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# NIELSEN'S SYMPHONIC WAVES

## Energetics, the *Sinfonia Espansiva*, and German Music Theory

By Daniel Grimley

In a note for a performance of his Third Symphony, the *Sinfonia Espansiva*, in Stockholm in the final year of his life (1931), Carl Nielsen sketched a brief outline of the work that Swedish listeners were about to hear. 'The work is the result of many kinds of forces', Nielsen explained, 'the first movement was meant as a gust of energy and life-affirmation blown out into the wide world, which we human beings would not only like to get to know in its multiplicity of activities, but also to conquer and make our own.' The finale meanwhile, is a 'hymn to work and the healthy activity of everyday life.'<sup>1</sup> Contemplating the symphony from his hospital bed, Nielsen was surely struck by the work's strength and physicality. Yet two decades earlier, when the symphony received its premiere, such notions of energy and bodily health were part of a wider cultural shift in early twentieth-century Danish art. As Jørgen I. Jensen has suggested, the symbolic emblem of this Nordic-Hellenist vision was the sun: the radiating globe whose presence is both destructive and generative, earthly and divine. Yet this symbolic breakthrough also reflected a broader philosophical turn. In an article entitled 'Energie og Materie' (Energy and Material) published, auspiciously, in the 1900 volume of the Danish periodical *Tilskueren*, Emil Petersen introduced the work of German physical chemist (and later Nobel Prize winner) Wilhelm Ostwald.<sup>2</sup> Ostwald sought to comprehend the world through the exchange and transfer of ener-

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1 *Værket er et Udslag af mange slags Kræfter. Første Sats er tænkt som et Kast af Energi og Livsbejaelse ud i den vide Verden, som vi Mennesker ikke blot vilde lære at kende i dens brogede Virksomhed, men også gerne erobre og tilegne os. [...] En Hymne til Arbejdet og det daglige Livs sunde Udfoldelse.* Programme note (undated) for *Espaniva*, Stockholm Konsertföreningen, 11.3.1931. John Fellow, *Carl Nielsen til sin samtid*, Copenhagen 1999, vol. II, 595.

2 Emil Petersen, 'Energie og Materie', *Tilskueren* 17 (1900), 309-322. Ostwald was born in Latvia (Riga) in 1853, but spent most of his professional career in Leipzig, where he died in 1932; he was author of, among other works, *Energetische Grundlagen der Kulturwissenschaft* (1909); *Die energetische Imperativ* (1912); and *Die Energie* (1912). He was awarded the Nobel Prize in 1909 and remained a committed pacifist throughout his life. Ostwald's contribution to energetics is discussed in Wolfgang Krebs, *Innere Dynamik und Energetik in Ernst Kurths Musiktheorie*, Tutzing 1998, 49-55.

getic forces: 'whereas material is the imagined, a hypothetical concept', Petersen explained, 'energy is the actual reality, that which causes effects everywhere'. Ostwald's kinetic model of energetic motion offered a way of understanding the condition of modern life, a startling model of the world in continual flux. The impression of an unbroken continuity, of material in a naturally 'steady state', was replaced by a dynamic vision of transformation, radiation, and energetic change – a vision which inspired Niels Bohr's perihelitic model of atomic structure, one of the stepping stones to the development of nuclear fission.

