic organization intersects with macroharmony and scale, blurring the distinction between hierarchical levels of pitch organization and ultimately between the work’s monothematicism and its sense of tonality.⁷ I start, however, with two more general questions which form necessary preliminaries to the discussion of scalar organization in the third section and the analysis that follows. These concern the use of different musical parameters as a means for creating variety and articulating the piece’s structure--what I call “parametric modulation”--and the extension of the idea of thematic saliency to encompass the complex interaction of different levels of pitch organization (namely the interlacing of diastematic shape, accompanimental gesture, macroharmony and scale collection) in the piece’s opening bars.

Monotonicity and Parametric Modulation

To say that *Tapiola* does not modulate or change pitch-center is to some extent an exaggeration. Most clearly of all, the piece begins off-tonic, around G {sharp} minor,⁸ and the central part (that elfin music of a “white midsummer night” which starts the ostensible development section or scherzo at m. 208)⁹ has stronger suggestions of D major than B minor. Moreover, despite the prominent use of lengthy pedal points, larger side-steps (as can be found for instance at mm. 118–32) act as local chromatic inflections that momentarily blur the overriding sense of B as a tonal center. But nonetheless, previous writers are surely correct in claiming that the work is based around an expanded B modal minor and that large-scale tonal relations do not have a clear form-constitutive effect. For virtually its entire course, the work is moored in the sense of B as a tonic realm or “home.” The term “monotonicity” expresses something essential about the quality of *Tapiola*’s harmonic world and its expressive effect.

In place of conventional modulation through the contrast of harmonic centers, Sibelius sustains variety and articulates structure in this piece from the careful gradation of other

musical parameters--what I will call alternative types of “modulation.”¹⁰ The most important of these may be designated *Scalar*, *Timbral*, and *Tempo*.

– *Scalar Modulation*

The term “scalar modulation” here is taken from the recent work of Dmitri Tymoczko.¹¹ It refers to the idea that a piece (or part of a piece) may possess a single pitch center, but differentiates between the scale-collection or mode built on this pitch. Thus a work in “C” might “modulate” between pitch collections drawn from such scales as the major, harmonic and melodic minor (in both ascending and descending forms, the latter being equivalent to the Aeolian mode), recognized modes such as the Dorian, Phrygian, Lydian, Mixolydian and Locrian, other “artificial” scales such as the chromatic, whole-tone, octatonic, hexatonic, acoustic and “harmonic major,” or some further *ad hoc* scale. Thus conceived, a work could be monotonal in possessing a single pitch center, but highly tonally differentiated in another sense by contrasting distinct scales or modes of intervallic organization around this pitch. The underlying conception of tonality here is expressed more through the linear unfolding of motives drawn from a background scale collection than from the vertical harmonic consonance based traditionally on the tonal triad. In a useful formulation that has largely gone unnoticed by subsequent generations of theorists, Rudolph Réti once termed this distinction as being one between “Harmonic” and “Melodic” Tonality.¹²

Such approaches to tonality offered composers around the start of the twentieth century an alternative from the increasing chromaticism of post-Wagnerian Austro-German music, whose intensification of second practice techniques threatened the apparent basis of harmonically conceived tonality.¹³ Although this particular concept seems not to have been applied to Sibelius before, previous scholars have noted essentially the same process in both *Tapiola* and other works of his, without following through the wider implications in the manner proposed here. James Hepokoski has perceptively fastened onto the idea of “tonal color-shift” from one modal collection to another in *Luonnotar* (Hepokoski 1996, 135–37), and the use of modality in Sibelius’s music has received much consideration of late, especially in his Symphony No. 6 with its modal interaction between D Dorian and C major (a related, effectively inverse, type of “interscalar” modulation, where the notes of the scale do not change, but the perceived pitch center does).¹⁴ Earlier analysts have also perceived the use of a marked variety of modes in *Tapiola*. “There is plenty of unorthodoxy in Sibelius’s harmony” wrote Donald Tovey long ago, “and it has many strange modes, most of them ruthlessly diatonic.”¹⁵

Ferruccio Tammaro, Veijo Murtomäki, and Tim Howell in particular, have drawn attention to the manner in which the piece's motivic kernel is passed through a succession of different scale forms.¹⁶ While these authors distinguish between the “tonal” use of diatonic modes, and the more “atonal” forces implicit in the use of whole-tone or chromatic variants, I would choose to view all Sibelius's modes as forming means of subtle tonal differentiation, producing contrast through their different intervallic qualities.

In *Tapiola*, the piece's basic thematic idea is “modulated” across different “modes” (ordered sets of intervals that form steps in a scale), in other words, subjected to scalar modulation, even while an overriding tonal or modal center may often be provided by the pitch B. As Ex. 1 shows, these scales vary from G{sharp} minor, octatonic, B minor, B Locrian, a number of *ad hoc* modes possessing a lesser or greater degree of chromaticism, whole-tone and eventually complete chromatic collections.¹⁷ Interscalar modulation is also found, such as the opening doubling between B minor and G{sharp} minor forms, and the later reinterpretation of the original pitches within a D major context (m. 211). Alongside this process of scalar modulation, the initial thematic cell is also subject to continuous variation throughout (one could speak of “motivic modulation”), creating great fluidity to the unfolding of material.

<Ex. 1 HERE>

The importance of the B tonal center, and pitch centrality in general in *Tapiola*, is not, however, a feature which should be exaggerated. Clearly in some scale forms (particularly symmetrical ones such as the chromatic, whole-tone or octatonic) it may be easier to dissolve the perception of any one pitch as hierarchically important--though this need not occur even within a fully symmetrical scalar organization. A composer may still choose to retain a sense of centrality by emphasis of a given pitch through melodic design (as R eti underscores in his idea of “melodic tonality”) or by other parameters such as instrumental doubling, metric placement, duration, or tessitura, which is where Sibelius's famous pedal points and their prominent use in *Tapiola* become especially significant.¹⁸ In other cases, however, centrality may be suspended for periods (as arguably happens in the octatonic, whole-tone and total chromatic sections of *Tapiola*). Instead, a tonal quality is provided by the sonic differentiation of areas across the work in terms of the intervallic properties that are drawn from their underlying scale. Since, in Sibelius's melodic tonality, theme commonly intersects with harmony and macroharmony (as will be discussed presently), the scale form employed imparts a distinctive color to a

section, its particular “harmonic field.” *Tapiola* “modulates” from G{sharp} minor/Octatonic areas, through a diatonic-modal B minor (with distinctive “Dorian” sixth), through darker regions with Locrian and chromatic inflections, hints of diatonic major, a whole tone reprise, and total chromatic saturation in the storm or blizzard sequence near the end. Interval--the quality of relation between pitches--can be used in place of centrality around a specific pitch and its tonic triad as a form-constitutive factor, something that is more closely relatable to *scale* than to functional triadic *harmony*.

– *Timbral Modulation*

As tonal centrality and conventional chordal harmonic functions become diminished in their power, other, often secondary parameters may become form-constitutive and subjected to processes of differentiation or “modulation.”¹⁹ One of the most prominent of these in *Tapiola* is the subtle variation of timbre and tone color, which serves to set off different regions in the course of the piece in a manner not unlike the differentiation of sections through the intervallic quality of their underlying scale form. Sibelius’s interest in the pure quality of sound, of *Klang*, is apparent right from the opening bars of *Kullervo* at the start of his career, and this idea possessed for the composer a profound connection with nature. Hepokoski has raised this idea--“*Klang*-mediation”--into one of the fundamental components of Sibelius’s rethought musical principles following the Fourth Symphony, spanning the late arc of symphonic works.²⁰

In *Tapiola*, the composer’s mastery of transition between different textures and timbres reaches its highest stage of refinement, raising *Klang* to a vital role in the articulation of musical structure. As Ralph Wood noted many years ago, the work’s textures “are merged into each other with the utmost conceivable smoothness and gradualness...long before one section has finished the elements of the following one are usually present, slowly accumulating prominence as the elements of the present one recede.”²¹ A perfect example may be found in the quasi-cinematic “fade-out” effect of mm. 77–106, a remarkably smooth dovetailing of textures, timbres, and speeds of movement leading from the B minor “first subject” area into the second section or variation.²² But this principle may be glimpsed in microcosm as early as mm. 3–6, as the G{sharp} minor sonority in trumpets blends imperceptibly into flutes, followed by a remarkable example of *Klangfarbenmelodie* in mm. 9–17, a transition of tone color in which oboe, clarinet and flute timbres emerge out of a sustained G{sharp} in the horns (themselves supported by trumpets across a breathing break) holding everything together in a sonorous emulsion.²³ “Timbral modulation,” as I put it, can easily interconnect with the intervallic quality of

harmonic areas just discussed, and in practice is often found allied with the final category discussed here, tempo modulation.

