

Between Emotion
and Intellect.
On the Musical
Language of
Andrzej Panufnik
(1914–1991)

BEATA BOLESŁAWSKA-LEWANDOWSKA

Institute of Art of the Polish Academy of Sciences, Warsaw

Email: bboleslawska@wp.pl

*The Polish Composers' Union 70th Anniversary events are co-organised
by the Institute of Music and Dance and co-financed by the Ministry of Culture and National Heritage*

ABSTRACT

Andrzej Panufnik's (1914–1991) key objective as a composer was to achieve a balance between emotion and intellect. The composer very often emphasised the role of the relation between these two elements in his works. This topic is the leitmotiv of texts about his own music left behind by the composer. From those texts, it is clearly evident that symmetry (and in later years also geometry) played a central role in the composer's formal concepts. The impulse for the study of the possibility of using geometric shapes for the construction of musical forms came from his 1972 composition for the BBC television entitled *Triangles* – for three flutes and three cellos.

The geometricisation of the formal structures of Panufnik's works (frequently represented by means of sophisticated diagrams included in the scores) was correlated with a systematic reduction of musical language, based from 1968 on the three-note intervallic cell of E-F-B. In the course of the composition, this unit was submitted to a succession of symmetrical processes, such as transpositions and mirror reflections, superimposed on one another both on the melodic and harmonic levels, which was responsible for the specific sound climate of Panufnik's music. The fullest realisation of the composer's systematic thinking based on the principles of geometry can be found in his *Symphony No. 5 – Sinfonia di Sfere* (1974), in which every element was submitted to the principles of geometric symmetry represented in a diagram based on the perfect geometric figure of a circle.

What is particularly important, this prominent constructivist current in Panufnik's works always coexisted, as the composer himself claimed, with powerful emotional expression in his music. Did he manage to achieve the intended ideal balance between emotion and intellect in his music? Everyone can judge by themselves. This paper discusses the principal qualities of Andrzej Panufnik's musical language.

INTRODUCTION

In 1974, at the request of his publisher, Boosey&Hawkes (London), Andrzej Panufnik prepared a publication which contains commentaries to all his works published before that date. The very title of that publication – *Impulse and Design in My Music* – indicates the central elements of the composer's musical language. In the introduction, we read: "In all my works, I attempt to achieve a true balance between feeling and intellect; heart and brain; *impulse* and *design*."¹

The composer very often emphasised the role of the relation between these two elements in his works. This topic is the leitmotiv of texts that he wrote about his own music. In Panufnik's case, such self-commentaries are abundant. Apart from the 1974 compilation mentioned above, the main sources of information about his musical language are: the composer's autobiography *Composing Myself*, published in 1987 in London (Polish-language editions: *Panufnik o sobie*, 1990 and *Panufnik*.

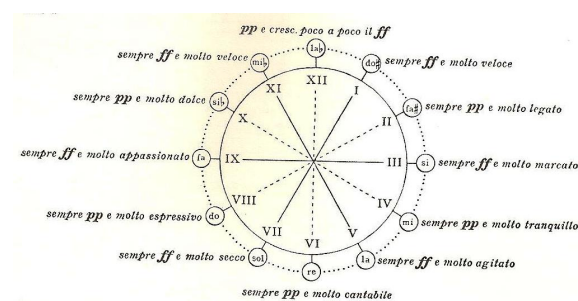
¹ A. Panufnik (1974). *Impulse and Design in My Music*. Londyn: Boosey&Hawkes (introduction), p. 1.

Autobiografia, 2014)² as well as programme notes (author's commentaries) for his successive works; most of these notes were printed in the scores.³ These texts point to the main constituents of Panufnik's musical language, among which symmetry takes pride of place.

THE ROLE OF SYMMETRY IN ANDRZEJ PANUFNIK'S MUSICAL LANGUAGE

Even a cursory study of Panufnik's oeuvre proves beyond any doubt that symmetry plays a key role in his formal concepts. This element is extremely prominent already in his earliest works, such as:

1. *Twelve Miniature Studies* (1947), initially published as the *Circle of Fifths* – a cycle of *études* for piano inspired by similar cycles written by Bach and Chopin, based on the circle of fifths, with symmetrical representation of the characters of "opposed" miniatures. The arrangement of pieces in the cycle is represented by the composer's own diagram (Ex. 1):



Ex. 1. *Twelve Miniature Studies* – the composer's diagram reflecting the structure of the cycle.⁴

2. *Nocturne* for orchestra (1947) – based on a distinct arch-form, in which the opening and closing sections correspond in character and mood. It should be noted that arch-form would regularly return in Panufnik's

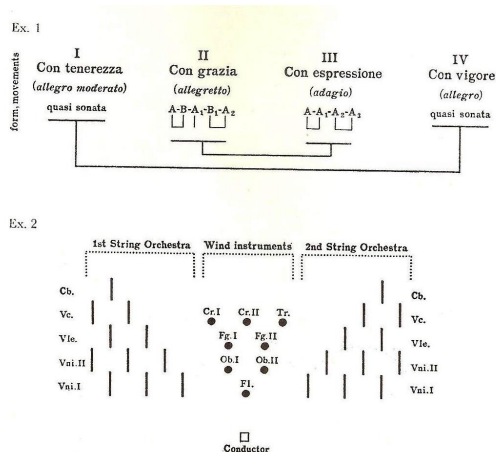
² A. Panufnik (1987). *Composing Myself*. London: Methuen; Polish-language version: *Panufnik o sobie* (1990). M. Glińska (transl.) Warsaw: Niezależna Oficyna Wydawnicza; *Panufnik. Autobiography* (2014). M. Glińska, B. Bolesławska-Lewandowska (transl.). Warsaw: Marginesy.

³ Most of these can also be found on the publisher's website: www.boosey.com/composer/Andrzej+Panufnik.

⁴ (c) Copyright 1955, 1965 by Hawkes & Son (London) Ltd. Reproduced by kind permission of Boosey & Hawkes Music Publishers Ltd.

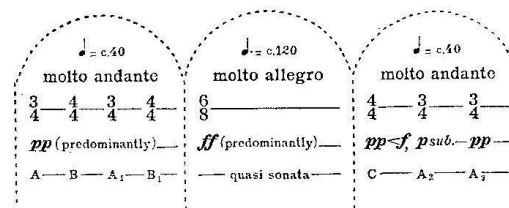
output, and in later years it will be transformed into the improved mirror form, which makes use of a clearly recognisable mirror reflection of the musical material (e.g. the *Sinfonia di Sfere*, 1974–75; *Sinfonia di Speranza*, 1987; *String Quartet No. 3*, part IV).