The explosive opening bars of Nielsen's Third Symphony sound emblematic of this modernist shift. As its title suggests, the *Sinfonia Espansiva* represents a broadening and deepening of Nielsen's preoccupation since the start of the century with music as the (unconscious) creative expression of bodily force. The work traces a broad expressive arch that can be heard as a single intensely purposive span spread over a conventional four-movement division: the first two movements are dynamic and static respectively, while the third and fourth seek to resolve this fundamental opposition. But the symphony's essential structural problems are articulated in its initial paragraphs, and the first movement deserves closer attention. Indeed, the opening bars of the *Allegro espansivo*, with their overpowering sense of a radical formal and harmonic breakthrough, have become emblematic in later readings of Nielsen's music. Povl Hamburger's 1931 essay, 'The Problem of Form in the Music of our Time with an Analysis of Nielsen's *Sinfonia Espansiva* (first movement)',<sup>3</sup> is of particular interest, and provides an insightful starting-point for critical comparison with later accounts by Robert Simpson and Harald Krebs. Simpson comments on the movement's 'frequent tendency to move to the remotest possible distance from a given key', an expression of the symphony's expansive tonal force, and reads the structure as a progressive tonal journey from D minor to a radiant A major in the closing bars.<sup>4</sup> Yet this over-simplifies the process. As Krebs notes,<sup>5</sup> it is not clear that the opening tonality is in fact D minor – A minor might be a more persuasive candidate given the events of the opening page. Indeed, Krebs offers a more radical reading of the structure, arguing instead for two independent sonata structures dovetailed together, one based in A minor and one based in D minor. For Krebs, the close of the second subject group, on C (b. 226), is resolved by restating material in A in the reprise (b. 562), corresponding, he suggests, to the principle of mediant transposition characteristic of orthodox minor-key sonata forms. But the exposition's unstable D

3 Povl Hamburger, 'Formproblemet i vor tids musik med analyse af Carl Nielsen's *Sinfonia Espansiva* (1 Sats)', *Dansk Musiktidsskrift* 6/5 (May 1931), 89-100.

4 Robert Simpson, *Carl Nielsen Symphonist 1865-1931*, London 1952, 57.

5 Harald Krebs, 'Tonal Structure in Nielsen's Symphonies: Some Addenda to Robert Simpson's Analyses' in Mina Miller (ed.), *The Nielsen Companion*, Portland 1994, 208-249.

minor is established with much greater certainty in the R-zone (albeit at a late stage, b. 584); here, passages initially stated in F (b. 86) in the exposition's P-space are later restated in D, fulfilling the same principle of mediant transposition observed by the C major material from the end of exposition. For Krebs, the coda's A major is insufficiently strong to offer a convincing resolution either way. And the beginning of the second subject group (in A<sup>b</sup>) in the exposition is deceptive – a characteristic local chromatic colouring, similar to that in the first movement of the First Symphony, which intensifies the flat side, before leading to the music's 'proper goal' at the end of the exposition. It is only in the finale, in fact, that these harmonic tensions are conclusively resolved (see Fig. 2).

Krebs's image of spliced sonata forms, spinning in opposite directions like spiralling gyres, is attractive given the music's tendency to juxtapose strongly directional passages with other, more circular and reflective phrases. For Hamburger, this opposition points to a deeper issue in Nielsen's music, namely the distinction between *organic* and *architectonic* formal principles. The basis for this distinction was a lecture by Nielsen himself, titled 'Form og Indhold i Musik' ('Form and Content in Music'),<sup>6</sup> in which he proposed two basic principles of form – the vertical and the horizontal.<sup>7</sup> Hamburger's essay amplifies this model: while *architectonic* form tends strongly towards periodisation, he explains, the idea of grouping in *linear-polyphonic* form 'is more latent, the divisions have the character of "respiration", the approach to a new upswing, rather than genuine points of rest, and overall an unbroken stream reigns.'<sup>8</sup> Hamburger distinguishes between two types of structural trajectory, one based on equalisation, balance, and closure, and the other on flowering or growth, an outward expansion or 'stigningsform' (ascending form) which is heavily end-oriented, evolutionary, and open. Hamburger furthermore extends this idea to the realm of music psychology:

The *expansive*, the will to as free and unhindered an unfolding as possible of the powers of movement, which lies behind all music, has always found strongest expression in the horizontal dimension, in Melody, while the vertical dimension, Harmony, has been rather of an organising and binding na-

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6 The lecture was read at the Musikpædagogisk Forening on 16.12.1926, and repeated following Thorvald Aagard's invitation at Ryslinge Højskole, 19.9.1930. It is not clear which event Hamburger attended, since his opening paragraph refers to the *Studentersamfundet*. The lecture is reprinted in John Fellow, *op. cit.*, vol. I, 411-423.