– *Tempo Modulation*

In his account of the Seventh Symphony Tovey proposed that Sibelius had “mastered and made a system” out of musical movement, and despite the common reading of stasis, *Tapiola*--in common with the Seventh--is a tribute to Sibelius’s ability to effect tempo shifts often by the imperceptible gradation of overlapping planes of movement (a feature which often intersects with the principle of timbral modulation just discussed).²⁴ Hepokoski speaks of Sibelius’s “almost imperceptible mechanisms of tempo change and texture change,” observing that *Tapiola* forms “the ne plus ultra” of his “proto-minimalist soundsheets” where “actively moving timbre surfaces are undergirded by a more fundamental, deep-current slow motion.”²⁵ Prominent examples of such effects include the eight-part “micropolyphony” of the exposition’s closing section (mm. 157ff), or in the scherzo-like development (mm. 246ff), where at least three different scales of movement--the continuing “fast music” of the scherzo idea in violins and cellos, the newly emerging “slow music” of the flute, bassoon and violas, and an intermediary idea built on the whole-tone scale in piccolo and clarinet--create a “polyphony” of different layers of movement, timbres and textures. Indeed, despite the common perception of *Tapiola* as being in essence a slow piece with numerous tempo changes across its course, it is noteworthy that with the exception of the brief *Largamente* opening the overriding tempo designation is *Allegro moderato*, alternating with occasional passages of straight *Allegro*. The subtle temporal interplay of *Tapiola*’s expansive realm is conveyed through Sibelius’s control of pulse and movement within a given tempo--his mastery of tempo manipulation.²⁶

Through such techniques of scalar, timbral and tempo modulation, Sibelius is able both to create musical sections possessing a distinctive soundworld and to mediate between them with the utmost smoothness. Scale (in conjunction with the associated harmonic quality of its intervallic content), tone-color, texture, and tempo become potential form-constitutive elements, compensating for the diminished significance of functional harmony, the largely “monotonal” construction around the pitch center B and monothematic urge to derive all material from a single motivic kernel. Owing to the work’s thematic constituency, the significance attached to such parameters in *Tapiola* become only the more emphatically marked. As will be demonstrated later, all these

other parameters—including scalar tonality—may become a *function* of the theme. So far, however, the identity the work’s fundamental thematic idea has remained unexplored.

Thematic Saliency and Scalar Organization

Although nearly all commentators agree that the integration of material is taken to an extreme in this work, and there is general consensus that the conjunct figure which appears in the strings at the start and in the section following m. 26 constitutes some form of its basic idea, it is surprisingly difficult to single out any one parameter as being more fundamental than the others. Just as Tapio, the *genius loci* of the Finnish forest, does not readily reveal his face to modern audiences but rather manifests himself in various forms, so Sibelius’s dark work does not divulge the mysteries of its organization from any single perspective but must be understood from multiple aspects.²⁷

From the idea set out in the opening three bars, we can distinguish the following significant elements (illustrated in Ex. 2):

<Ex. 2 HERE>

- A compact, conjunct diastematic shape (here at the opening B–A $\{\sharp\}$ –B–C $\{\sharp\}$ –B–A $\{\sharp\}$ –G $\{\sharp\}$), consisting of a turn figure followed by three-note descent. Erkki Salmenhaara, in his 1970 monograph on this work, labels this *Tapiola*’s “core motive” (*ydinmotiivi*), based as it is on the smallest intervallic particles of semitone and tone. For Murtomäki this “basic formula” is “similar in character to a Karelian rune,” an interpretation shared by Hepokoski, who dubs it a version of Sibelius’s characteristic Finnish “Ideogram,” contained within the limited span of the first five notes of the Dorian scale.²⁸ With a nod to Schenker, we might further choose to reduce this shape to an underlying three-note descent $\{sd3\}$ – $\{sd2\}$ – $\{sd1\}$ (see Murtomäki 1996, 155). All of the work’s thematic material will be seen to derive from this simple but flexible shape, given sometimes in rhythmic transformation, sometimes extended or compressed, and frequently subjected to scalar modulation.
- Parallel motion: the doubling in sixths in the cello of the “ideogram” shape just described. This feature has several significant implications. The motive is initially used as $\{sd3\}$ – $\{sd2\}$ – $\{sd1\}$ in G $\{\sharp\}$ minor, but the doubled lower voice (D...D–C $\{\sharp\}$ –[B]) outlines [$\{natural\}$] $\{sd5\}$ – $\{sd4\}$ –[$\{sd3\}$] in this same tonal context. These same pitches may be reinterpreted as $\{sd3\}$ – $\{sd2\}$ – $\{sd1\}$ in B minor (a process composed-out in the melodic voice’s sequential repetition of mm. 26–32), however, facilitating the movement to the true tonal center of B. Horizontalized

from simultaneous to successive statements, this principle of doubling may also become the motivation for sequential repetition at different pitch levels up the tonic triad, seen in the first theme's successive statements of the core motive on the pitches B, D and F{sharp} (mm. 26–37). The tension between exact intervallic doubling (the two parts moving equal steps in chromatic pitch-space, as is seen in the opening) and tonal parallel movement (in diatonic pitch space, where the cellos would have played the D{sharp} that gives a diatonic {sd5} of G{sharp} minor in m. 1) will also become significant later in the piece.

- Neighbor-note motion, first seen in the initial turn-figure of the ideogram. Combined with the principle of parallel movement in thirds or sixths, this will create the reiterated “Dorian Plagal” cadence that is the quintessential marker of *Tapiola*'s soundworld (the oscillatory motion $G\{\sharp\}_E - F\{\sharp\}_D$). Thus conceived, this feature is able to make an unforeseen connection back to the Plagal /subdominant implications of the timpani's opening pitch of B (implicitly casting the opening chord as subdominant-tending, a feature made explicit in the timpani's B–E at mm. 6–7).
- The interconnection between harmonic and melodic pitches, or the leveling of horizontal and vertical musical space. The opening harmonic sonority [D, E, G{sharp}, B] may be understood as the simultaneous sounding of the characteristic “Dorian Plagal” oscillation alongside the B minor triad it resolves to [D, E, [F{sharp}] G{sharp}, B].²⁹ What appears harmonically or vertically is commonly derived from horizontal melodic thinking, Réti's “melodic tonality” rather than “harmonic tonality.” Ultimately, this leads to the idea of melody, harmony, and macroharmony as being formed from subsets of a fundamental scale collection--the idea of “scalar composition” outlined earlier.³⁰

All of these elements will be significant--“thematic” in Robert Hatten's sense, as proving salient for the work³¹--but for the purposes of the current study I wish to focus on the idea of scale identified in the last example as a starting point for examining *Tapiola*.

The scalar transformation of the work's motivic formula is just one aspect of a deeper meditation on scale and scalar-derived materials in *Tapiola*. As mentioned, the use of modal scales has been subject to investigation in Sibelius's later music, and the modal qualities of the Sixth Symphony, a work which is often considered to bear a close relationship to *Tapiola*, has in particular drawn sustained analytical interest. For Hepokoski, “the whole symphony may be construed as a contemplation of the constituent elements of, primarily, the D Dorian scale.”³² In similar fashion, *Tapiola* can

be understood as a profound contemplation of the melodic, harmonic and tonal possibilities inherent in its own fundamental scale, which differs from the Dorian by one note.

Out of all the scales used in this work, one clearly stands out as forming the work's referential scale: the ascending melodic minor (Forte 7-34) on B, what I will here call the "*Tapiola* scale."³³ This scale forms the implicit background to the first B minor statement of the "Ideogram" at mm. 26–27, providing the source of all the pitches heard there, and will go on to dominate the soundworld of the rest of the piece. Characteristic is the raised ("Dorian") sixth scale degree, G{sharp}, used alongside the commonly sharpened leading-note A{sharp}. This scale, then, can be obtained empirically from the aggregate of pitches presented in *Tapiola*'s first tonic-key section (mm. 26–105).

This hypothesis is consistent with broader theoretical ideas that Sibelius espoused. In his 1896 lecture delivered to the University of Helsinki entitled "Some Perspectives on Folk Music and its Influence on the Art of Music," Sibelius outlined his understanding of the structural principles of Finnish folk music.³⁴ For Sibelius, the melodies and Kalevalic recitation formulas of traditional Finnish music eschewed conventional harmonization in the manner of Western-European common-practice tonality, and were subjected to a constant process of variation. Both of these ideas obviously apply to the composer's customary techniques, especially those found in the late distillation of his style given in *Tapiola*, with its replacement of "harmonic" by "melodic" tonality and obsessive monothematic urge to "total variation."³⁵

Most crucially for the present discussion, Sibelius believed that the pitch organization of such runic figures was commonly based on what he styled the "Finnish Pentachord"--the first five notes of the Dorian mode--with the optional addition of {sharp}{sd6} and {sd7} as upper auxiliaries to {sd5}, and sometimes extending beneath the fundamental {sd1} through a lower pentachord. This invites us to view the *Tapiola* scale as the Finnish minor Pentachord on B [B, C{sharp}, D, E, F{sharp}], with two upper auxiliary notes creating an overlapping upper third [F{sharp}, G{sharp}, A{sharp}], in this particular case balanced by an overlapping lower third [G{sharp}, A{sharp}, B] extending down to the G{sharp} that serves as the initial pitch center (what Hepokoski elsewhere styles Sibelius's "minor-third ideogram").³⁶ The resulting scale is the ascending melodic minor on B, but the supplementary pitches above and below the basic pentachord highlight important aspects of its use within *Tapiola*. This conception reveals

peculiar properties of this scale's intervallic content, which Sibelius conspicuously utilizes.