3. *Sinfonia Rustica* (1948) – in this composition Panufnik applied – for the first time – a symmetrical division and arrangement of the orchestra on the stage (cf. Ex. 2), with the aim of improving the acoustic qualities of the symphony. Spatial – usually symmetrical – arrangement of performing forces was later applied in several of his works (e.g. *Sinfonia di Sfere*, 1974; *Arbor Cosmica*, 1983).



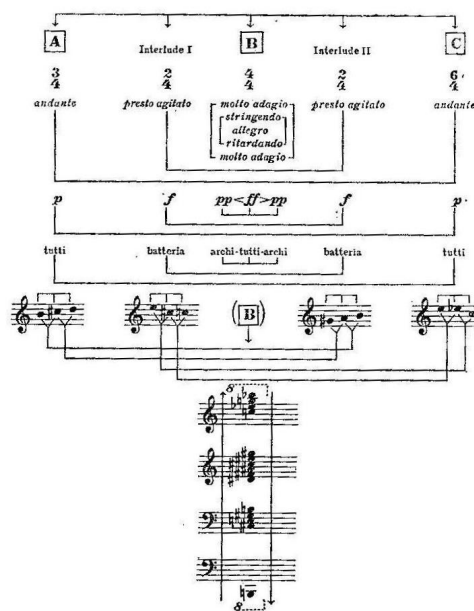
Ex. 2. *Sinfonia Rustica* – scheme of the formal organisation (Ex. 1) and arrangement of the orchestra on the stage (Ex. 2).⁵

4. *Sinfonia Elegiaca* (1957) – a remake of the *Symphony of Peace*, composed in 1951 and later withdrawn from the composer's catalogue.⁶ It is based on a tripartite arch-form with a strongly contrasted central section (cf. Ex. 3)



Ex. 3. *Sinfonia Elegiaca* – scheme of the form of the composition.⁷

5. *Autumn Music* (1961) – a five-part, clearly symmetrical form, in which the three main sections (ABC) are separated by brief percussion interludes of mutually corresponding character (cf. Ex. 4).



Ex. 4. *Autumn Music* – scheme of the form of the composition.⁸

⁵ (c) Copyright 1957 by Hawkes & Son (London) Ltd. Reproduced by kind permission of Boosey & Hawkes Music Publishers Ltd.

⁶ Andrzej Panufnik's *Symphony of Peace* for choir and orchestra was composed in 1951, in the period when socialist-realist doctrine was obligatory in Poland. In the third movement, Panufnik quoted Jarosław Iwaszkiewicz's poem *Peace*. After leaving Poland in 1954, the composer withdrew the symphony from the catalogue of his works, and in 1957 – used the material of the first two (instrumental) movements to compose his *Sinfonia Elegiaca*. The material of the final choral movement was used, in turn, in his 1972 composition *Invocation for Peace* for children's voices, two trumpets and two trombones (or strings and woodwinds), which set a text specially written for this purpose by the composer's wife, Camilla Jessel-Panufnik. Cf. also B. Bolesławska (2015). *The Life and Works of Andrzej Panufnik (1914-1991)*. Farnham: Ashgate and www.panufnik.polic.pl.

The above-listed examples, selected from the already quoted publication *Impulse and Design in my Music*, illustrate just a few of the many formal solutions applied in Andrzej Panufnik's early compositions. With time, the composer's interest in symmetry and its applications in the musical work developed so as to include all

⁷ (c) Copyright 1972 by Hawkes & Son (London) Ltd. Reproduced by kind permission of Boosey & Hawkes Music Publishers Ltd.

⁸ (c) Copyright 1971 by Hawkes & Son (London) Ltd. Reproduced by kind permission of Boosey & Hawkes Music Publishers Ltd.

the layers of the composition: not only its formal structure, but also rhythm, dynamics, tempi, harmony and melodic progressions. All these changes were closely associated with a transformation in Panufnik's musical language, which took place in the late 1960s and the early 1970s.

IN SEARCH OF A NEW LANGUAGE

In the late 1960s Andrzej Panufnik began to look for a new type of musical language. He felt that his earlier ideas, mostly derived from inspiration with the culture of his native country, which underlay such compositions as the *Polonia* orchestral suite (1959), *Sinfonia Sacra* (1963) and *Katyń Epitaph* (1967) – had been exhausted. In order further to develop, he had to find a new dimension for his music. This is how he recalled this period many years later:

I resolved, however long it would take me, to persevere relentlessly until I could discover a new way of expressing myself, influenced neither by my native culture nor by the language of any other existing composer or musical school of thought. Almost every day, not for weeks, nor for months, but for three, almost four years, I spent hour after hour in my converted stable at the end of the garden, reflecting how to tackle my new task. Sitting at my desk I would search on the staves of my manuscript paper, scribbling down endless different ideas, then trying them at the piano, until at last one day I realised that my ear, together with my intuition, was beginning to win over intellectual speculation: I suddenly found a group of three notes [E-F-B – note by B.B.L.] which, as I manipulated them within the stave and on the piano, I perceived had some evocative and strangely expandable qualities – even, it felt to me, some magical power.⁹

And indeed, from 1968 onward the melodic-harmonic material of all of Panufnik's works was largely based on the three-note intervallic cell E-F-B, as well as its mirror reflections and transpositions. Even when in his later works the composer sometimes suspended this principle and used other selected sets of intervallic cells (as in the *Violin Concerto*, *Sinfonia Concertante*, and *Arbor Cosmica*), or combined the three-note unit with quasi-tonal lines (as in *Sinfonia di Speranza* and *Symphony No. 10*), the E-F-B cell discovered in 1968 remained the key determinant of all his later music. Its importance is also evident in the fact that the composer put these three notes on the cover of his autobiography, associating the tones E-F-B with the three stages of his life: childhood, youth and mature years (cf. Ex. 5).