7 *Den ene Art skrider bestandig fremad mod et bestemt Maal i en rolig Strøm, den anden har skarpt afgrænsede Afsatser, der bevidst staar i Modsætning til hinanden.* John Fellow, *op. cit.*, vol. II, 414.

8 *Periodeinddelingen er her mere latent, indsnittene har mere Karakter af 'Vejrtrækninger', Tilløb til fornyet Opsving, end af virkelige Hvilepunkter, overalt hersker en ubrudt Strømmen, der ikke tillader umiddelbare Kontrastvirkninger eller Gentagelse af Formled.* Hamburger, *op. cit.*, 90.

ture, in which the force of the tonic triad's central importance has had a more centripetally directed function. Instead of the organic and the architectonic, one can therefore talk in the meantime – in a more psychological sense – of *dynamic* and *static* principles of form.<sup>9</sup>

Hamburger derives such models of music perception not solely from Nielsen's work, but also from contemporary (early twentieth-century) German music theory, particularly the work of August Halm, Ernst Kurth, and Hans Mersmann. Halm similarly distinguishes between vertical and horizontal principles in his influential *Harmonielehre* (1905), proposing that all music is essentially a form of melodic motion whose purpose is to elaborate simple underlying cadential progressions. Like Schenker, Halm understands the triad as the basis for all tonal musical events. Radically, however, Halm hears the dominant, with its inner (leading note) motion towards the tonic, as the germinal seed of melodic motion. The true nature of music, Halm claims, is dissonance rather than consonance, the urge towards transformation or change rather than rest.

It is this unstable, dynamic model of musical motion which Kurth and Mersmann inherited. For Kurth, such motion is explicitly energetic; as Patrick McCreless explains, this results in different forms of musical energy: the potential and the kinetic, corresponding to melody and harmony respectively. Music can accordingly be understood as a play of opposed forces or streams of energy, as diverse manifestations of the musical will. Nielsen was also attracted to this idea. In a review of Thomas Laub's songbook, *Tolv Viser og Sange af danske Digtere*, in *Politiken* in 1921, Nielsen wrote: 'there must be conflict for there to be clarity. Something must be opposed for there to be recognition.'<sup>10</sup> Nielsen thus elevated counterpoint from a textural or compositional principle to a fundamental rule of musical perception. In his *Harmonielehre*, Halm had earlier written: 'Unity must be achieved through opposition, it must be a result; [...] The "harmony" cannot satisfy our ears, nor move our emotions, if nothing happens, if victory is not gained through struggle and conflict.'<sup>11</sup> This vitalist corpo-

9 *Det expansive, Viljen til saa fri og uhaemmet Udfoldelse som muligt af de Bevægelseskræfter, der ligger bagved al Musik, har altid fundet stærkest Udtryk i den horisontale Dimension, i Melodien, medens den vertikale Dimension, Harmonien, mere har været af ordnende og bindede Natur, i Kraft af Tonikatreklangens central Betydning har haft en mere centripetalt rettet Funktion. I Stedet for organisk og arkitektonisk taler man derfor ogsaa undertiden – i mere psykologisk Betydning – om dynamisk og statisk Formprincip.* Hamburger, *op. cit.*, 90 (note).

10 *Der maa altsaa strides, for at faa Klarhed. Noget modsat maa fremholdes, for at erkende. Det slette er altsaa i og for sig ikke slet, eller ikke absolute slet, før vi ser dets Anvendelse over for noget modsat.* John Fellow, *op. cit.*, vol. I, 248-253 at 248.