Starting from the lower section identified, the *Tapiola* scale divides into three overlapping segments of distinct scale types: a six-note octatonic section [G{sharp}, A{sharp}, B, C{sharp}, D, E], a five-note diatonic-minor pentachord [B, C{sharp}, D, E, F{sharp}], and a five-note whole-tone section [D, E, F{sharp}, G{sharp}, A{sharp}] (see Ex. 3).³⁷ Contiguous subsets of three distinct scale types are contained as contiguous subsets of this unique *Tapiola* scale, in which conventional diatonic organization appears as the mid-point or mediation between the uneven symmetry of the octatonic and the even symmetry of the whole-tone collections.³⁸ This is highly significant, as these three scale types will be associated with successive areas of the work both in pitch center and in the intervallic structure of their surrounding macroharmony.³⁹ Not only does *Tapiola* modulate between the “*Tapiola* scale” and various other scales, but two of the most important of these latter scales are derived from expanded subsets of this referential *Tapiola* scale. In a like manner, moreover, harmonic and macroharmonic pitches will commonly be drawn from subsets of such scalar collections.

<Ex. 3 HERE>

Before proceeding further, a handful of methodological points are worth considering. First, a clarification of the ontological status of scales in relation to the musical surface, and generally, the relationship between pre-compositional structures and the musical realization. As many analysts acknowledge, Sibelius often frustrates theoretical attempts to formulate deeper governing principles, in that so much appears to be systematically underpinned--to an extent that, it seems, can hardly be attained by chance--but yet there are so often passages that blur or undercut the neat theoretical explanations produced, as if the composer is deliberately playing with a compositional system only to ignore or compose against it at certain moments. This quality is certainly true of this piece. The system of scalar modulation outlined here is offered as a hypothetical and heuristic explanation of what happens in *Tapiola*--a type of “reverse engineering” resulting in a possible compositional system--rather than as a causal explanation as to how Sibelius actually approached its composition (though I nevertheless hope the two might not be entirely distinct). Thus much of the current account presents the scalar collections as if pre-compositional elements that generate the organization of specific passages, whereas in practice, of course, the theoretical structures I propose are abstractions and attempted

rationalizations made from the musical surface, which is considerably freer than a mere working out of a system.⁴⁰

Secondly, the scalar collections proposed differ from Schenkerian concepts of monotonicity (in which chromatic alternations provide shading or “mixture” to diatonic scale degrees) in that there is no necessary reduction to steps on an underlying heptatonic scale, and neither is there a sense of any pitch center present as being harmonic in basis. Finally, the extent to which degrees of scalar modulation in this piece may be measured and thus the succession of scale types across the work potentially articulate a process (in other words, contribute to the construction of large-scale form) should be clarified. The term modulation may imply not merely variation between scales but also some possibility of measure. Owing to the heterogeneous nature of the possible scalar objects employed there are various metrics that could be used: one might propose hypothetical models in which scalar distance could be measured by degrees of chromatic alteration from a governing scale, by common-tone retention, by internal chromatic “density” or level of asymmetry, for example.⁴¹ An adequate theoretical exploration of this topic is beyond the bounds of the present article.⁴² For present purposes, though, we could say that in *Tapiola*, Sibelius generally appears to proceed at a local level through minimal chromatic alteration and maximum common-tone retention between scales (the “law of least motion”), and at a larger level differentiates between asymmetric diatonic-modal and more “atonal” symmetrical scale forms, with an increased chromatic density becoming evident as the piece progresses. The implementation of this design is not carried out in any ultra-systematic fashion, however, and a more rigorous gradation of such scalar processes might still be imagined.

The remainder of this study will explore how Sibelius draws out the implications from different aspects of the thematic and scalar organization at different points in the work. As my account does not directly address the awkward issue of form in *Tapiola*, a brief outline of common interpretations of the piece’s design may be given here in order to orientate the reader. Approaches to *Tapiola*’s structure broadly divide into two categories (though these need not be mutually exclusive): a) “content-based” readings emphasizing the continuous development of material, often seeing the work as structured as a series of variations or thematic “rotations,” and b) those discerning larger generic formal models, typically sonata form, or the two-dimensional superimposition of the single-

movement sonata with a four-movement sonata cycle.⁴³ Given the fluidity of Sibelius's piece, more definite formal designations are seldom entirely persuasive (even though it appears the composer himself held the work to be in "strict sonata form"!)." ⁴⁴ Combining the various readings, we might summarize the design as follows. After an off-tonic introduction or preliminary rotation (*Largamente*), the first movement properly starts at m. 26 with a real exposition (first variation or rotation, *Allegro moderato*), leading to smaller subdivisions at mm. 106 & 157 (second and third (closing) themes, variations, or rotations). A development section or scherzo begins at m. 208, which merges into a slower section (m. 274), although quicker material reappears later (this whole central part consists of numerous subrotations or variations of the thematic material). A highly curtailed reprise (recapitulation or finale) emerges from m. 462,⁴⁵ followed by two climactic episodes that form an extended coda or *telos* event: the storm or blizzard sequence (mm. 513ff),⁴⁶ and an impassioned second climax (m. 588) built on earlier material from the slow central section, which leads to the concluding chord of B major (m. 634).

Octatonicism and the Off-Tonic Opening

A distant rumble in the timpani on the tonic B, a "misfired" dominant-seventh chord on E,⁴⁷ an unexpected resolution onto the submediant G {sharp} minor--*Tapiola* begins with a cluster of Sibelian strategies that confuse any initial sense of tonal center. The off-tonic opening in the submediant minor is a typical Sibelian tactic with a long precedent in his earlier tone-poems and symphonies.⁴⁸ In the case of *Tapiola*, however, the ambiguity between B minor and G {sharp} minor is more immediately a result of the intervallic structure of the work's fundamental scale. The brief opening *Largamente* adumbrates both the possible G {sharp} minor center and the octatonic quality implicit in the lower sections of the *Tapiola* scale.

The four notes of *Tapiola's* "core motive" outline scale degrees {sd1}--{sd4} in the minor, in intervallic terms being marked by the alternation of tone and semitone [2,1,2]. This motive can correspondingly be given in two possible locations within the *Tapiola* scale--across the span [B, C {sharp}, D, E], implying B minor, and [G {sharp}, A {sharp}, B, C {sharp}] implying G {sharp} minor--utilizing in this manner the transpositional relation at the interval of a minor third of the scale's six-note octatonic segment. By doubling the motive in sixths, Sibelius will realize both possibilities while nevertheless giving emphasis to the lower G {sharp} center implied in the *Tapiola* scale. However, the

two resulting minor-third spans create a diminished fifth above the G{sharp}; to achieve a diatonic triad on this pitch, the {sd5} needs to be raised (D{natural}→D{sharp}). As we shall see this small change is far-reaching, already implying scalar modulation or minimal alteration between pitch collections.⁴⁹ As Ex. 4 shows, this single chromatic alteration effects a parsimonious transformation from the six pitches used in the first two bars to the G{sharp} minor pentachord, the D{natural} and E{natural} converging chromatically onto D{sharp} (an example of what is sometimes termed the “Fuse” transformation).⁵⁰ In effect, the opening E⁷ sonority has functioned as a German Sixth.⁵¹ All the pitches of the twenty-bar *Largamente* introduction are derived from these two scale collections, an instance of the intersection of scale, macroharmony and motive that typifies Sibelius’s procedure in this work.