Ex. 5. Fragment of the cover of Andrzej Panufnik's *Composing Myself*.¹⁰

The limitation of musical language to material based on transformations of the initial cell provided Panufnik's works with integrity and his music material – with coherence, as well as endowing them with a peculiar, highly recognisable sound aura. The first composition written in accordance with the new principles was *Reflections* (1968) for piano, followed closely by larger-scale works – the cantata *Universal Prayer* to words by Alexander Pope (1968) and *Thames Pageant* to words by Camilla Jessel (1969), as well as the *Violin Concerto* (1971) and many others. Having reduced his musical language, Andrzej Panufnik continued his interest in symmetry as a structuring principle in the musical work, and he would soon become inspired by geometry. The history of that latter inspiration is connected with a piece which, though rather small-scale and occasional in character, proved to mark a significant stage in the composer's artistic development: *Triangles* for three flutes and three cellos, composed in 1972 as a commission from the BBC television.

PLUNGING INTO GEOMETRY: TRIANGLES

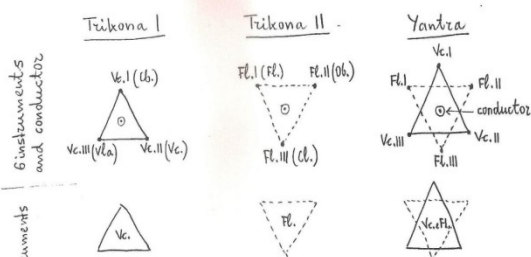
Intrigued by the possibility of writing a piece that – thanks to the television – would simultaneously take

⁹ A. Panufnik (1987). *Composing Myself*, op. cit, p. 309.

¹⁰ *Ibid.*, cover

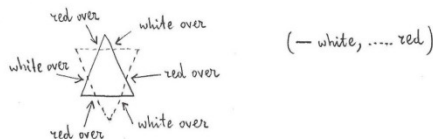
III. Visualisation

Performers (musicians):



instruments
or
instruments

All pictures taken from above.
Colours (according to Tantras): white for "Trikona I" (white triangle, male players dressed white), red for "Trikona II" (red triangle, female players dressed red).
Suggested background: dark green (or dark brown).
In "Yantra" two isosceles triangles intersect and interweave with each other:



Pictures and Sculptures: general photographic approach:
(with special emphasis on powerful erotic and sensual male-female polarity symbolism)

TRIKONA I	"Linga", Universe, cosmograms (pictures)	— static (sudden and gradual doing)
TRIKONA II	"Yoni", icons of Goddesses (sculptures)	— non-static (always "flowing" towards the viewer at the same speed)
YANTRA	Material from Trikona I & II	— static and non-static (including)

Selection of pictures

from A. Mookerjee's "Tantra Art" – Book I, and "Tantra Asana" – Book II

TRIKONA I – Book I, pages: 58 – a point of departure (repetitions), or 70 (both to be used as the most important), 40 (2 pictures), 61
Book II, pages: 20 (point of departure?), 21 (2 or 3 pictures), 25, 41, 4, 25, 137, 47, 48, 49, 50 (2 pictures in last four pages). (45?)

"Linga" (Book I, page 111?) – a repeated symbol of "Trikona I"

TRIKONA II – Book I, pages: 67 – a point of departure (repetitions), 66, 92, (9?)
Other sculptures, like in Tantra Catalogue (London Exhibition) – pag 15 (Nr 32), 16 (Nr 35), 19 (Nr 51), 20 (Nr 52), 26 (Nr 82), 31 (Nr 113, 114), p. 32 (Nr 116), p. 34 (Nr 125).

YANTRA – Some material from Trikona I & II (in reverse order), and:
Book I, pages: 22, 23 (two most powerful yantras), 75 (two),
Book II, pages: 47, 48 (3rd v. powerful yantra), 49, 66(?), 67 (yamt 77(?), 79, 82(?), 84(?), 89, 91, 103, 104, 105, 107, 112, 113, 118(?), 120, 136(?), 45(?), 139 (the last card) (123?)

(The order of all pictures to be discussed).

General suggestions: Economy of material (repetitions), and symmetrical patterns. Accents: "sudden" or "gradual" changes of pictures with "fading out" or "fading up" – according to the phrasing and dynamics of music. A great number of "super-imposed" photographs in Yantra (dualism).

Form:

Trikona I – A, B, C, D Trikona II – E, F, G, H

Yantra – D/H, X, G/C, Y, F/B, Z, E/A + erotics

(Details to be discussed)

Andrzej Panufnik

November – December 1971.

Ex. 6. *Triangles*, the composer's instructions for the televised production of the work (a fragment).¹²

a visual form, the composer decided to exploit this opportunity. Years later he recalled:

The idea of a new art form was exciting. I decided to produce a work based on the mystical Indian Tantrik philosophy and art, which I had just discovered at a London exhibition. Using the title *Triangles*, in reference to the two triangles which depict the basic concept of the Tantrik philosophy, I chose as my theme the fundamental dualism between the static male force, macrocosm – which represents the world of pure spirit, symbolised by a triangle with the apex upwards – and the active female force, microcosm – which represents the world of pure matter, also symbolised by a triangle but with the apex pointing down. In Tantrik diagrams, these triangles appear either separately or interpenetrating, together forming a diagram called a Yantra, symbolising the union of opposites, the amalgamation of the spiritual and the erotic elements.¹¹

This symbolism is reflected in the tripartite form of the composition, whose three parts bear the titles of *Trikona I*,

Trikona II and *Yantra*. The score (preserved to our day exclusively in the manuscript) is preceded by a several-page commentary by the composer himself, containing not only notes on the form and sound of the piece, but – perhaps most importantly – guidelines for the televised production (cf. Ex. 6).

In the composer's intention, the TV production was to follow his guidelines in every detail, so as best to reflect the idea of the work. The visual component of the programme included – apart from shots of musicians – also a number of images related to the Tantric art. The composer himself suggested the use of specific images in the above-mentioned commentary to the score (cf. Ex. 6). Such profound involvement of the composer not only in the musical, but also the visual realisation of

¹¹ *Ibid.*, pp. 324–325.

