

**Translating Spirit into Sound:
The Methodology of the Composition Cycle**
Ethica

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Lecture Overview

- Background of the artistic research project *Sounding Philosophy*
- Spinoza, his philosophy and its relationship to Jewish thought
- Spinoza's ideas reconsidered in the context of emergence theory and artistic research
- Compositional methods in the context of the composition cycle *Ethica*

Study of Religious Traditions in the Netherlands: Jewish and Islamic Recitation Traditions



**Baruch (Benedict de) Spinoza
(1632–77)**



Frans Hals: *Regents of the Old Men's Alms House*



The Excommunication of Spinoza or חרם

[illegible]

Spinoza's Grave

Nieuwe Kerk, The Hague, Netherlands



Spinoza and Religion:

Chapter V: Human Freedom and Natural Creation

For the eternal and infinite Being, which we call God or Nature, acts by the same necessity as that whereby it exists. For we have shown, that by the same necessity of its nature, whereby it exists, it likewise works (I. xvi.). The reason or cause why God or Nature exists, and the reason why he acts, are one and the same. Therefore, as he does not exist for the sake of an end, so neither does he act for the sake of an end; of his existence and of his action there is neither origin nor end.

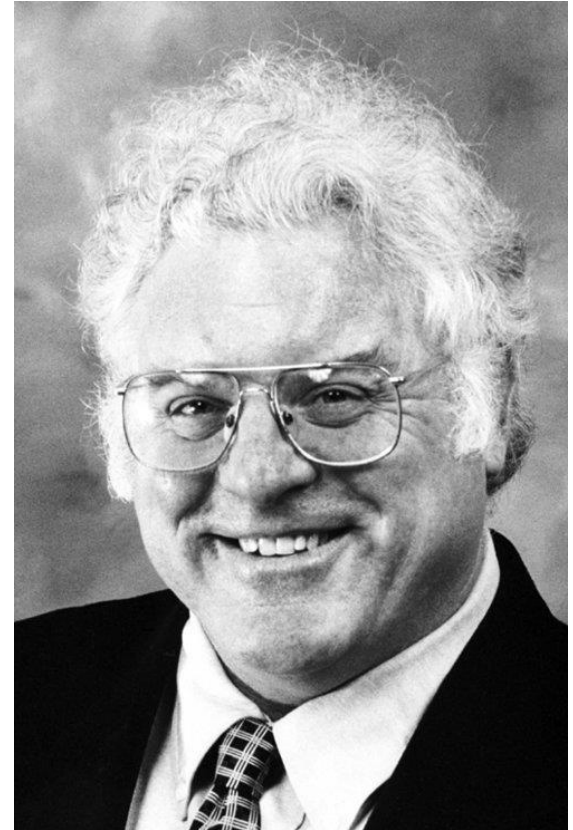
Spinoza, Kabbala and Gematria

אלהים

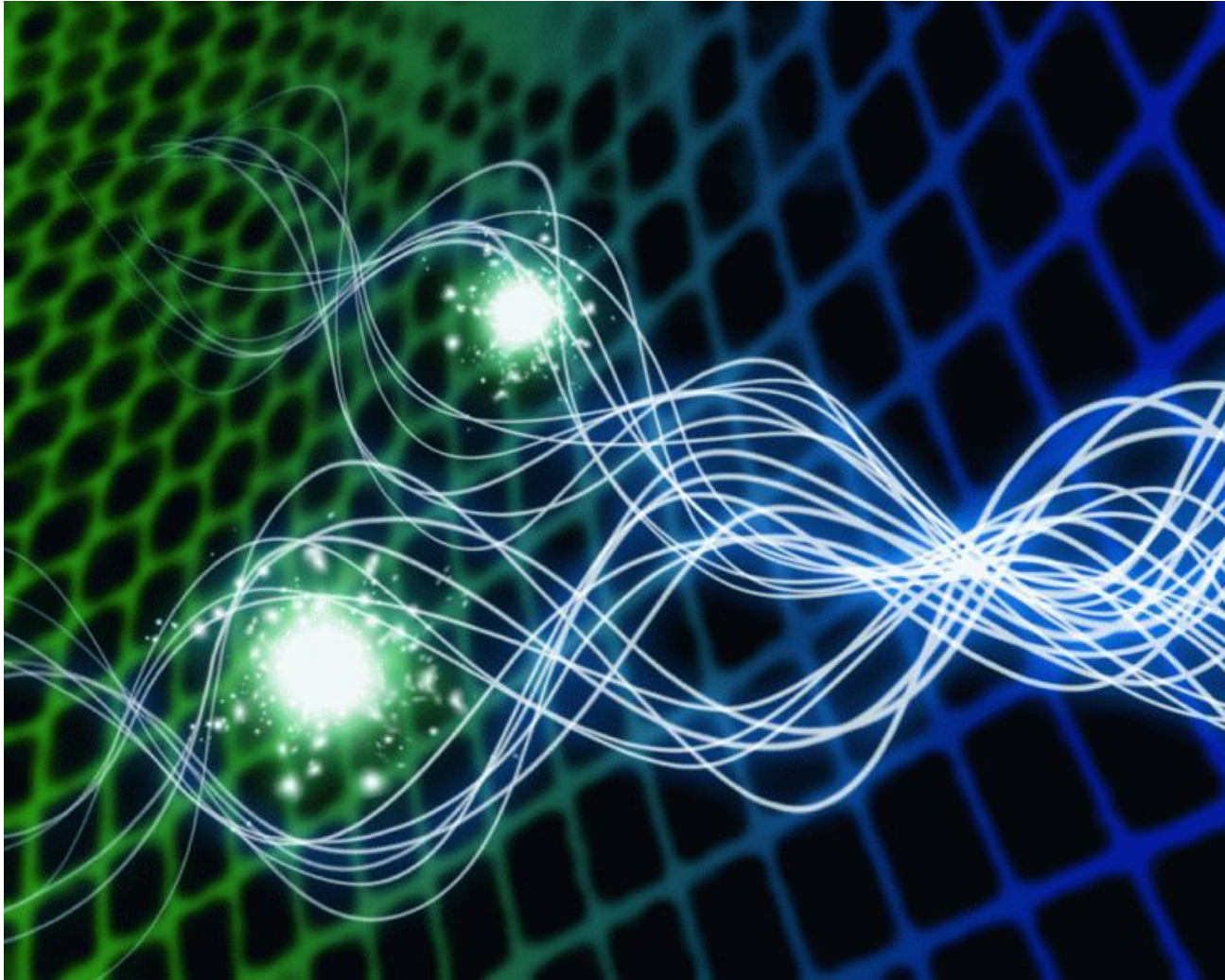
הטבע

= 86

Conference at Swiss Philosophy Association „Was ist Geist“



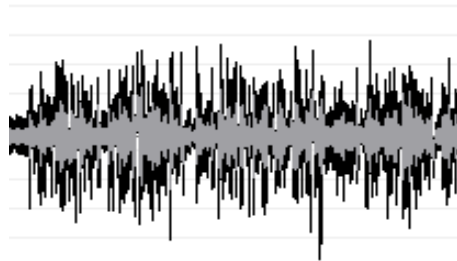
Emergence



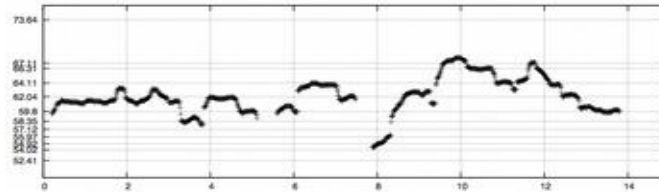
Historically Informed Composition
Spinoza's Sound World:
Torah Recitation: Practice of Yesterday and Today



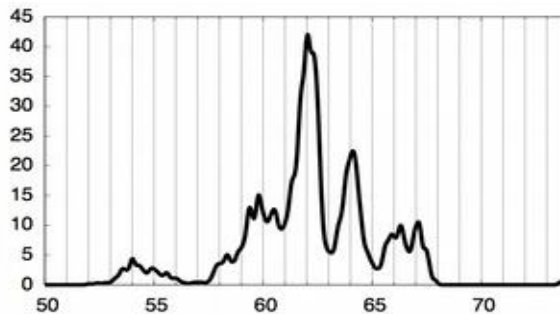
Computational Ethnomusicology



Audio



Pitch contour



Density diagram



52.06
52.41
53.58
54.02
54.28
54.92
[...]