<Ex. 4 HERE>

Conversely, however, by changing D{sharp} back to D{natural}, the music may lose the sense of a G{sharp} center and revert to the original octatonic implications of the *Tapiola* scale’s lower section.⁵² This is essentially what happens in the following passage: the deceptive G{sharp} minor region is abruptly swept away by five frenzied bars of almost pure octatonic writing initiating the main *Allegro moderato* tempo (m. 21), a brief passage of tonal weightlessness precipitating the arrival at the true tonal center of B at m. 26. Through extending the principle of parallel motion on the minor-third axis from two to three voices, the complete pitch content of two successive octatonic collections, Oct[0,2] and Oct[1,2], are given.⁵³ The shift to the Oct[0,2] collection at the start of m. 21 causes a slight initial jolt, in that this is not the transpositional level contained as a subset of the opening *Tapiola* scale (i.e. Oct [1,2]), but logical continuity is established by means of the G{sharp} minor triad previously sustained, which forms enharmonically an invariant subset of this new octatonic collection [A{flat}, A, B, C, D, E{flat}, F, G{flat}] (see Ex. 5). In a similar manner, the modulation between this first octatonic collection and the second (Oct[1,2], which shares the subset of six pitches with the *Tapiola* scale) is accomplished via the common diminished seventh [D, F, G{sharp}, (B)] on the penultimate semiquaver of m. 22.⁵⁴

<Ex. 5 HERE>

Sibelius here fastens on the octatonic scale as a contiguous subset of the referential *Tapiola* scale (specifically the six-note subset so far heard in the piece), expanding it from six to eight notes by developing the principle of parallel motion to create a harmonic field containing the complete octatonic collection. But the two scales (the *Tapiola* and

Oct[1,2]) are also transformationally related by minimal voice-leading--a further application of the chromatic Split transformation that turns a three-note whole-tone section into a four-note continuation of the lower octatonic region (Ex. 6).⁵⁵

<Ex. 6 HERE>

Owing to the maximal intersection of the two scales,⁵⁶ the mutation of one into another can be accomplished with remarkable smoothness, as happens during the second half of m. 25 in the first violins' upper voice, as the Oct[1,2] collection reverts back to the upper section of the *Tapiola* scale in order to reach the tonal goal of B minor (m. 26). The parallel statement of ascending melodic minor scale forms on B, D and G{sharp} here is altered for this last beat, the F* leading note of G{sharp} falling to F{sharp}, in order to attain the diatonic triad. Significantly, up to and including the exposition that starts at m. 26, the only two pitches to remain invariant across all four scalar sets (the opening six-note subset of the *Tapiola* Scale, the G{sharp} minor pentachord, the Oct[0,2] and Oct[1,2] collections) are the pitches of G{sharp} and B that form the conflicting tonal centers (shown in Ex. 5). Here Sibelius's typical minor submediant introductory ploy can be drawn into the play of tonal relations implicit in the *Tapiola* scale; scale and motivicism coalesce to provide pitch centrality and macroharmony.

Diatonic Modality: Main Exposition

With the pitch B taken as its fundamental, the *Tapiola* scale becomes more easily integrated into a diatonic context, corresponding to its central tonal-pentachord segment lying between octatonic and whole-tone extremities. The exposition of the work (mm. 26–207) is based around this modal or tonal collection of pitches, though an increasingly chromatic process of scalar modulation (cf. the variants at mm. 145, 157 & 182), parallel presentation of the basic motive through strict intervallic doubling, and propensity to medium-scale chromatic side-shifts (e.g. mm. 118–37) gradually darken the soundworld and introduce ever greater numbers of accidentals into the implied background pitch collection by the end of the section.

With one minor exception, this referential *Tapiola* scale is the source for every single pitch found in the first variation or rotation (mm. 26–105). A sense of the new-found primacy of the *Tapiola* collection is given directly in the brusque statement of the ideogram motive starting on {sd1} in mm. 26–27, in which the paralleling of the double neighbor-note figure across all three notes of the B minor triad exhausts all seven pitches contained in this scale. In subsequent bars the three parallel statements will be unfolded

horizontally, arpeggiating the B minor triad (B... / D... / F{sharp}...). The exception mentioned is found in conjunction with the statement on F{sharp} and concerns the variable quality briefly displayed by the leading-note A{sharp}, which is twice presented in natural form (A{natural}) in the second flute (mm. 39 & 47), although being each time immediately rectified in the clarinet. This A{sharp}/A{natural} ficta suggests a modal touch, altering by this single semitone displacement the ascending melodic minor to the more common Dorian scale (Ex. 7).

<Ex. 7 HERE>

Indeed, the overriding soundworld of this section is broadly Dorian in quality owing to the prominence of the sharpened sixth scale degree (G{sharp}) in conjunction with the minor third D{natural}. This characteristic sonority is imparted through the seemingly interminable sway of “Dorian Plagal” oscillations set up, but also obtains through the use of the half-diminished seventh formed by adding this {sharp} {sd6} to the minor triad as an extended tonic chord (first seen at mm. 32–34).⁵⁷ The resulting entity--drawn from four notes of the seven-note scalar set--also fuses triads on the work’s two pitch centers: the diminished triad on G{sharp} with the minor triad on B. Furthermore, as Howell has shown, the *Tapiola* scale may be split into a pair of half-diminished sevenths, with the “Dorian” G{sharp} forming the invariant element ([B, D, F{sharp}, G{sharp}], [A{sharp}, C{sharp}, E, G{sharp}]; see Ex. 8).⁵⁸ Sibelius will utilize this property in the second variation or rotation (mm. 106ff), the two half-diminished sevenths being functionally rationalizable as extended tonic ($i^{+\{natural\}6}$) and dominant substitute ($vii^{\bar{7}}$) entities. Although B modal-minor has definitively replaced G{sharp} minor/octatonic as the work’s tonal center, the latter pitch still contributes a distinctive quality to the shading of this key.

<Ex. 8 HERE>

As these passages reveal, the background scale provides the source of virtually every pitch encountered in the opening minutes of *Tapiola* (the exceptions being single-note chromatic alterations that transform the ascending melodic minor collection to closely related scale forms, i.e. the result of scalar modulation). They also suggest how scale, harmony and motive are closely affiliated. The work’s basic thematic idea is intimately related to its underlying scale, while harmonic pitches arise from parallel statements of thematic ideas or are the extension of motivic elements (such as the neighbor-note gesture) and are drawn from subsets of the background scale. Indeed, owing to the use of extended harmonic language (tetrachords and harmonic sets of higher cardinality

being as prominent as triads, a tendency which will increase across the piece), harmonic subsets differ from the scalar superset by fewer pitches than is customary. Two consecutive harmonies will often exhaust the pitch-class content of the background scale, blurring conceptual distinctions between scale and harmony (macroharmony is in fact already identical to scale here). Finally, invariant pitches often signify tonal centers, and may be related to intrinsic tonal implications of the governing *Tapiola* scale.

Across the exposition the emphasis will shift from this B modal-minor center to a chromatic prolongation of F{sharp} in the melodic voice over a sustained F{sharp}-E pedal in the third variation (m. 157), a feature which might be taken to correspond to some remnant of the conventional modulation from tonic to dominant in a sonata exposition (see Murtomäki 1996). This shift is preceded by a large-scale pitch transfer in the bass from the B that had been operative from m. 59, through C{sharp}, to D in m. 101, and following the third variation this D pedal in fact returns (m. 200) to close the “expositional” section, implying that the entire interpolated passage might form a large-scale composing-out of the neighboring E (and its simultaneous F{sharp} cover-tone). As if to confirm this reading, the start of the ensuing scherzo-like music that begins the ostensible development section (m. 208) is even more clearly based around the tonal center of D major. Across a larger scale, the exposition has followed a trajectory from B to D, continuing the progression up from the initial G{sharp} of the introduction, composing-out the steps of the *Tapiola* scale. The D major pitch center of the scherzo material is a corollary to the off-tonic opening in G{sharp} minor. While the octatonic quality of the lower G{sharp} region of the *Tapiola* scale was suggested shortly after the G{sharp} minor opening, the whole-tone potential of the scale’s upper section will have to wait slightly longer for its realization.⁵⁹

Whole-Tone Regions

As *Tapiola* progresses, the scalar forms employed within the process of scalar modulation and thematic variation become increasingly free, as do their associated aggregates of harmonic pitches, a process particularly noticeable in the central developmental part of the piece (mm. 208–461). Here, too, the principle of parallel movement (often found in absolute chromatic form rather than the milder, diatonic version encountered in the exposition’s opening neighbor-note elaboration of the B minor triad) serves to increase the chromatic saturation of the macroharmony, making it more difficult to explain the given scale forms. Nevertheless, clear scalar organization

returns at specific points to create distinctive harmonic fields that articulate *Tapiola*'s structure. One of the most significant of these is the prominence of whole-tone organization in the latter third of the piece, representing the exploration of the upper whole-tone segment of the *Tapiola* scale illustrated in Ex. 3.

Just as the *Tapiola* scale not only contains an octatonic segment but is transformationally related to the complete octatonic scale through minimal voice leading, so this same scale relates to the whole-tone scale by subset inclusion and by a parsimonious scalar transformation. The heptatonic *Tapiola* scale turns into the hexatonic whole-tone collection WT_0 through the chromatic convergence of two notes, B and C{sharp}, onto the interposed pitch, C{natural} (the inverse of the Split transformation that takes the *Tapiola* scale to octatonic collection, Ex. 9).