¹² The manuscript of *Triangles* was kindly given to me by Lady Camilla Panufnik, the composer's widow. The original is located at the Panufnik Archive, Twickenham.

his work proves with how much care he supervised the final, audio-visual form of his composition. In this sense, the composition *Triangles* bears important testimony to Panufnik's explorations in the field of combining sound with image. And although the composer had the experience of writing music for films in his youth,¹³ in this case the result is an entirely autonomous work written with the televised production in mind.¹⁴

The first part – *Trikona I* – for three cellos, is performed by three male instrumentalists seated in a triangle pointing upwards. In the second part – *Trikona II* – three woman-flutists sit in a triangle with its apex pointing down. In the last part of the composition, both trios of performers are combined, and visually the two triangles overlap. The symbolism of the male and female principles, derived from tantric dualism, is naturally of enormous significance also for the musical material of the piece, based as a whole on the development of the three-note cell E-F-B. The “male” *Trikona I* develops the initial material upwards (transpositions of the initial cells move up the scale), whereas the “female” *Trikona II* moves downwards. In *Yantra* both these possibilities are combined, and the musical material exploited so far undergoes unification (cf. Ex. 7). The composer also took care to differentiate expression: the “male” part one, corresponding to the cosmic principle, is static and dominated by long values and slow tempi, whereas the second, “female” part, representing the earthly feminine principle, brings more lively melodic progressions, is more changeable and momentary in its nature. In the final *Yantra* both these elements unite, forming an extremely tense culmination, followed by a soothing experience derived from the union of the opposites and the merging of the two principles. Despite a clearly delineated contrast, the whole is characterised by a deeply contemplative character related to the teachings of Eastern philosophy.

13 Panufnik was the author of music for the feature film *Strachy* (*The Ghosts*, 1938) as well as several documentaries made between 1936 and 1950. More on the composer's film music at: <http://panufnik.polmic.pl/index.php/en/tworczosc/omowienia-utworow/129-muzyka-filmowa>.

14 The audio-visual unity of *Triangles* must have been important for the composer, judging by the fact that till 2014 the work was never performed live in concert. It was only on the occasion of Panufnik's birth centenary in 2014 that this composition, along with many others, was recalled and performed live in Poland on two independent occasions: in Warsaw and in Cracow. Cf. http://imit.org.pl/uploads/materials/files/Aneks_do_raportu_o_obecnosci_muzyki_andrzeja_panufnika_w_polsce_i_na_swiecie.pdf). These interpretations proved that *Triangles* as a composition works very well on the concert stage. Also because of its untypical line-up (three flutes and three cellos), this piece constitutes an interesting contribution to the composer's output of chamber music.

Ex. 1

Ex. 2

Ex. 3

Ex. 7. *Triangles*, scheme of the melodic-harmonic structure of the composition.¹⁵

Although *Triangles* was written for a TV production, and Panufnik did not plan for concert performance, it soon turned out – rather surprisingly to the composer himself – that this composition would become a major impulse for his further artistic explorations. The experience of work on *Triangles* led him to work on “a musical work [...] contained and shaped by the perfect order of a geometric form”,¹⁶ which would prove of vital importance to his later work. Here is his later account:

[...] for the rest of the 1970s, after *Winter Solstice*, I became deeply bound up in my explorations of the potential use of geometry within my compositions. Whether in science, mysticism, religion or works of art of any period, geometric configurations, both coincidental and intentional, had always hypnotically appealed to my eyes. [...] I felt that geometric shapes could provide my compositions with an unseen skeleton within which my harmonic, melodic and rhythmic concepts could be bound together as a cohesive whole; an organised framework out of which both spiritual and poetic expression could freely flow. [...] As I planned my next compositions, it became clear to me that each of them would have to grow organically out of its own individual geometric base.

My next three symphonies – *Sinfonia di Sfere*, *Sinfonia Mistica* and *Metasinfonia* – were all expressions of my desire to explore to the

15 (c) Copyright by the Estate of Sir Andrzej Panufnik. Reproduced by kind permission of Boosey & Hawkes Music Publishers Ltd.

16 A. Panufnik (1987). *Composing Myself*, op. cit, p. 325.

extreme the concept of a substantial piece of music being built up out of its own geometric core.¹⁷

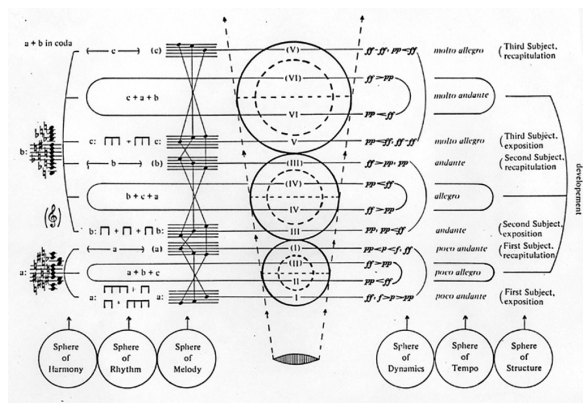
And indeed, already in the first of the three symphonies listed above – *Sinfonia di Sfere* (1974–75) – the composer presented his complete geometry-based system of composition, thought out in every detail.

GEOMETRY AS THE BASIS OF MUSICAL STRUCTURE: SINFONIA DI SFERE (1974–75)

It was in his *Fifth Symphony*, entitled *Sinfonia di Sfere*, that Andrzej Panufnik first used the geometric figure as a key for the construction of the entire composition – determining everything, from its formal shape to the smallest details in the individual layers of the work:

In [...] *Sinfonia di Sfere* (Symphony of Spheres), I was attempting to create a large-scale musical structure permeated by a sense of geometric pattern and order. Through the title I hoped that I was suggesting to listeners a kind of journey in space experienced inwardly and outwardly. (I was not referring directly to astronomy, astrology, cosmology, nor the mystical philosophy of Pythagoras and his “music of the spheres.”)¹⁸

In agreement with the composer’s concept, the whole structure of *Sinfonia di Sfere* is geometric throughout, as reflected in the sophisticated diagram presenting the structure of this work in the form of concentric circles (the “spheres” of the title; cf. Ex. 8).



Ex. 8. *Sinfonia di Sfere*, the composer’s diagram representing the structure of the composition.¹⁹

In the commentary printed in the score, Panufnik precisely explained the meanings of the individual spheres in this work:

As regards the musical material, SINFONIA DI SFERE is composed out of the following spheres: **Sphere of Harmony** – based on two chords, 9 minor thirds + 2 major seconds, and 8 major thirds + 3 minor thirds, both constructed symmetrically; **Sphere of Rhythm** – 4 units of 6 notes each; **Sphere of Melody** – based on one triad constantly transposed, reflected and rotated; **Sphere of Dynamics** – alternating use of crescendi and diminuendi arranged symmetrically; **Sphere of Tempo** – the areas of slow tempi and fast tempi each graduated; **Sphere of General Structure** – modified sonata form; and **Sphere of Orchestral Sound**: each of the Spheres has its own specific colour.²⁰

With regard to the formal make-up of the individual spheres in the symphony, it should be noted that the second part of Sphere I (similarly as in the case of Spheres III and V) is a mirror reflection of the first part of the same sphere. For example, Sphere I begins with a brief motif in the woodwinds, followed by a trumpet theme unfolding against the accompaniment of the strings. Other wind instruments and the piano gradually join in, and the whole sphere (or actually its first part) ends with gentle a piano-and-cello duo, after which Sphere II (no. 9 in the score) commences with an energetic entry of woodwinds and percussion. The return of Sphere I (no. 16) proceeds clearly from the end (i.e. from the piano-and-cello thread), gradually retracing all the steps back to the initial trumpet theme and woodwind “fanfare” (cf. Ex. 9a–9e).