Scale

Torah Recitation as Practiced in the Amsterdam Portuguese Community: Questions of Past and Present



Dániel Péter Biró:
Scholium Secundum
Movement 6:
***(And He Said)* ויאמר**

VI: ויאמר

Dániel Péter Biró

Bass
 va - jo - mar ε - lo - him εl mo - fe ε - hi - je a - fer ε - hi - je va - jo - mer
 II 27 (+6) II 9 (+4) III 9 (+6) III 5 (-14) II 27 (+6) III 3 (+2) III 3 (+2) II 27 (+6) II 9 (+4) III 3 (+2) III 3 (+2) IV 3 (+2) III 3 (+2) II 27 (+6) I 9 (+4) II 27 (+6) III 27 (+6) III 15 (-12) III 27 (+6)

Violoncello
 mp p mf pp p mp p



Dániel Péter Biró:
Scholium Secundum
Movement 4: *Ego Sum qui Sum*



Baruch Spinoza: *Ethica*
Text of *Scholium Secundum*
Part 2: *On the Origin and Nature of the Mind*

Scholium II. From all that has been said above it is clear, that we, in many cases, perceive and form our general notions:

- 1) From particular things represented to our intellect fragmentarily, confusedly, and without order through our senses: I have settled to call such perceptions by the name of knowledge from the mere suggestions of experience.
- 2) From symbols, from the fact of having read or heard certain words we remember things and form certain ideas concerning them, similar to those through which we imagine things. I shall call both these ways of regarding things knowledge of the first kind, opinion, or imagination.
- 3) From the fact that we have notions common to all human beings, and adequate ideas of the properties of things this I call reason and knowledge of the second kind. Besides these two kinds of knowledge, there is, as I will hereafter show, a third kind of knowledge, ***which we will call intuition. This kind of knowledge proceeds from an adequate idea of the absolute essence of certain attributes of God to the adequate knowledge of the essence of things.***

Baruch Spinoza: *Ethica*
Text of *Scholium Secundum*
(set in the 11th and 12th movements of the composition cycle)

I will illustrate all three kinds of knowledge by a single example. Three numbers are given for finding a fourth, which shall be to the third as the second is to the first. Tradesmen without hesitation multiply the second by the third, and divide the product by the first; either because they have not forgotten the rule which they received from a master without any proof, or because they have often made trial of it with simple numbers, or by virtue of the proof of the nineteenth proposition of the seventh book of Euclid, namely, in virtue of the general property of proportionals. But with very simple numbers there is no need of this. For instance, one, two, three, being given, everyone can see that the fourth proportional is six; and this is much clearer, because we infer the fourth number from an intuitive grasping of the ratio, which the first bears to the second.

Baruch Spinoza: Propositions in *Scholium Secundum* as Expressed in the Movement (*Merchants*) סוחרים

1: 2: 3: 6

סוחרים x.

Non dubitant mercatores secundum in tertium
ducere et productum per primum dividere.

Dániel Péter Biró

♩ = 90

Soprano

Mezzo-soprano

so - ħa - rim jaħ - pi - lu

so - ħa - rim jaħ - pi - lu bli hi - ji - su - s

21 (-29) 9 (+4) 21 (-29) 10 (-14) 9 (+4)

21 (-29) 12 (+2) 21 (-29) 20 (-14) 18 (+4) 18 (+4) 6 (+2)

p *pp* *mp* *ppp* *pp* *p* *ppp* *pp*

8:9 8:9 12:15 8:9 12:15 12:15



Baruch Spinoza: Propositions in *Scholium Secundum* as Expressed in the Movement (*Merchants*) סוחרים Proportion 2: 3

1: 2: 3: 6

♩ = 81

M-S.

so - ĥa - rim jaχ - pi - lu bli hi - ji - su - s ε - t

A.

so - ĥa - rim jaχ - pi - lu bli hi - ji - su - s ε - t ha - mis - pa - r

21 (-29) 12 (+2) 21 (-29) 20 (-14) 18 (+4) 18 (+4)

p *mf* *pp* *pp* *p* *ppp* *pp* *pp* *p*

8:9 12:15 8:9 12:15

21 (-29) 11 (+51) 18 (+4) 10 (-14) 9 (+4) 9 (+4) 3 (+2)

p *pp* *mp* *ppp* *ppp* *pp* *ppp* *pp* *ppp* *pp*

6:5 4:5 8:5



Baruch Spinoza: Propositions in *Scholium II* as Expressed in the Movement (*Merchants*) סוחרים (Proportion 3: 6)