11 *Die Einheit muß durch Gegensätze gewonnen werden, sie muß Resultat sein; die unveränderliche 'Einheit und Ruhe in sich selbst' interessiert nicht. Die 'Harmonie' kann unserem Ohr angenehm sein: unser Gemüt rührt sie nicht, wenn sie nicht 'geschieht', durch Kampf und Reibung hindurch zu Sieg kommt.* August Otto Halm, *Harmonielehre*, Berlin 1905, 14.

real struggle was an essential sign of musical life. And in the first movement of the *Sinfonia Espansiva*, such struggle can be understood, not simply in terms of chromatic voice leading and displacement, but rather as the tension or flux between the music's strikingly triadic foreground and its chromatic pitch space.

For Kurth, this cyclic pattern of tension and relaxation could be expressed analytically through the metaphor of the energetic wave. In his seminal text *Romantische Harmonik und ihrer Krise nach Tristan*, Kurth proposed that music can be heard as a 'symphony of energetic currents'.<sup>12</sup> In the first volume of his *Bruckner* monograph, he argued that musical form can be understood as the projection of 'force through space and time'.<sup>13</sup> Bruckner's symphonies can be heard in terms of their gradual increase in tension and amplitude, building through what Kurth calls apex waves (*Gipfelwellen*), whose impulse is towards accumulation and growth; followed by reverberatory waves (*Nachwellen*, *Nachbebungen*), which gradually decrease in tension and amplitude; or discharge waves (*Entladung*), the moment at which the apex waves crest and break, releasing musical energy in a sudden, radiant, and barely controlled burst. Like an open body of water, Bruckner's symphonic movements are animated through a complex series of interlocking wave structures, rising and falling at different rates of intensification and decay. Hence, larger undulations can underpin smaller 'component wave forms', generating the impression of layered depth. Hans Mersmann developed a similar model of kinetic musical motion in his *Angewandte Musikästhetik* ('Applied Music Aesthetics', 1926)<sup>14</sup>. For Mersmann, music's organic growth depends upon the tension (*Spannung*) created between its opposed elements, force and space. Mersmann hence develops a model of centrifugal and expansive force: curves of musical tension which expand and contract according to the mysterious inner life-force of the music's germinal cell:

The opposition of expansive and centripetal forces is one of the concepts through which all musical events can be characterised. It works at every level and in all dimensions. In the simultaneity of both forces, the expansive growth in space and the centripetal relation to the origin is based the concept of tension. Expansive and centripetal are the two forces of the wave, the swinging out and flowing back, they are the two components of the greater

12 *Romantische Harmonik und ihre Krise nach Tristan*, Berlin 1923; 3rd ed. (originally published 1919), 2. Quoted in *Ernst Kurth: Selected Writings*, ed. and translated by Lee A Rothfarb, Cambridge 1991, 28.

13 *Bruckner*, 2 vols, Berlin 1925; (repr. Hildesheim 1971), vol. 1, 239; quoted in Rothfarb (translator), *Ernst Kurth: Selected Writings*, 30.

14 Mersmann was born on 6 August 1891 and studied music in Munich and Berlin. He taught at the Technische Hochschule in Berlin until 1933, when the National Socialist regime forced him to resign from his post. After the war, he was head of the Hochschule für Musik in Cologne between 1947 and 1957.

drawing of breath, through which all appearances of musical growth can be illuminated.<sup>15</sup>

From a basic taxonomy of wave forms (see Fig. 1), Mersmann develops a more complex hierarchy corresponding to different kinds of *Formverlauf* (formal trajectories). The most important types are the seventh and eight categories: *antithetische (zweidimensionale) Entwicklung* (antithetical [two-dimensional] development) and *zentrale mehrdimensionale Entwicklung (Ausstrahlung)* (centripetal multidimensional development [radiation]). The first projects the basic sine-wave oscillation outwards in a series of pulses, resulting in a stepped outline from the interplay of component waves and their growth and decay. The second is more complex, forming a series of cycles that expand and contract in a similar manner, generating larger patterns of expansion and contraction from the shifting phase rhythm of component cycles.