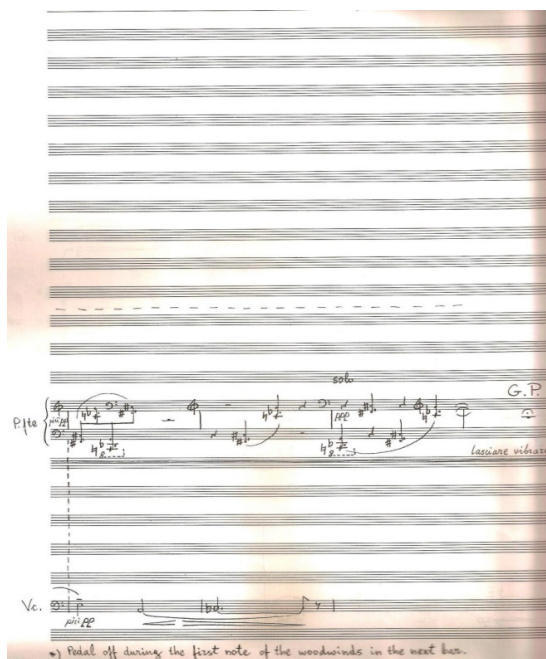
In its further development, the symphony follows the same pattern. Importantly, the duration of each successive sphere is shorter, which helps build up the drama of the work, with its extremely clear dramatic progression, leading to the final climax. Formally, *Sinfonia di Sfere* is a distinct example of the use of mirror symmetry, whose axis, or rather plane of symmetry is located in the central sphere of every circle. Additionally, each of the central spheres (II, IV and VI) is constructed according to the same mirror-reflection principle. The whole construction reflects the composer’s concept of containing form in circles or spheres, of which mirror symmetry is a typical feature. Notably, however, despite this precise and clear mirror construction (also supported by the symmetrical arrangement of the orchestra on the stage), Panufnik himself considered his symphony as a modified sonata form with three themes – which he indicated both on the diagram and in the already quoted commentary to the score. It seems rather surprising, since in such a concept of form there is no specific place for the central (inner) spheres, distinctly

¹⁷ *Ibid.*, pp. 326–327.

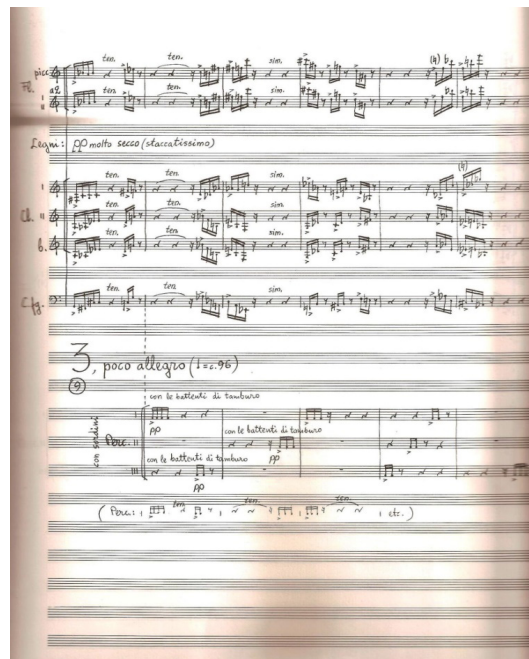
¹⁸ *Ibid.*, p. 327.

¹⁹ (c) Copyright 1976 by Hawkes & Son (London) Ltd. Reproduced by kind permission of Boosey & Hawkes Music Publishers Ltd.

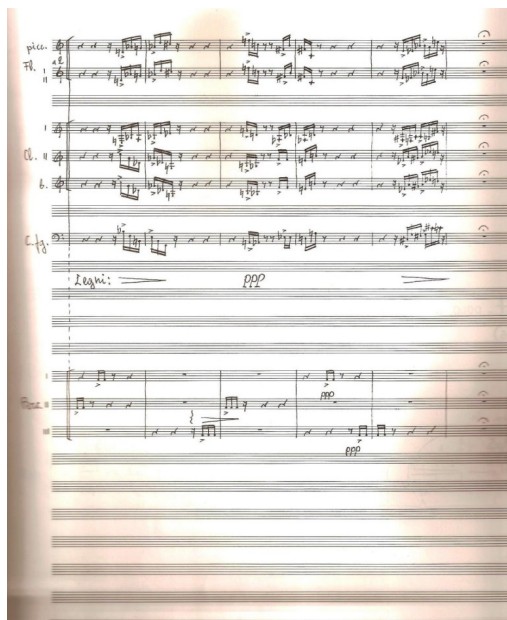
²⁰ A. Panufnik, (1976). *Sinfonia di Sfere (Author’s Commentary)*, London: Boosey & Hawkes Music Publishers Ltd, p. 3.