1: 2: 3: 6

$\text{♩} = 72$ **rall.**

A. $\text{♩} = 72$ **rall.**

20 - 21 (-29) 11 (+51) 18 (+4) *mf* *mp*

so - - - ĥa - - rim

Bar. $\text{♩} = 72$ **rall.**

21 (-29) 9 (+4) 21 (-29) 20 (-14) 9 (+4) 18 (+4) *p* *pp* *mp* *ppp* *ppp*

so - ĥa - rim jaχ - pi - lu bli

6:5



Baruch Spinoza: Propositions in *Scholium Secundum* as Expressed in the Movement

(*Merchants*) סחרים

Proportion 1 : 6

1 : 2 : 3 : 6

♩ = 63 **accel.**

56

Bar. *ff* *f* *fff* *mf* *f* *mf* *f*

21 (-29) 9 (+4) 11 (+51) 20 (-14) 27 (+6) 18 (+4) 12 (+2)

so - ha - rim jaχ - pi - lu bli hi - ji - su - s

21 (-29) 21 (-29) 12 (+2) *f*

B. *ff*

so - - - - - ha - - - - - rim



Scholium Secundum

Tuning of String Instruments

Violin 1

IV
9
(+4)

III
7
(-31)

II
5
(-14)

I

Violin 2

IV
7
(-31)

III
5
(-14)

II

I
3 (+2)

The image displays a musical score for two violins, Violin 1 and Violin 2, in 4/4 time. The score is divided into four measures, each corresponding to a specific finger position (IV, III, II, I) and a specific fingering (9, 7, 5, 3). The tuning instructions are provided in cents: (+4), (-31), (-14), and (+2). The notes are written on a five-line staff with a treble clef and a key signature of one sharp (F#). The notes are: Violin 1: G#4 (IV), F#4 (III), E4 (II), D4 (I); Violin 2: F#3 (IV), E3 (III), D3 (II), C3 (I).

Instrument	Position	Fingering	Cents Adjustment	Note
Violin 1	IV	9	(+4)	G#4
	III	7	(-31)	F#4
	II	5	(-14)	E4
	I			D4
Violin 2	IV	7	(-31)	F#3
	III	5	(-14)	E3
	II			D3
	I	3	(+2)	C3

Dániel Péter Biró:

Scholium Secundum

Movement 12: *At in numeris simplicissimis*

Gematria Structuring of Rhythm through Latin Qabalah Simplex

9

Dantur = 70

exempli = 74

gratia = 52

♩ = 54

19
(-2) *mp* 19
(-2) *pp*

8:6♩ 4:7♩

149

A.

II 9 19
(-2) (+4) (-2)
nat. tasto

8:6♩ 4:7♩

Vla.

mp *pp*

9
(+4) *mp* 7
(-31) *ppp* < *pp*

11:7♩

eks - m III Ilyi
9 33 7
(+4) (+53) (-31)

II II
nat. pont.

vibr. 11:7♩

mf *pp* < *ppp*

4:5♩ 7:6♩ *ppp* < *pp* < *ppp*

gra - tsi - a

II II
19 21
(-2) (-29)
nat. pont. nat.

4:5♩ 7:6♩ *ppp* < *pp* < *ppp*

ppp *pp* *ppp*

Dániel Péter Biró:

Scholium II

Movement 12: *At in numeris simplicissimis*

Vertical Proportions in Voices (from M.135)

Ad = 1
Tres = 4

quartum = 1
numeri = 3

obtinendum = 1
ad = 2

quartum = 3

qui = 1
quartum = 4

S. tre me - ri a - d kwa kwi

M-S. tre kwa - r - t - u - m me - ri a - d kwa r - tum

A. a - d e nu - me - ri a kwa r - tum

Bar. tre nu - o - b - t - i nē - n - du - m a - r - tum

Bass. tre nu - - a - r - tum

Dynamics and Performance Markings:

- S.** *pp* (25 (-27)) *p* (25 (-27)) *mf* (24 (+2)) *ppp* (25 (-27)) *mf* (20 (-14)) *pp* (21 (-29)) *mf*
- M-S.** *pp* (19 (-2)) *ff* (30 (-12)) (28 (-31)) (27 (+6)) (21 (-29)) *ppp* (19 (-2)) *mf* (18 (+4)) *ppp* (19 (-2)) *mf* (18 (+4))
- A.** *pp* (9 (+4)) *f* (19 (-2)) *subito p* (21 (-29)) *mf* (19 (-2)) *ppp* (9 (+4)) *mf* (19 (-2)) (9 (+4))
- Bar.** *pp* (77 (+20)) (53 (+33)) *mf* (7 (-31)) *f* (7 (-31)) *ppp* (19 (-2)) *pp* (19 (-2)) *ppp* (19 (-2)) (9 (+4))
- Bass.** *pp* (7 (+31)) (3 (+2)) *mf* (19 (-2)) *mp* (9 (+4))