Mersmann's charts constitute a powerful analytical *Gestalt* or *image schema*. They properly belong to the family of standard patterns or cross-domain mappings that Candace Brower has recently described as cognitive projections of embodied ex-

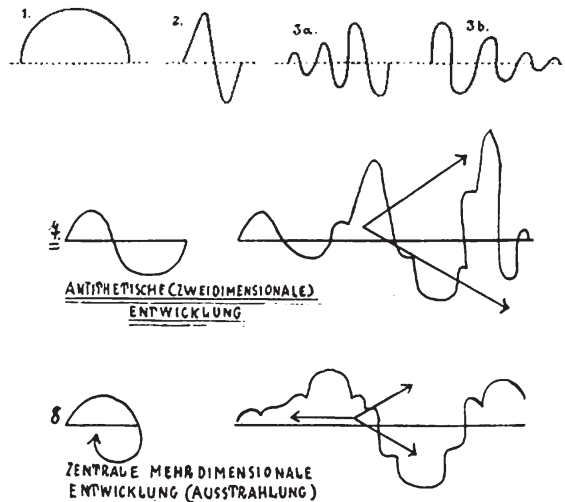


FIG. 1: Hans Mersmann, *musical wave forms* from *Angewandte Musikästhetik* (1926)

15 Die Gegensatz expansiver und zentripetaler Kräfte ist einer der Begriffe, unter denen man das Wesen alles musikalischen Geschehens erfassen kann. Er wirkt in allen Graden und Dimensionen. In der Gleichzeitigkeit beider Kräfte: des expansive Wachstums in den Raum und der zentripetalen Beziehungen auf die Basis wurzelt der Spannungsbegriff. Expansiv und zentripetal sind die beiden Kräfte der Welle, das Ausschwingen und Zurückfluten, sie sind die Komponenten des großen Atmungsvorgangs, welcher durch alle Erscheinungen musikalischen Wachstums hindurchleuchtet. Hans Mersmann, *Angewandte Musikästhetik*, Berlin 1926, 22.

perience, which trace a process of psychological transformation:<sup>16</sup> a synthesis of perception, experience, and imagination whose swinging motion describes a constant shifting back and forth. For Kurth and Mersmann, music was merely a 'final stage, the last reverberation', of a deeper progenerative psychic process. For Nielsen, however, music, or rather its sounding realisation, was more elemental. The symphony's corporeal presence breaks through the metaphorical distance evoked by Kurth and Mersmann, shattering in its dramatic opening bars the hazy realm of the psychic imagination from which music, according to German theory, is conjured and evoked.

Mersmann's imagined waves, his projections of the mind's inner psychological workings in sounding form, therefore assume a hard-edged bodily presence in Nielsen's music: the vitalist struggle with the raw musical material is brought thrillingly into the symphony's foreground so that the continual surging forwards and backwards, the oscillation between peaks and troughs of musical activity, becomes the primary motivator of symphonic form. The work's opening gesture, Robert Simpson's 'tonal forge', is a particle accelerator.<sup>17</sup> The rapid bursts of energy or impulses that dramatically shatter its expectant silence are a series of shock waves or sound barriers that rapidly gain momentum and begin to revolve, like charged particles orbiting a nucleus in Bohr's model of atomic structure. This rotating body of sound generates its own sense of gravitational tonal energy or current, seemingly bending time itself so that we travel from an entirely inert state towards a sense of things shifting constantly forwards. Hamburger dwells on the electrifying nature of this idea: the growth is as much registral as rhythmic, transforming the vertical span of the opening bars (4 octaves) into a linear melodic curve or vector, initially in unison and then branching out and diversifying. Hamburger rightly identifies this as the movement's catalysing 'power source' – both through its tendency to evolve and expand, and also because of the process of chromatic displacement, the leading note tensions that immediately begin to augment and transform the opening triadic motto (bb. 15-17). Indeed, the kinetic tension between  $b^{\sharp}$  and  $b^{\flat}$  becomes the Allegro's molecular fingerprint or DNA, the essential element of instability that acts as a continual agent of change. The first time in which this  $b^{\sharp}$ - $b^{\flat}$  tension is realised is the sudden shift towards the flat side in b. 28, rapidly corrected by the start of the ascending chromatic sequence in bb. 38-99 (see *Ex. 1*). This ascent itself reaches a local point of crisis as the P-space approaches its apex: the syncopated hemio-las in bb. 93-98 grind together like badly tuned gears, the woodwind passing painfully through  $b^{\sharp}$  and  $b^{\flat}$  as the music enthusiastically 'overshoots' its obvious harmonic goal