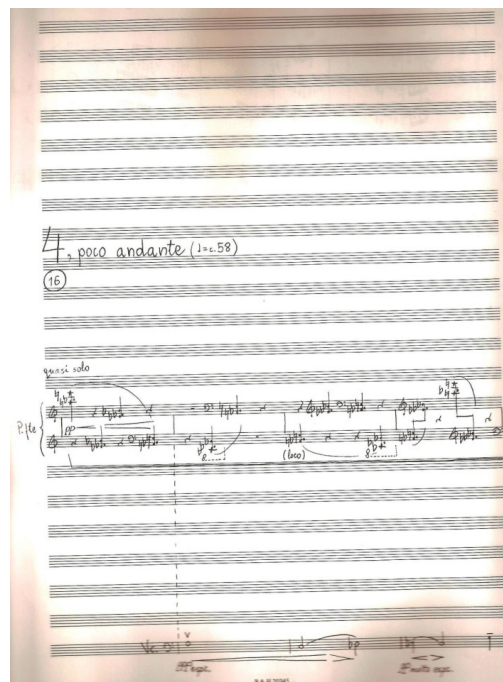
Ex. 9a. *Sinfonia di Sfere* – end of the first part of Sphere I (p. 6 in the score).²¹



Ex. 9b. *Sinfonia di Sfere* – opening of Sphere II (p. 7 in the score).²³



Ex. 9c. *Sinfonia di Sfere* – end of Sphere II (p. 25 in the score).²²



Ex. 9d. *Sinfonia di Sfere* – return of Sphere I (p. 26 in the score).²⁴

21 (c) Copyright 1976 by Hawkes & Son (London) Ltd. Reproduced by kind permission of Boosey & Hawkes Music Publishers Ltd.

22 (c) Copyright 1976 by Hawkes & Son (London) Ltd. Reproduced by kind permission of Boosey & Hawkes Music Publishers Ltd.

23 (c) Copyright 1976 by Hawkes & Son (London) Ltd. Reproduced by kind permission of Boosey & Hawkes Music Publishers Ltd.

24 (c) Copyright 1976 by Hawkes & Son (London) Ltd. Reproduced by kind permission of Boosey & Hawkes Music Publishers Ltd.

contrasted with the material of the outer ones. It would be difficult to interpret those inner spheres exclusively as bridges or a kind of development section. In the case of *Sinfonia di Sfere*, references to the classical sonata form seem so scanty, especially in comparison with the fundamental role of mirror symmetry in this work, that this mention of the sonata form looks like an unnecessary attempt at finding analogies to the traditional formal pattern. What one should rather emphasise is that the formal structure of Panufnik's symphony, wholly based on a geometric core, is original and innovative.

Also with regard to musical language, *Sinfonia di Sfere* strictly observes the principles of symmetry and geometry. They determine the choice of intervals, melodic and rhythmic motifs, as well as the distribution of dynamic and tempo indications in the individual spheres. The harmonic layer of the piece depends on two symmetrically formed twelve-tone chords represented in the composer's diagram of the symphonic structure. These are:

chord a:	chord b:
E	A
C-sharp	F
B-flat	D-flat
G	B-flat
F	F-sharp
D	D
B	B
G-sharp	G
F-sharp	E-flat
D-sharp	C
C	A-flat
A	E

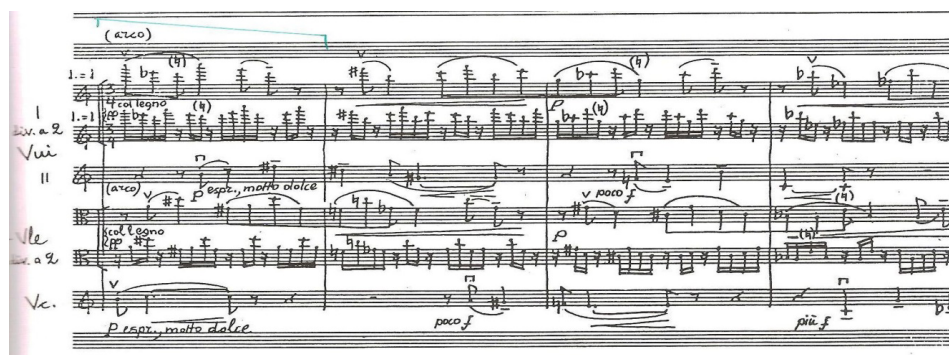
The axis of symmetry for both chords is formed by the shared tones of B and D. According to the composer's design, chord a impacts the harmonic structure of Spheres I–II, chord b – of Spheres III–VI. In the coda, the composer combines the sounds of both chords. It should be stressed that subordination of harmony to the two twelve-tone chords does not mean that these

chords are constantly and exclusively present in the actual harmonic material. The chords rather function as a kind of key for the selection of intervals appearing in the spheres. Thus, in Spheres I–II the composer makes exclusive use of the intervals contained in chord a, whereas Spheres III–VI only include intervals present in chord b (with the exception of the coda, which, as has already been said, is – from the harmonic point of view – a combination of both chords). Throughout the course of the composition, Panufnik usually maintains three musical layers or planes, within which the material is developed through transpositions of the fundamental cell of E-F-B. By starting each transposition at a distance of a minor third, those transpositions create symmetrical chords (specifically: symmetrical triads; cf. ex. 10a-b).²⁵

One should add that these triads are transposed upwards by the interval of a minor third, which means that in this case the composer makes use of both intervals inherent in chord b (major and minor third). Besides, transposing the same chords upwards is also a symmetrical device – an example of translational symmetry, that is, symmetry based on shifting the original figure in space (which in music is analogous to a shift occurring in time).

Augmented and diminished triads are symmetrical by their very nature. The same symphony, however, also contains an example of symmetrical chord structures based on the melodic cell. An example can be found in Sphere IV in the piano part, on the harmonic level consisting of chord progressions which, reduced to one vertical structure, form the following symmetrical patterns (cf. Ex.11):

²⁵ In the examples below (Ex. 10 and 11), the three-note cells have been reduced to their principal form, i.e. E-F-B (minor second – tritone).



*symmetrical triads - diminished in Spheres I–II (cf. Ex. 10a):
e.g.

D (E-flat, A)	B (C, F-sharp)
B (C, F-sharp)	G-sharp (A, D-sharp), etc.
G-sharp (A, D-sharp)	F (G-flat, C)

Ex. 10a. *Sinfonia di Sfere* – symmetry on the harmonic level (fragment).²⁶



*symmetrical triads - augmented in Spheres III–VI (cf. Ex. 10b):

e.g.

F-sharp (G, C-sharp)	E-flat (E, B-flat)
D (E-flat, A)	B (C, F-sharp), etc.
B-flat (B, F)	G (A-flat, D)

Ex. 10b. *Sinfonia di Sfere* – symmetry on the harmonic level (fragment).²⁷

²⁶ (c) Copyright 1976 by Hawkes & Son (London) Ltd. Reproduced by kind permission of Boosey & Hawkes Music Publishers Ltd.

²⁷ (c) Copyright 1976 by Hawkes & Son (London) Ltd. Reproduced by kind permission of Boosey & Hawkes Music Publishers Ltd.