<Ex. 9 HERE>

Although whole-tone variants of the basic motive are heard long before (cf. m. 246), the whole-tone potential of the scale as both a melodic and a harmonic resource is realized most fully at the point of recapitulation (mm. 462–70; see Ex. 10). Starting from the second variant heard originally at m. 106--though given now a Phrygian or Locrian tincture that creates whole-tone steps between {flat}{sd2}, {sd3} and {sd4}--Sibelius introduces the reprise of the expositional material into a suspended harmonic field that presents the complete whole-tone collection on C (the same transpositional level contained as a subset of the *Tapiola* scale). These six pitches are divided into two subsets, [C{natural}, D, E, F{sharp}, G{sharp}] and [F{sharp}, A{sharp}, D (E)] (see Ex. 10), that alternate at one-bar intervals, creating a remarkable effect, like the heavy breathing of some primeval entity slumbering deep within the forest.⁶⁰ Functionally, the second collection imparts a dominant quality, consisting as it does of an augmented triad in the trumpets on the dominant degree F{sharp} ({sd5}–{sharp}{sd7}–{natural}{sd3}, the latter implicitly a suspension over {sd2}), with the additional E in the trombone adding a seventh ({sd4}). The first, meanwhile, splits into two symmetrical pairs [C{natural}, E, F{sharp}] and [D, F{sharp}, G{sharp}] given on horns and trombones respectively, with the “dominant” pitch of F{sharp} the invariant element.⁶¹

<Ex. 10 HERE>

This [046] subset of the whole-tone collection has some interesting properties: it forms what I will call the “half-diminished triad,” so named as it outlines in partially closed form a diminished fifth (or augmented fourth) but with the internal third raised by a semitone from a pure diminished triad, and consists of three of the four notes of the

half-diminished seventh (Ex. 11). In a tonal context, this sonority may easily be used in place of the extended tonic-minor tetrachord (i.e. forming the minor third, fifth, and raised “Dorian” sixth scale degrees) to give the unquiet, yearning quality of the half-diminished seventh, without the tonic pitch being sounded. It thus closely relates to the half-diminished seventh used as a characteristic extended tonic sonority in *Tapiola*’s opening section and the subsequent alternation of two half-diminished sevenths connected by a common pitch that occurred during the original exposition of the theme now heard. But significantly here, despite its ostensibly chromatic, “Tristanesque” quality, the half-diminished triad may form part of the whole-tone hexachord. Its suitability at this point for imparting a quality of recapitulation while still blending into the new whole-tone harmonic region is thus striking.

<Ex. 11 HERE>

Throughout these bars, all six pitches of the whole-tone collection WT_0 are implicitly present in the background harmony, though normally only four or five are actually given at once. In m. 469, however, all six are finally heard as a simultaneity, preceding the attainment of the pure triad on the tonic B minor as the moment of harmonic return (m. 471). Sibelius’s use of the whole-tone collection derived from the *Tapiola* scale as a harmonic and macoharmonic resource creates an area of static suspension: the intervallic equilibrium of the whole-tone scale allows the thematic reprise to float back in to this harmonic field, releasing the tension of the development’s “core”-like retransitional drive as it also facilitates the smooth transition from the *Allegro* tempo that has stretched from 359 down to the original *Allegro moderato* marking of the exposition.

Saturation and *Telos*

The process of scalar modulation across this work reaches its apparent nadir in the storm or blizzard sequence (mm. 513–76) that follows the highly compressed recapitulation. In this section *Tapiola*’s basic motive is completely chromaticized, presented in two contrary motion streams each doubled “absolutely” in parallel major thirds (continuing a practice evident in the section leading up to the recapitulation, mm. 317–61). Chromatic variants had been heard in the work before, as had parallel and contrary motion doubling (e.g. m. 182), but these were brief flurries, not the unrelenting, systematic application of the half-step interval across such an extended passage. The result is total chromatic saturation--tonal dissolution into equidistance following the milder instance of the whole-tone recapitulation, “white noise.”⁶²

Yet despite the total chromaticism displayed here, the vertical organization is in fact permeated by whole-tone sonorities, continuing the process seen some bars earlier at the start of the recapitulation. As voices are paired at the minor sixth, and move by semitone each crotchet beat, and the two contrary-motion streams are initially vertically aligned to notes of the same whole-tone collection, for most of its course (mm. 527³–570⁴) the sequence alternates augmented triads (3-12) on the WT₁ hexachord with French-sixth sonorities (4-25) drawn from the complementary WT₀ hexachord (Ex. 12).⁶³

<Ex. 12 HERE>

There is hence an intersection between the two primary scale-types of intervallic symmetry: the semitonal saturation of the chromatic scale presented horizontally, and the whole-tone saturation given vertically. Both forms reduce the conventional tonal implications of the material to almost nothing; instead, an extended sound-field is created, a wash of equidistant intervals, out of which emerges forcefully in the brass a variant of the ideogram motive heard much earlier in the slow central section (m. 290). For Sibelius, the encounter with nature in its raw essence was often a fearful experience, and for many listeners, here in *Tapiola* “the ferocity of hostile nature is more uncompromisingly expressed than anywhere else in music.”⁶⁴ Speaking more programmatically, we might read the passage as the virtual obliteration of the human subject with the full “disclosure” of the forest’s animating spirit, Tapio.⁶⁵

But this overwhelming climax is not in fact the end of the work: it is not even the final or most intense wringing of the work’s thematic material for expressive meaning. This subsequent, second climax (mm. 588–607) appears as if a direct result of the near obliteration of scalar and subjective identity, its *de profundis clamavi* forming a human and tonal reaction to the atonal ferocity of the blizzard. In a passage similar to those high string cantilenas near the end of the preceding two Symphonies Nos 6 and 7, the variant of the *Tapiola* ideogram originally heard in m. 274 (near the first emergence of the “disclosure” theme) is given in threefold sequential presentation, emphasizing the final three-note descent as if revealing the essence of the idea, reduced to its most basic form. And in this climactic passage, the motivic quality of the neighbor-note plagal oscillation reaches its culmination.

<Ex. 13 HERE>

This threnody-like culmination is set up by an extended dominant created by the augmented triad [E{sharp}, A, C{sharp}] functioning as V^{AUG} / V and a transposition of the *Tapiola* scale onto the dominant, F{sharp} (mm. 586–87). Its initial French-sixth

sonority (m. 588) continues the use of whole-tone subsets from the recapitulation and blizzard sequence, the lower voices (violin II, viola and cello) in turn forming half-diminished triadic subsets of this whole-tone tetrachord--but now this potentially “atonal” chord is permitted resolution each time onto a diatonic triad. Contained within this progression $[A\{\sharp\}, G\{\sharp\}, E, D(\rightarrow C\{\sharp\})] \rightarrow [B, F\{\sharp\}, D, B]$ is the “Dorian Plagal” voice-leading schema $[G\{\sharp\}, E] \rightarrow [F\{\sharp\}, D]$. In turn, each of the triads to which the sequence resolves outline the pitch centers of the “Dorian Plagal” sonority--B minor (m. 591), G $\{\sharp\}$ minor (m. 596), E minor (m. 601), resolving to a B minor $\frac{6}{4}$ on m. 602⁶⁶--a large-scale composing-out of this characteristic harmonic entity which has been present since the opening bar of the piece (see Ex. 13). Furthermore, the delayed resolution of the pitches sustained in the horns forms yet another layer of Dorian Plagal neighbor-note motion: the F (enharmonic E $\{\sharp\}$) and C $\{\sharp\}$ forming part of the French sixth at m. 593 are left hanging over the resolution to G $\{\sharp\}$ minor at m. 596, resolving only in the subsequent bar to D $\{\sharp\}$ /B as parallel $\{\sharp\}\{sd6\}-\{sd5\}/\{sd4\}-\{sd3\}$ motions, while in m. 602 the upper voice C $\{\sharp\}$ belatedly resolves to B, forming a $\{\sharp\}\{sd6\}-\{sd5\}$ motion in E minor. The principle of parallel neighbor-note motion that was taken to an atonal extreme in the chromatically oscillating whole-tone alternation of the blizzard has reverted now to a tonal form in the guise of the Dorian Plagal figure familiar from the exposition, saturating the music at all levels with its characteristic sound.

Transcendence

In musical as well as spiritual terms, the final chord of *Tapiola* is something close to a miracle. After nearly twenty minutes during which the listener has been lost in a dark forest of extended B minor and associated scale forms, the B major chord that spreads its benevolent light across the final horizon appears barely believable as an outcome to such an unremittingly gloomy work. How the familiar Dorian Plagal suspension which hangs in the air as if for an age leads to the major triad, through the raising of D $\{\natural\}$ to D $\{\sharp\}$, appears inconceivable, its final Plagal “Amen” the act of a musical *Deus ex machina*. Yet viewed from the perspective of the process of scalar modulation operating throughout the piece, this conclusion may after all be one that was always on some level possible.