16 Candace Brower, 'Paradoxes of Pitch Space', *Music Analysis* 27/1 (March 2008), 51-106.

17 Meyer and Schandorf record, more prosaically, that the idea of the opening occurred to Nielsen while riding on a tram. Torben Meyer and Frede Schandorf Petersen, *Carl Nielsen: Kunstneren og Mennesket*, Copenhagen 1947-48, vol. II, 9.

| Bar              | Section      | Theme                                                        | Key centre              | Character/Texture                |
|------------------|--------------|--------------------------------------------------------------|-------------------------|----------------------------------|
| 1                | Intro        | n/a                                                          | a? V/d?                 | <i>fortissimo</i> unison attack  |
| EXPOSITION (EET) |              |                                                              |                         |                                  |
| 14               | P            | $\alpha - \alpha^1$                                          | d?-F-V/g $\sharp$       | <i>fortissimo</i> , linear       |
| 61               | TR           | $\beta, \alpha^2$                                            | g $\sharp - V/A^b$ (MC) | <i>fortissimo</i> , linear       |
| 138              | S            | $\gamma - \gamma^1, \delta, \varepsilon, \zeta$              | A $^b - V/C$            | <i>mezzo piano</i> , circular    |
| 226              | C            | $\gamma^x$                                                   | C (PAC: EEC)            | cadential                        |
| DEVELOPMENT      |              |                                                              |                         |                                  |
| 284              | P            | $\eta - \eta^4, \alpha^{3-5}, \theta, \alpha x - \alpha x^2$ | a - V/c $\sharp$        | fugato/waltz apotheosis          |
| 424              | C            | $\gamma^x^1$                                                 | c $\sharp$              | <i>fortissimo</i> , circular     |
| (452             | [P aborted!] | $\alpha^6 - \alpha^7$                                        | f - V/E $^b$ (MC)       | solo, linear, unstable)          |
| REPRISE (R-Zone) |              |                                                              |                         |                                  |
| 483              | S            | $\gamma^2 - \gamma^3, \delta^1, \varepsilon^1, \zeta^1$      | E $^b - V/A$            | <i>mezzo piano</i> , circular    |
| 562              | C            | $\gamma^x^1$                                                 | A - V $^7$ /d           | cadential                        |
| 584              | P            | $\alpha^8$                                                   | d - V/f $\sharp$ !      | <i>fortissimo</i> , interrupted! |
| 613              | TR           | $\beta^1$                                                    | f $\sharp - V/a$        | <i>fortissimo</i> , linear       |
| CODA             |              |                                                              |                         |                                  |
| 710              | P            | $\alpha^9$                                                   | a - A! (PAC: ESC)       | <i>fortissimo</i> , circular     |

P=Primary Theme

TR=Transition

S=Second Subject

C=Coda

EEC=Essential Expository Closure

ESC=Essential Structural Closure

MC=Medial Caesura

PAC=Perfect Authentic Cadence



$\alpha$

15

$\beta$

66

$\gamma$

138

$\delta$

175

$\epsilon$

191

$\zeta$

199

$\eta$

216

$\theta$

339

FIG. 2: *Sinfonia Espansiva*, first movement: formal chart.

EX. 1: Nielsen: *Sinfonia espansiva*, first movement, bb. 1-138, harmonic reduction.

(the dominant minor). Only after this knot has been loosened can the wave energy of the P-Space discharge its cumulative harmonic tension through the powerful 4-3 suspended cadence in bb. 116-137. Even as this earlier wave subsides, however, a ‘new upswing begins with the following thematic group’, generating a complex overlapping of smaller component wave forms. The second subject group or S-space thus begins as a *Nachwelle*, or reverberatory wave, an afterglow of the energy expended from the massive climb and breaking plunge of the P-space’s preceding musical curve.