B	g
F	C-sharp
E	C etc. axis of symmetry
E-flat	B
B-flat	F-sharp

Ex. 11. *Sinfonia di Sfere* – symmetry on the harmonic level (fragment).²⁸

Perfect mirror symmetry is disrupted here by the substitution (in the mirror version) of an augmented chord (F-B and C-sharp-G, at the bottom of the chord) by a perfect fourth (E-flat-B-flat and B-F-sharp at the top of the chord).

Naturally, in actual performance the perfect symmetry of the structures presented above is not audible, and the actual chords do not follow such strict patterns as the version reduced to one vertical structure might suggest. Nevertheless, the above examples clearly illustrate the composer's thinking as well as his method of composing the melodic-harmonic level of the work. A detailed analysis of the score of this symphony, similarly as in the case of Panufnik's other works, offers more evidence for the use of symmetrical patterns on each level of the work, which confirms the incredible precision and iron discipline with which the composer built the structure of his compositions.²⁹

It should be added that in the case of *Sinfonia di Sfere* the symbolism of the spheres can also be applied to the listener's perception, as evident from the composer's statement:

I maintained an image of the listener's perception as a circular disc, journeying upwards from nothingness through the first, lower hemisphere of Sphere I; through Sphere II, still partly influenced by Sphere I; continuing its ascent through the upper hemisphere of Sphere I; progressing, with expanding awareness, through the rest of the spheres of contemplation, experiencing their symmetrical

re-arrivals back into previous areas of contemplation, as happens to any thinker whose ideas flow into fresh spheres then return again to earlier thoughts.³⁰

This concept, supported by the precise structure of the work and the spatial arrangement of the orchestra on the stage, was to assist the listener in his "journey into space experienced both inwardly and outwardly", as the composer suggested at the beginning (see above).

BALANCE OF EMOTION AND INTELLECT – GEOMETRY AS A MEANS TO AN END

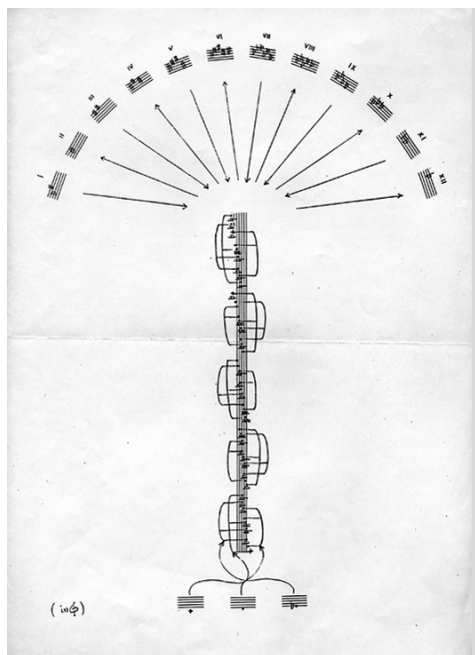
Sinfonia di Sfere undoubtedly remains one of Andrzej Panufnik's most important works, and at the same time it constitutes possibly the fullest realisation of his compositional method (or even system) based on symmetry and geometry. It is his first large-scale work so precisely constructed around a geometric core. However, also Panufnik's successive later compositions make very extensive use of this method. Sophisticated geometric diagrams define the structures of all of Panufnik's later symphonies: *Sinfonia Mistica* (1976), *Metasinfonia* (1977), *Sinfonia Votiva* (1981), *Sinfonia di Speranza* (1987) and *Symphony No. 10* (1988). The same principles also govern many of his other works. Even though the structure of the piece is not always represented by the composer in the form of a geometric diagram, strict geometric patterns still play a major role in the make-up of such compositions.

What is extremely important – this strong constructivist element, evident in works discussed in this paper as well as other compositions, was – according to the composer himself – always coupled with powerful emotional expression in his music. The composer frequently stressed how important contact with the listener was for him, as also was the message conveyed by his music. In the already mentioned commentary on *Sinfonia di Sfere* he noted on the margin that his remarks were mostly meant for the conductor, the musicians, and for people who would like to learn more about the structure and musical language of his symphony. However, he would rather not have them printed in concert programmes. The listeners must not be excessively engrossed in formal details if they are fully to respond to the message of the work. The composer explained in the same place:

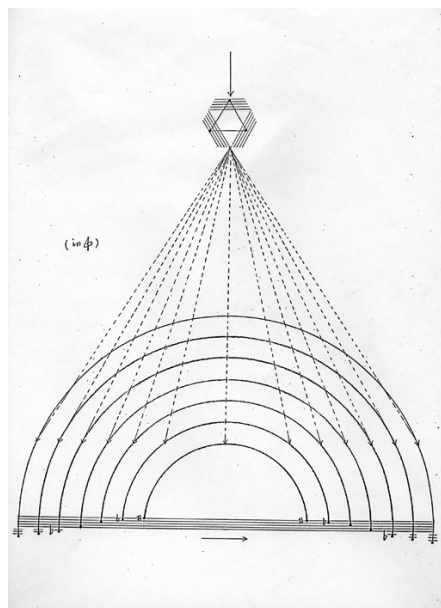
²⁸ (c) Copyright 1976 by Hawkes & Son (London) Ltd. Reproduced by kind permission of Boosey & Hawkes Music Publishers Ltd.

²⁹ More on the subject of symmetry in the symphonies of Andrzej Panufnik in B. Boleśawska (2003). *Symmetry in the Symphonies of Andrzej Panufnik*. In: *Andrzej Panufnik's Music and Its Reception. Studies edited by Jadwiga Paja-Stach*, Kraków: Musica Iagellonica, pp. 94–113 and in B. Boleśawska *The Life and Works of Andrzej Panufnik (1914–1991)*, op. cit.

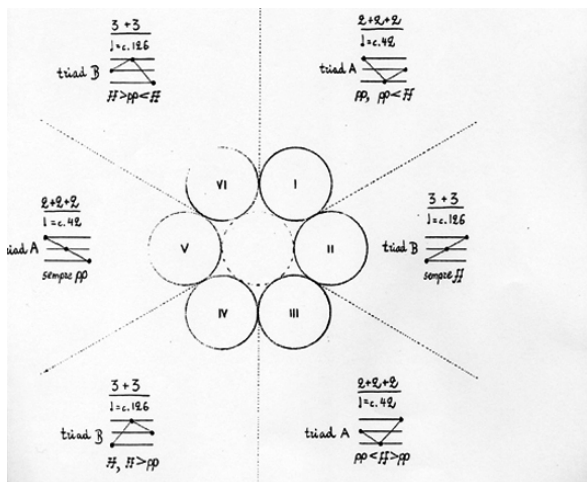
³⁰ A. Panufnik (1987). *Composing Myself*, op. cit, p. 328.