In one sense, the appearance of the final B major chord is unforeseen and unforeseeable, a transcendence of the musical logic set up by Sibelius in this piece. Most essentially, applying the principle of induction, the earlier course of the music leads one

to expect with near certainty a D{natural} at the close. Every time this Dorian Plagal suspension has previously been heard (and that, in this piece, is a great number), the fourth scale degree has resolved down to the minor third. After countless instances of hearing G{sharp}/E resolving to F{sharp}/D{natural}, it seems scarcely probable that we will hear a D{sharp} now. Yet, counter-intuitively, this is what happens. What is more, it is not just the past that points to a minor-key outcome: this future state seems already to be foretold. Before the final chord even emerges its expected d{natural} resolution is being sounded in the lower wind parts (clarinet, bass clarinet, bassoon and contrabassoon) and timpani. In fact, as the wind instruments drop out (m. 623), for a lone bar a pure B minor sonority is heard between the suspended G{sharp}/E and the final B major chord, the D{natural} present *pianissimo* in the timpani (Ex. 14). The future seems to have been decided in advance--only to be transcended in an unaccountable act of grace.

<Ex. 14 HERE>

But yet, contravening all the reasons just offered, this radiant B major chord is also a logical (if nonetheless still not inevitable) outcome of the work's process of scalar modulation. After exploring octatonic, ascending melodic minor, Dorian, Locrian or Phrygian, those "many strange modes" Tovey spoke of, whole-tone and total chromatic collections, B *major* is the one final scale on B that has not yet been used. This connection is supported by the "Dorian" pitch of G{sharp} that has been heard incessantly throughout the work, coloring the harmonic subsets and scalar, giving rise to the bifurcated pitch centrality of the opening and its off-tonic introduction. Just as the *Tapiola* scale differs from the octatonic, whole-tone and Dorian scales by one chromatic transformation, so even more obviously does it differ by a single semitone from B major (Ex. 15). B major is the last stage in a long series of scalar modulations carried out across this piece; Sibelius has saved the most obvious scale-form to the very end.⁶⁷

<Ex. 15 HERE>

Moreover, looking back on the work's opening transformation--from the octatonic subset of the *Tapiola* scale on G{sharp} to G{sharp} minor--we might now recall the intrusion over six hundred bars before of the anomalous *ficta* D{sharp} into the first six notes of the *Tapiola* scale, an apparently insignificant touch that had no immediate consequences. In retrospect, however, this d{sharp} has all along been set up as a possibility within the larger *Tapiola* scale.⁶⁸ *Tapiola's* final chord both transcends

induction and is the result of a higher logic. And at the end, the B major triad seems to glow with a new, refound innocence.

* * *

A conventional view of Sibelius holds that he did not really contribute to the development of tonality in the twentieth century. One of his greatest early champions, Cecil Gray, was perfectly willing to conclude that his conservatist hero showed how it is “just as possible as it ever was to say something absolutely new, vital, and original, without having to invent a new syntax, a new vocabulary, a new language, in order to do so.”⁶⁹ Even Tim Howell, despite a highly insightful account of this piece, broadly concurs with this view in holding that Sibelius’s achievement in *Tapiola* is to have emancipated secondary parameters such as “speed, metre, rhythm, repetition patterns, texture, and articulation” to structure the work--“rather than pitch relationships and intervals.”⁷⁰ “There are no conflicting tonal areas, secondary keys, no sense of fundamental collection change, nothing of the machinery of modulation” he concludes.⁷¹ Yet as argued here, the potential implications scalar modulation has for tonality go somewhat further than this--at least if the (admittedly disputed) idea of tonality is understood more broadly.

Sibelius’s process of scalar transformation, and the intersection between the intervallic qualities of scale type and their associated harmonic fields, reveal a sensitivity to tonal qualities and their potential role in the creation of structure that is one of his most individual and far-looking achievements. Indeed, the manner in which Sibelius structures the larger musical form according to the differentiation of harmonic areas, based not so much on tonal centrality as on their intervallic quality, is prophetic of later twentieth-century music such as that of Lutosławski or Ligeti.⁷² Working alongside and often in conjunction with this scalar aspect is Sibelius’s development of other types of modulation--tempo, timbral and textural. Since meter is now not bound up with harmony as was the case in functional first-practice tonality, Sibelius’s work presents a radical reconfiguring of the elements of musical language, the relation between motive, scale, harmony, macroharmony, pitch-centrality, meter, pulse, timbre and texture.

The language of *Tapiola* fulfils to a remarkable extent Tymoczko’s tonal principles of pitch centrality, conjunct melodic motion, and (at least within sectional demarcations, to a high degree) harmonic consistency and limited macroharmony, but the final concept defined by Tymoczko--acoustic consonance--is attained only at its end.⁷³ The arrival at harmonic consonance, an unsullied major triad, appears as the ultimate consequence of

the process of scalar modulation carried out by Sibelius in this piece. This most conventional of tonal elements appears not as a precondition but as a goal of the music, achieved by Sibelius's reconstitution of tonality from scale and motive.

Tonality, as it subsists from its various elements, becomes in this work a function or consequence of the thematic process. The idea of "total thematism" put forward by Salmenhaara is apt, as in *Tapiola* all these aspects--diastematic shape, conjunct melodic motion, parallel presentation of lines through doubling, harmonic subsets and scales--appear to arise from implications of the motivic constellation presented at the start. Whether one chooses to see diastematic motive or the larger aggregate of pitches that forms a scale as primary is ultimately immaterial, as the "core motive" is essentially a small scale fragment, and its means of presentation (which cannot be easily separated from its supposed nature) quickly implicates a complete scalar collection. Scale and motive are two sides of the same entity. Their implications for tonal elements such as pitch centricity and the intervallic quality of harmony and macroharmony are successively realized throughout the course of the work.

For Ernest Newman, the thematic process of *Tapiola* discloses "aspect after aspect of what might be called the soul of the forest."⁷⁴ In a similar fashion, Sibelius might be understood in this work as uncovering something of the essence of B minor, its ascending melodic minor scale and its various *Klänge* throughout their manifold appearances. As earlier writers have claimed, then, *Tapiola* may well be held to be monotonal, for the whole piece is in this "tonic"--but one that is widened immeasurably, to encompass an entire world within the confines of its gloomy northern forest.

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¹ Simpson 1979, 217.

² As Robert Layton puts it, "the usual contrast of key centres is absent, for the whole work is anchored in B minor, and the piece is wholly monothematic" (1970, 78). The quality of monothematicism (and its purported connection with organic nature) is most often emphasized (see Gray 1931, 89, Lambert 1934,

326; Wood 1947, 42; Mellers 1957, 133; and Johnson 1959, 68), but the reading of monotonicity is also a truism (see Pike 1978, 114).

³ For the clearest and most extreme formulation of this trope see Whittall 1964.

⁴ See Josephson 2004, Virtanen 2011, Sirén 2011. There are also a number of smaller works from the period immediately following *Tapiola*, such as the Masonic Ritual Music, op. 113 (1926–46), the piano *Esquisses* op. 114 and violin pieces Opp. 115 & 116 (1929), and *Surusoitto* (Funeral Music) op. 111b (1931).

⁵ Howell 1985, 73; Mäkelä 2013, 237.

⁶ The idea of a “second practice” of “chromatic tonality” in the nineteenth century (contrasting with earlier “diatonic tonality”) was formulated by Gregory Proctor (1978, 130–250), and brought into common analytic parlance following Robert Bailey; see especially Kinderman and Krebs 1996.

⁷ Much of my consideration of tonality here is informed by and indebted to recent approaches by Dmitri Tymoczko, who views tonality as resulting from the variable interaction of a number of components—conjunct melodic motion, acoustic consonance, harmonic consistency, limited macroharmony, centricity—and identifies a “scalar tradition” opposed to the chromatic and ultimately atonal tradition of many prominent Austro-German composers around the turn of the century (see Tymoczko 2011, 3–27 & 181–91, and Tymoczko 2004, 220). Some precedent for this article is also given by my recent monograph, which investigates harmony and tonality in Grieg’s later piano music (see Taylor 2017, esp. 66–81, ‘Modality and scalar modulation’).

⁸ Although the work’s opening pitch is a B in the timpani, the dominant-seventh sonority that forms the first chord has little functional relation to B, either a dominant seventh of A (implying an incomplete ii–V⁷–[i] progression) or (as happens) a duplicitous German Sixth resolving to G {sharp}.

⁹ The characterization is from Tanzberger 1962, 177, who reads the work (as in accordance with an apparent suggestion by Sibelius) as being in sonata form.