For Hamburger, Nielsen’s drama of linear melodic energies and musical waves offers a profoundly new way of conceiving symphonic time and space, one which successfully balances the often conflicting demands of modernist musical syntax and classical formal architecture. ‘What is decisive for the relationship of the individual sections – in spite of the remnants of functional harmony’, Hamburger argues, ‘is not as in classical Sonata form the harmonic-modulatory tensions, but the shifting intensity in the linear forces (melody and rhythm)’.<sup>18</sup> This innovative solution to the problems of musical form prompts wider questions regarding Nielsen’s relationship with his European symphonic contemporaries and immediate forerunners, an issue left tantalisingly unaddressed at the end of Hamburger’s essay. ‘What one describes as form’, Kurth writes of Bruckner, ‘is in reality the transfer of force in form (just as in the harmonic transformation of sonic tension in chords, the melodic transfer of psychic energetic motion in the corresponding idea of a sounding series of points). Form is not that from which the stream of creation runs, but rather that into which it flows’.<sup>19</sup> Formal space, for Bruckner, hence becomes an expression of the creative will’s expansive force or coming-into-being. For Nielsen, like Mersmann and Halm, music’s basic state is motion

18 *Bestemmende for de enkelte Formleds indbyrdes Forhold er – trods alle Rester af Funktionsharmonik – ikke som i den klassiske Sonateform harmonisk-modulatoriske Spændinger, men den vekslende Intensitet i de lineære Kræfter (Melodi og Rytme).*

19 *Was man als Form bezeichnet hat, ist in Wirklichkeit Übergang von Kraft in Form (ebenso wie die Harmonik Übergang von Klangspannung in Klangbild, das Melodische Übergang psychischer Kraftbewegung ins andeutende Bild der tönenden Punktreihe). Form ist nicht das, wovon der Strom des Schaffens ausgeht, sondern worein er mündet.* Ernst Kurth, *Bruckner*, Berlin 1925, vol. I, 233. Quoted in Wolfgang Krebs, *Innere Dynamik*, 252.

and change; music is otherwise cold and lifeless. In a particularly Halm-like passage, Nielsen argued in his lecture 'Form and Content in Music', that 'if we sit beside a brook or a stream, it is its course which interests us, its meandering round obstacles and its many other movements en route, and not so much that, as we know, it flows into the sea.'<sup>20</sup> At this moment, with his notion of music as an energetic *Fortspinnung*, Nielsen looks back beyond Bruckner's symphonic waves to an earlier German father-figure, J. S. Bach: 'In his preludes and fugues it is this simultaneously peaceful and murmuring, animated stream that refreshes and enraptures us'.<sup>21</sup> Nielsen's sense of inheritance, and his feeling for musical form and process, are thus synthesised together into an *élan vital*, flowing and branching into innumerable tributaries as it meanders and curves through musical time and space.

Analysis of the first movement of *Sinfonia Espansiva*, however, has suggested a more anxious and uncertain attitude to the musical material. The waves that propel its musical stream of consciousness constantly rise and break through the spiralling gyres of Harald Krebs's spliced sonata structures so that the music carries its own potentially destructive current within its energetic motion, constantly threatening to fracture and pull the symphonic texture apart. In that sense, Nielsen's symphonic vision is closer to Elgar's (for instance, in the binary duotonal structure of the first movement of his First Symphony) or to Mahler's (in the multi-layered tiers of the first movement of his Ninth) than to Bruckner's. The complex, interlocking waves that flex within the first movement of the *Espansiva* powerfully realise the potential energy, described by Mersmann and Kurth, created by the tension between expansive melodic lines and binding centripetal harmonic forces. Mersmann's *Gestalt* image of the pulsating sine wave, growing and diminishing with constantly shifting amplitude, vividly illustrates the music's energetic path against continual friction and resistance. Indeed, this process of opposition becomes the governing law of both Mahler's and Nielsen's music. For Adorno, confrontation with such opposition is itself a sign of Mahler's truth. 'Mahler's symphonies plead anew against the world's course [Weltlauf]', Adorno suggests. 'They imitate it in order to accuse; the moments when they breach it are also moments of protest.'<sup>22</sup> Nielsen's music is similarly dialectical in spirit – but the idea of contrast, the basic principle of his work, arises not, like Adorno's Mahler, from a deep fracturing within the musical material, but rather from its dynamic instability. Like Mahler, Nielsen's symphonies can be heard as immanent critique. They seek to puncture and break through the existing bourgeois conception of art which the symphony as an institution had his-