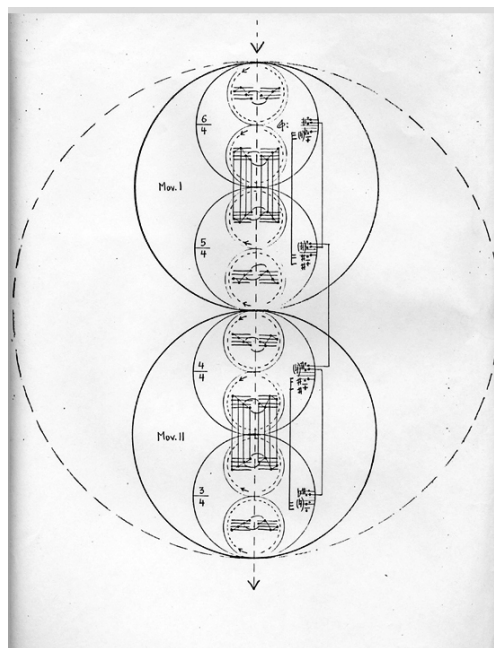
Ex. 12/1 *Arbor Cosmica* (1983).³¹



Ex. 12/2 *Sinfonia di Speranza* (1987).³³



Ex. 12/3 *Sinfonia Mistica* (1976).³²



Ex. 12/4 *Sinfonia Votiva* (1981).³⁴

Ex. 12. Geometric diagrams of Andrzej Panufnik's late works (a selection).

³¹ From the composer's sketches, Panufnik Archive, Twickenham.

³² (c) Copyright 1976 by Hawkes & Son (London) Ltd. Reproduced by kind permission of Boosey & Hawkes Music Publishers Ltd.

³³ (c) Copyright 1987 by Hawkes & Son (London) Ltd. Reproduced by kind permission of Boosey & Hawkes Music Publishers Ltd.

³⁴ (c) Copyright 1982 by Hawkes & Son (London) Ltd. Reproduced by kind permission of Boosey & Hawkes Music Publishers Ltd.

Although I was indeed influenced by the beauty and mystery of geometry, [...] my ultimate concern in writing this composition was to convey to listeners, through a framework of rigidly organised musical material, some spiritual and poetic content, for me the most essential element.³⁵

Panufnik stressed the importance of the work's spiritual message also on many other occasions: in the publications mentioned above, in programme notes, as well as his not very numerous statements on the radio, e.g. in the introduction to a performance of his *Ninth Symphony – Sinfonia di Speranza* (1987) – recorded for the BBC and recently released on CD.³⁶

Did the composer manage to strike the ideal balance between emotion and intellect? Everyone probably has their own personal answer to this question. What is undoubtable is that Andrzej Panufnik did manage to create his own, original musical language, in which the combination of a strong constructivist element based on geometry with sound resulting from a strict selection of music material based on a three-note cell – were the foundation of the unique and highly recognisable sound world of his compositions.

REFERENCES

- Bolesławska, B. (2001). *Panufnik*, Kraków: PWM; English version: Bolesławska, B. (2015). *The Life and Works of Andrzej Panufnik (1914–1991)*, R. Reisner (transl.), Farnham: Ashgate.
- Bolesławska, B. (2003). Symmetry in the Symphonies of Andrzej Panufnik. In: *Andrzej Panufnik's Music and Its Reception. Studies edited by Jadwiga Paja-Stach* (pp. 94–113). Kraków: Musica Iagellonica.
- Panufnik, A. (1972). *Triangles*, manuscript (kindly made available by the Panufnik Archive at Twickenham).
- Panufnik, A. (1974). *Impulse and Design in My Music*. London: Boosey&Hawkes.
- Panufnik, A. (1976). *Sinfonia di Sfere*, score. London: Boosey&Hawkes.
- Panufnik, A. (1987). *Composing Myself*. London: Methuen.
- Panufnik o sobie* (1990). M. Glińska (transl.). Warsaw: Niezależna Oficyna Wydawnicza.
- Panufnik. Autobiografia* (2014). M. Glińska, B. Bolesławska-Lewandowska. Warsaw: Marginesy.

Panufnik. Symphony No. 9 'Sinfonia di Speranza', Bassoon Concerto, BBC Symphony Orchestra, Sir Andrzej Panufnik (conductor), Robert Thompson (trombone), HERITAGE HTGCD 266.

ELECTRONIC SOURCES

<http://www.boosey.com/composer/Andrzej+Panufnik>
www.panufnik.polmic.pl
http://imit.org.pl/uploads/materials/files/Aneks_do_raportu_o_obecnosci_muzyki_andrzeja_panufnika_w_polsce_i_na_swiecie.pdf

Beata Bolesławska, Ph.D., studied at the Institute of Musicology, Warsaw University (MPhil) and Cardiff University (PhD). In 2001 PWM Edition (Polish State Music Publishers) published her monograph on Sir Andrzej Panufnik. The English version of this book, entitled *The Life and Works of Andrzej Panufnik (1914–1991)* was published in 2015 by Ashgate. In 2013 and 2014, PWM Edition also published her collected conversations about Górecki (*Górecki: A Portrait in Memory*) and Panufnik (*Panufnik: Architect of Emotion*). In addition, Bolesławska has written for websites devoted to both Górecki (threecomposers.pl) and Panufnik (panufnik.polmic.pl and ninateka.pl/kolekcje/Panufnik). She has also published numerous articles and reviews on Polish contemporary music for musicological journals and music magazines both in Poland and abroad. She is the Chairman of the Musicologists' Section of the Polish Composers' Union. In 2015 she received the annual honorary award of the Polish Composers' Union for promoting Polish music. From November 2015 she has been employed at the Institute of Art of the Polish Academy of Sciences.

³⁵ From the commentary to the score.

³⁶ *Panufnik. Symphony No. 9 'Sinfonia di Speranza', Bassoon Concerto*, BBC Symphony Orchestra, Sir Andrzej Panufnik (conductor), Robert Thompson (trombone), HERITAGE HTGCD 266.