Tempo/Proportion Markings: 5:4, 17:14, 7:5, 3:5

Dániel Péter Biró:
Scholium Secundum
Movement 12: *At in numeris simplicissimis*
Proportions *Creating* Harmonic Polarities (from M.135)

24

The musical score is written for a vocal ensemble and instruments. The vocal parts (Soprano, Alto, Tenor, Bass) have lyrics in Latin. The instrumental parts (Violin 1, Violin 2, Viola, Baritone, Violoncello 1, Violoncello 2) provide harmonic support. The score includes various musical notations such as notes, rests, and dynamic markings. The lyrics are: "me - ri a - d lora kwi", "lora = f = u = m me - ri a - d lora r - tum", "a - d e mo - ri a lora r - tum", "a - b - i - l a - b - i - m a - b - i - m a - b - i - m", "me - ri a - d lora r - tum".

Soprano (S.)
Violin 1 (Vln. I)
Violin 2 (Vln. II)
Alto (A.)
Viola (Vla.)
Baritone (Bar.)
Violoncello 1 (Vc. I)
Violoncello 2 (Vc. II)

Lyrics: me - ri a - d lora kwi, lora = f = u = m me - ri a - d lora r - tum, a - d e mo - ri a lora r - tum, a - b - i - l a - b - i - m a - b - i - m a - b - i - m



Dániel Péter Biró: *Scholium Secundum*
Movement 12: *At in numeris simplicissimis*
Performance by the Klangforum Heidelberg
Sounding Philosophy Conference In Bergen, Norway



Dániel Péter Biró:

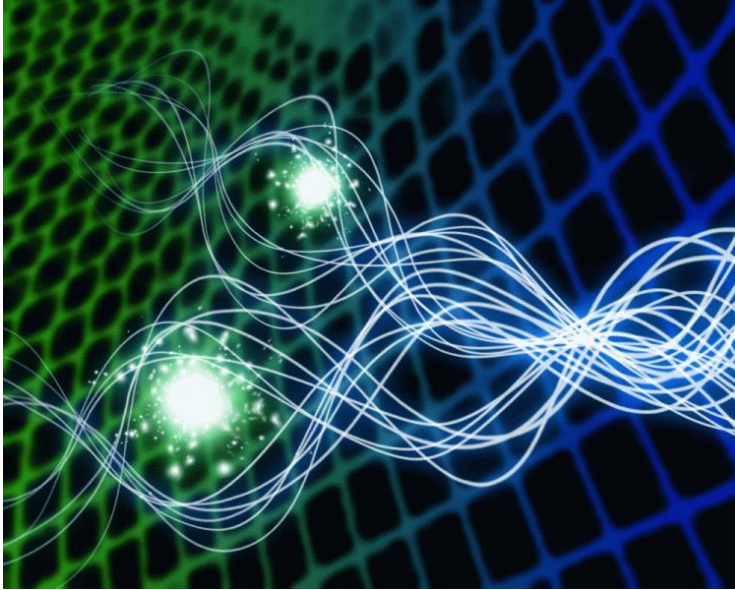
אשר הוצתי אתכם

(Who Brought you out of the Land) (2021)

**Timbre Based Computational Analysis Structures Spatialization
Performed by the Neue Vocalsolisten
Created at the SWR Experimentalstudio**



Deus sive natura
**Theories of Information as Matter
And Theories of Intellect (Geist)**



Artistic Research, Immigration and Consciousness



Spinoza's Legacy and (Ongoing) Questions about Environments of Intolerance and Political Oppression



Future Work

- Continued investigations of connecting processes of emergence with composition and live-electronics in continuing collaboration with the Neue Vocalsolisten and the Experimentalstudio in Freiburg, Germany. Performances at the Sounding Philosophy conference in Bergen, Norway, Time of Music Festival in Viitasaari, Finland and the Ultima Festival in Oslo, Norway.
- Works involving music composition, poetry and dance (with poet Renee Gladmann and Hagit Yakira) involving countertenor Kai Wessel, the Ensemble Mixtura and the Quasar Saxophone Quartet (Sprengel Museum in Hannover, 2023 MNM Festival in Montreal)
- Continuation of Artistic research project “Sounding Philosophy” at the University of Bergen (2022 – 2025)

Thank You!

Selected Bibliography

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Questions?