20 Hvis vi sidder ved en Bæk eller en Strøm, saa er det dens Løb, der interesserer os, dens Krusninger paa grund af Forhindringer og dens mange andre Bevægelser undervejs, og ikke saa meget det, at vi ved, den løber ud i Havet. John Fellow, *op. cit.*, vol. II, 422.

21 I hans Præludier og Fugaer er det jo denne paa een Gang rolige og rislende, bevægelige Strøm, der forfrisker og henrykker os [...]. John Fellow, *op. cit.*, vol. II, 422.

22 Theodor W. Adorno, *Mahler, Eine musikalische Physiognomik*, Berlin 1960, 6.

torically seemed to uphold, and uncover a purer, more energised musical truth. But the crucial difference between the two modernists is one of direction – whereas the prevailing trajectory in Mahler, following Adorno’s negative dialectics, is a slow, irrevocable letting-go, a melancholic departure from the world, even at its most seemingly affirmative, for Nielsen, the structural and expressive impulse in the *Sinfonia Espansiva* is insistently forwards. Nielsen’s Symphony, I would claim, is no less a threshold than Mahler’s or Elgar’s, its sounding span framing a similarly cyclic view of music’s evolution, resonance, and renewal. And, despite the confident gestures of the finale’s closing pages, I would argue that the *Sinfonia Espansiva* reveals a similarly anxious attitude to its new musical horizons: the work’s progressive tonal plan, as so often in Nielsen’s music, is both a sign of its own contingency and an intensification of the work’s basic trajectory (outwards). But such openness is never an aesthetic weakness, a failure of the music’s structure to contain and resolve its underlying tensions. Rather, in the way that it bends and stretches musical time and space, and in the linear energy of its symphonic waves, the *Sinfonia Espansiva* has its finger firmly on the pulse of musical modernism.

#### A B S T R A C T

The first published analysis of Carl Nielsen’s music appeared only in the final year of the composer’s life. Povl Hamburger’s article, ‘Formproblemet i vor tids musik med analyse af Carl Nielsen’s Sinfonia Espansiva (1 Sats)’ (*Dansk Musiktidsskrift* 5/6 (May 1931)), was greeted sceptically by Nielsen himself. Nevertheless, Hamburger’s analysis suggests some interesting parallels with trends in contemporary German music theory, particularly the work of Hans Mersmann. Re-reading the *Sinfonia Espansiva* in the light of such work offers insights into Nielsen’s approach to symphonic structure, particularly his employment of energetic wave forms, and problematises his approach to the genre. Such wave forms, I argue, are fundamental to Nielsen’s understanding of symphonic design, and can be fruitfully applied to earlier works, such as the first movement of the Second Symphony, as well as informing the tone and design of later symphonies such as the Fourth (‘The inextinguishable’). Nielsen’s idea of the symphony is underpinned by a powerfully organicist view of musical motion, one which is in tune with many of the vitalist currents in northern European culture at the start of the century. But in the Third Symphony, Nielsen also strikes a more complex, modernist note. Through comparison with the symphonic music of his contemporaries, notably Gustav Mahler and Edward Elgar, Nielsen emerges characteristically as a critical, but ultimately affirmative voice in early twentieth-century music.