¹⁰ Although not termed “modulation” as such, a similar general idea of contrast through secondary parameters has been expressed before by Tim Howell in a number of valuable studies of this work (1980, 1998, 2001). As will become apparent, my reading departs from Howell’s in attaching greater tonal significance to the intervallic differentiation of scale forms and associated harmonic areas, i.e. by proposing a more expanded notion of what constitutes tonality.

¹¹ See Tymoczko 2004 & 2011, 116–53. A further important study that pre-empts some details of my present account is given by Callender 1998. While the author does not use the specific term “scalar modulation,” the parsimonious voice-leading between such pitch-class sets as the whole-tone, acoustic and octatonic scales he identifies in the music of Scriabin is essentially the same principle, albeit without invoking the idea of tonal centricity.

¹² Réti 1958, 7–26. Similarly, referring to the Sixth Symphony Sibelius himself noted how his later music was constructed on “linear rather than harmonic foundations” (Barnett 2007, 301), or as he told Walford Davies in 1912, “I think of my melody first and of the harmony as depending from it” (Colles 1942, p. 103).

¹³ Composers from this period who drew on such techniques include Grieg, Rimsky Korsakov, Scriabin, Debussy, Ravel and Janáček, whose music initiates what Tymoczko describes as a “scalar tradition” that

continues through composers such as Prokofiev and Shostakovich (2004, 220 & 273–75, and 2011, 307–51).

¹⁴ The term “interscalar” is borrowed from Tymoczko 2011, 142–44. Concerning modality and other types of scalar modulation in the Sixth Symphony (not limited to the D Dorian / C major interaction described above) see especially Howell 1989, 76–84, Hepokoski 2001, and the accounts by Whittall 1977, 19, Pike 1978, 188–202, Murtomäki 1993, 195–99 & 213–14, Luyken 1995, and Grimley 2011b, 113–14. With regard to modality in Sibelius more generally see Tawaststjerna 1988 and the papers contained in the special issue of *Musurgia* 2008 dedicated to this topic.

¹⁵ Tovey 1939, 93.

¹⁶ Tammaro 1984, 435–42, Murtomäki 1990 & 1996, Howell 2001, 46.

¹⁷ The table below draws in part on that given by Murtomäki 1996, 155, and Salmenhaara 1970.

¹⁸ See Réti 1958, 15–16. For Layton, this score “exhibits the most thorough-going and imaginative use of the pedal point in all Sibelius” (1978, 79); Mellers, too, memorably speaks of the “wild, inhuman howls of [*Tapiola*’s] long internal pedal points” (1957, 133). On Sibelius’s “orchestral pedal” see de Törne 1937, 30–34; on the apparent relation to nature, see Newmarch 1939, 19, who notes that Sibelius had “a passion for trying to catch the pedal notes of natural forces...the basic sounds of the forests or of the wind whistling over lakes and moorlands.”

¹⁹ Howell in particular provides insightful discussion of this feature (1998, 239; 2001, 47).

²⁰ See Hepokoski 1993, further 1996 & 2001a.

²¹ Wood 1947, 42. This practice conforms to Sibelius’s avowed ideal of an “orchestral pedal,” “the continuation of sonority when passing from one group of colours to another.” “Before excluding one group [the composer] should always introduce the next, this being the secret of the pedal effect” (from a conversation with the composer, related by de Törne 1937, 31 & 34).

²² See Grimley 2004, 114, for a succinct analysis of this passage. A good account on Sibelius’s use of timbre in this piece is also given by Anderson 2004, esp. 197–98.

²³ Mäkelä speaks similarly of the quasi-*Klangfarbenmelodie* at the end of the *Tempest* Overture (a work written the preceding year which shares notable similarities with the storm sequence from *Tapiola*), and elsewhere observes that Sibelius possessed a score of Schoenberg’s op. 16, whose third piece, “Farben,” is the classic exemplar of this tone-color technique (Mäkelä 2011, 210 & 166).

²⁴ Tovey 1939, 91. Earlier examples of tempo modulation in Sibelius would include the transition between second movement and finale in the Third Symphony, and (especially remarkable) the composite first-movement/scherzo of the revised Fifth Symphony.

²⁵ Hepokoski 2001a & 1993, 28. This link between tempo delineation and texture / sonority is well expanded upon by Howell 2001, who goes into far more detail concerning the temporal articulation of form in *Tapiola* than is possible in my study.

²⁶ See Barnett 2007, 322.

²⁷ It should be noted that *Tapio* does certainly appear to figures such as Lemminkäinen and Väinämöinen in the *Kalevala* (see cantos 14 & 46), and the encounter possesses little of the fearfulness, even terror implicit in Sibelius’s work. But the gods of myth are mere memories to modern audiences, metaphors for a lost primordial immediacy of our “being-in-the-world” (see Hepokoski 1993 & 1996, 140, who relates

Sibelius's view of nature to a Heideggerian ontology of Being). *Tapiola*, as Hugh Ottaway (1968, 15) avers, "contains the very core of Sibelius's awareness of primeval forces"; the modern encounter with nature is considerably darker and more anguished than the innocence of primal myth.

²⁸ Salmenhaara 1970, 106; Murtomäki 1996, 152; Hepokoski 1997, 425.

²⁹ The F{sharp} is missing at the opening of the work (B minor being not yet established), but this pitch is present when the same sonority is reengaged as part of the final cadence (mm. 615–22).

³⁰ A word is perhaps useful here on the relationship between Réti's melodic tonality, Tymoczko's macroharmony, and scale. Macroharmony ("the total collection of notes heard over moderate spans of musical time," Tymoczko 2011, 4) is a non-hierarchical set of pitches with no implications for tonal centrality, dissonance treatment or harmonic progression, while in contrast melodic tonality projects a sense of pitch center through melodic organization (Réti 1958, 15). The macroharmonic content of a given passage would typically consist of more notes than the set of melodic pitches (in other words, the melody forms a subset of the macroharmony, given hierarchical implications through compositional design), though in Sibelius's later usage the two begin to approach each other in size. In this music the set of macroharmonic pitches also becomes similar to background scale collection, though the latter is often (though not always) hierarchical in possessing an implicit pitch center. Such centrality in scales is best thought of as an abstract potential which requires compositional emphasis (such as is given in melodic tonality) to become realized. Thus melodic tonality is a hierarchical practice used to organize melodic pitch, macroharmony is a non-hierarchical background pitch collection reflecting the total sum of pitch classes used, and scale a theoretical background pitch collection (with an emphasis on pitches used for melodic construction) that may be hierarchical.

³¹ Hatten 1994.

³² Hepokoski 2001b, 338. For Hepokoski, furthermore, *Tapiola* "displays motivic intersections with the Sixth Symphony," a feature stemming in part from their common origin in a sketchbook from 1914–15 (2001a).

³³ Howell similarly identifies this ascending melodic minor as the work's basic scale (2001, 46). To this extent, *Tapiola* forms notable correspondences with the Symphony No. 4, which similarly draws on the ascending melodic minor scale (on A minor in the symphony).

³⁴ The draft text of Sibelius's lecture is published in Sibelius 1980; an English translation can be found in Sibelius 2011. See also the essays in *Musurgia* 2008, and on the background to this lecture, Tawaststjerna 1976, 190–91.

³⁵ On the latter point see especially Salmenhaara 1970.

³⁶ Hepokoski 2001b, 338, in relation to the scalar organization of the Symphony No. 6; also cf. Hepokoski 1997, 425, and Murtomäki 2008, 76. The term ideogram (typically applied by commentators to a small, conjunct shape characteristic of Runic music) is, I should point out, normally conceptually distinct from pentachord (five contiguous notes of a diatonic scale, usually conceived more abstractly as present at a background level).

³⁷ As Tymoczko (2004, 234–37, building on Callender 1998) shows, this 7-34 scale possesses the property of "maximal intersection" with other locally diatonic scales--the octatonic, whole-tone and diatonic. (Both Callender and Tymoczko are describing the "acoustic" scale, which is identical to the ascending melodic

minor but starts a fifth lower--i.e. the ascending melodic minor on B is equivalent to the acoustic on E.) The whole-tone property of the upper section of this scale has been noted by several earlier commentators in relation to both *Tapiola* and the Fourth Symphony (see Harris 1980; Howell 1989, 130; Antokoletz 2001), but the octatonic properties of the lower section appear to have been largely overlooked (even though Howell 1998, 239, perceives something of the corresponding quality between degrees {sd6}–{sd8} and {sd1}–{sd3}).

³⁸ Unlike the diatonic scale, the octatonic collection is transpositionally symmetric but internally uneven (consisting of alternating step intervals), whereas the whole-tone collection is transpositionally symmetric and internally even (consisting of uniform intervals).

³⁹ The pitches D and E, heard right at the work's opening as the first harmonic entity (in conjunction with the dual-pitch centers of G {sharp} and B), are furthermore the two invariant elements across the three sets.

⁴⁰ As Réti (1958, 29) claims concerning Debussy's use of the whole-tone scale, "in general...composers do not form melodies according to a scale pattern but scales are theoretical abstractions from melodies."

⁴¹ This is a familiar issue in calculating 'triadic distance' (see for instance Cohn 2012, 1–8), but compounded in scales by the fact that the cardinality of each collection may also vary.

⁴² For some starting points applied to common hexatonic, heptatonic, and octatonic scales, see Tymoczko 2004, 233–44.

⁴³ For contrasting content-based and sonata readings, see Ringbom 1954, 156, Salmenhaara 1970, Tammaro 1984, Howell 2001, Hepokoski, Grimley 2004, 114, and Tanzberger 1943 & 1962, 175–78, Mäckelmann 1983, Jackson 2001, 235, and Mäkelä 2012, 114, respectively. Some commentators (e.g. Howell, Hepokoski, Murtomäki) see both variation and sonata elements as being present, though normally give priority to the former. Yet others such as Ernest Newman (1932) see the work as simply *sui generis* in form.

⁴⁴ See Murtomäki 1996, 162, who locates the reference in the memoir of Sibelius by his former secretary, Santeri Levas (1986, 301).

⁴⁵ The sudden increase in reengagement with earlier variants of the "core motive" at this point is conspicuous, as is demonstrated by Salmenhaara's graphic representation of the motivic distribution across the piece (Salmenhaara 1970, Appendix III). Even Tovey, who is characteristically reticent about conformity to generic formal moulds, speaks of the piece taking shape "as a purely musical form" by means of a "definite recapitulation" of earlier themes (1939, 95).

⁴⁶ No one has ever doubted that this passage forms some type of storm. Tovey calls it a hurricane; I personally prefer the description blizzard, which conveys something of the icy coldness of the chromatic and whole-tone construction and sense of overwhelming visual obliteration. Not coincidentally perhaps, Grimley calls it "white noise" (2011a, 398).

⁴⁷ The idea of the "misfired" cadential opening is taken from Hepokoski 1993, 62.

⁴⁸ Earlier examples include the dual-tonic complexes of *En Saga* (Am/Cm), *Lemminkäinen's Return* (Cm/E), *Pohjola's Daughter* (Gm/B), and *Night Ride and Sunrise* (Cm/E{flat}); even the Symphony No. 7 has an early A{flat} minor disruption that is finally integrated into the C major tonic by its end. The dual-tonic structure of the Symphony No. 1 similarly plays with this idea, in that the provisional G major of the first

movement's sonata exposition leads out from an extended E minor introduction, a key which will eventually return to frame both the first movement and symphony as a whole. On the dual-tonic complex see Bailey 1985.

⁴⁹ See also Tammaro 1984, 435.

⁵⁰ In the Fuse transformation two pitches a tone apart merge onto the intervening semitone; its inverse is the Split transformation, where a single pitch splits into its two adjacent tones (see Callender 1998, developed in Hunt 2007). Both are examples of 'Cross-Type Transformations' (Hook 2007), which incrementally alter a set's cardinality.

⁵¹ Through its coloristic shift in register and timbre Sibelius's musical realization nevertheless underplays the implicit harmonic progression here; the G {sharp} minor triad emerges as a new sonority in trumpets from the sustained pitch G {sharp}, which provides a common-tone link with the preceding E⁷.

⁵² This passage also has notable similarities with one that twice leads from scherzo to trio in the Symphony No. 2 many years before; the motivic figure is almost identical, as is the doubling in minor thirds creating onrushing waves of octatonic writing resulting in a type of static suspension field.

⁵³ My labeling of the three octatonic collections shows the first two pitch classes in the scale (where C=0); thus Oct[0,2] is the p-c set [C, D, E {flat}, F, G {flat}, A {flat}, A {natural}, B]. This method differs from that of Pieter van den Toorn (1983), where Collection I is the prime form [0,1,3,4,6,7,9,10] beginning on C {sharp}, Collection II that on D, and Collection III that on E {flat}.

⁵⁴ Sibelius's phrasing slightly obscures the moment of octatonic modulation, which occurs just before the quaver rest at the start of m. 23. Motivically, the first statement of the ideogram figure in mm. 21–22 remains implicitly diatonic within each voice through the retention of the perfect fifth scale-degree in place of the octatonic diminished {sd5} on the final note of m. 22; the three pitches on this degree, alongside those on the preceding fourth degree that are common to both octatonic collections, are then reinterpreted as part of the ensuing octatonic collection in mm. 23–25.

⁵⁵ These properties have been noted before by Callender 1998, whose discussion formalizes the principle of voice-leading parsimony between a number of closely related scales, paying particular attention to such Split transformations.

⁵⁶ On maximal intersection, see Tymoczko 2004, 234.

⁵⁷ The use of this half-diminished chord as an extended tonic minor triad is extremely common in late-Romantic music (discussed in Taylor 2010); in some instances (such as the "Lied der Waldtaube" from Schoenberg's *Gurrelieder*) the sonority even becomes conceivable as a quasi-stable tonic, to which more extreme dissonances resolve (a recent discussion of this feature is given by Vande Moortele 2017). Sibelius's earlier works reveal numerous examples of its use (see for example *Kullervo*, II ("Kullervo's Youth"), or the slow movements of the First and Second Symphonies).

⁵⁸ Howell 1989, 134; 1998, 240–41.

⁵⁹ Prominent whole-tone scales used as a possibility for scalar modulation may be found soon after the start of the scherzo section at mm. 246 & 252 (being repeated near the end of the work). However, they are heard on the other whole-tone hexachord (WT₁) from that contained in the original transposition of the *Tapiola* scale (WT₀) and possess no sense of D as a pitch center; the connection implicit in the *Tapiola*

scale between whole-tone writing and D as a starting pitch is not realized as clearly as that between the G^{sharp} region and octatonic writing at the start of the work.

⁶⁰ Tammaro 1984, 442, similarly likens the effect to that of in- and exhalation. While the open spacing within instrumental groups lessens the dissonant effect of the whole-tone harmonies, Sibelius seems on the other hand deliberately to seek acoustic friction by placing major-second clusters between instruments.

⁶¹ As this whole-tone collection includes degrees {sd5}, {sd7} and {sd4}, and avoids the tonic pitch of B^{natural}, it possesses a latently dominant (as opposed to tonic) quality. In fact every pitch of the whole-tone hexachord may be given a dominant function: as mentioned above, the {natural}{sd3} contained in the augmented triad on the dominant (V^{AUG}) is by this time a standard part of the extended dominant chord (a “Chopin” {sd3}–{sd2} suspension), while the {flat}{sd2} suggests a chromatic “upper-leading note” typical of early twentieth-century extended tonality, and the {sharp}{sd6} may be rationalized as a dominant major ninth. Effectively Sibelius smoothes over the point of recapitulation by making the thematic return occur over an extended dominant harmonic field, resolving only several bars later to tonic B minor harmony.

⁶² Grimley 2011a, 398; on this passage as the most extreme, “atonal” consequence of the work’s changing scale-forms see Tammaro 1984, and Howell 1998 & 2001.

⁶³ Here, as on occasion elsewhere in *Tapiola*, the similarities with Sibelius’s incidental music to *The Tempest*, written the preceding year, are notable. The storm music heard in the overture to Shakespeare’s play is similarly based on transposition of the 4–25 French-sixth sonority, while octatonic and whole-tone writing may be found in “The Rainbow.” See further Grimley 2011b.

⁶⁴ James 1983, 111. One might see a curious irony in the affiliation of atonality with nature here, especially given how some commentators invest the work’s concluding major triad with more human (and humane) qualities. I am grateful to Richard Cohn for pointing this feature out to me.

⁶⁵ E.g. Hepokoski 2001a; see also Tammaro 1977, and Grimley 2011a.

⁶⁶ This weak tonic $\frac{4}{4}$ in the strings at m. 602 is nevertheless underpinned by octave Bs in the horns, and leads via the familiar French-sixth suspension [G^{sharp}, A^{sharp}, D, E] to a root-position B–F^{sharp} dyad in the second half of m. 606.

⁶⁷ Sibelius only presents a B major triad at this point, so the relation to the underlying scale collection is admittedly theoretical rather than directly realized in the music.

⁶⁸ This attribute was perspicaciously spotted by Tammaro long before me (1984, 235).

⁶⁹ Gray 1931, 204.

⁷⁰ Howell 2001, 47; also see 1998, 238.

⁷¹ Howell 1998, 238.

⁷² On other possible instances of such practice, see Cohn 1992, esp. 296–98, and Tymoczko 2004.

⁷³ Tymoczko 2011, 3–7.

⁷⁴ Cited by Ringbom 1954, 156.