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## *Preface*

with thanks to Sean Reed for the checking of the translation

Since György Ligeti began his teaching 1973 in Hamburg, he urged his students to dispute with an extended definition of pitch language. He thought less in "systems" than in beginning a very free thinking, away from old "avantgarde" positions. These

he thought to be "grey", and proposed a diving out of them.<sup>1</sup> For himself and for many of his students a long and stony way began, leading to quite different solutions.

Many people all over the world now build a new house. Music is like a neverending story, telling nothing, and telling "all" at the same time. Music hides its grammar, or it produces it blankly. Music chatters, since humans started to chatter. It collects ideas which obviously have nothing to do with music, or it stays naked within its own structures. It avoids theories, at the same time demanding them. Music lives different lives: it causes us to think, to dance, to enjoy. It switches our attention on and off. It passes by purling leisurely, or it thrills us. It is as free and narrow as our thinking is.

Let us look at the door plate to this book: "1001 microtones":

Within the old concept of "art music", much was written about an "extended definition of art", encompassing not only "noise", but manifold combinations among the "arts". Seemingly all pop or concept art forms (again) flow together into "art music", and vice versa. Music of all styles is sampled, boundless, and re-used. The DJ culture belongs to the "arts" as well as reflections on world music or folk music from olden times, from today, or from a dreamed-of future. More seldom, music is described within the realm of the changing **pitch language**, obviously and deeply freeing itself just now from the corset of 12 pitches. In France, the term "Musique spectrale" is established, in the U.S. the term "Just Intonation". In German speaking countries both terms are known, as well as "Mikrotonalität". All these terms have a complex correlation. Often composers outlined their view in manuscripts or books. Within these realms, accompanying connoisseurs from musicology or music journalism are rare, professional writing grows slowly. Let us touch some examples:

As to the older microtonalists, we have two books about (better: **of**) Ivan Wyschnegradsky.<sup>2 3</sup>

We have the double volume of Alois Hába, the Czech composer, edited by Horst-Peter Hesse.<sup>4</sup>

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1 György Ligeti und Manfred Stahnke: Gespräch am 29. Mai 1993, p. 143f. In: Musik nicht ohne Worte. ed. Manfred Stahnke. Beiträge zu aktuellen Fragen aus Komposition, Musiktheorie und Musikwissenschaft. In: "Musik und", ed. Hanns-Werner Heister und Wolfgang Hochstein, Hamburg 2000

In this interview Ligeti explains extensively his microtonal concept in the Violin Concerto.

2 Ivan Wyschnegradsky, La loi de la pansonorité, ed. Pascale Criton / Franck Jedrzejewski. Paris 1996

3 Ivan Wyschnegradsky, Libération du son. Écrits 1916-1979, ed. Pascale Criton. Symétrie Recherche, série 20-21. Lyon 2013

4 Alois Hába / Horst-Peter Hesse, Harmonielehre des diatonischen, chromatischen, Viertel-, Drittel-, Sechstel- und Zwölftel-Tonsystems. (1942-1943). Norderstedt 2007

Julián Carrillo, the Mexican violinist, composer and engineer of microtonal instruments, wrote his book in 1930:<sup>5</sup>

Harry Partch started in the 40s to write about his thinking and his instruments.<sup>6</sup> We have the Harry Partch biography by Bob Gilmore<sup>7</sup>, who also edited the writings of Ben Johnston.<sup>8</sup>

On Gérard Grisey some books have been published, among them Jean-Luc Hervé about "Vortex temporum".<sup>9</sup> We have the broad book of the Austrian Lukas Haselböck on Gérard Grisey.<sup>10</sup> To this convolute of essays composer Sascha Lemke from Hamburg contributes the first detailed analysis of Grisey's orchestra work "Modulations", going much deeper than Gêrôme Baillet in his book on Grisey.<sup>11</sup>

For a long time, "avantgarde" and "microtonality" were incompatible. We think of the special avantgarde of the 50s the aftermath of which still coins big parts of our contemporary music life. Just three names for now: Pierre Boulez came from France, Luigi Nono from Italy, Karlheinz Stockhausen from Germany. Stockhausen (1952) and Boulez (starting from 1943) had been students of Olivier Messiaen in Paris. There had been an interesting point of contact with quartertones in 1945 around Messiaen, who himself had thought about it analyzing bird songs, see <sup>12</sup>.

Messiaen gathered his students Pierre Boulez, Yvonne Loriot, Yvette Grimaud and Serge Nigg, to give a concert in quartertones, among other works of Ivan Wyschnegradsky his four piano piece "Cosmos".<sup>13</sup> This is an integrative work of highest consistence, this means: the whole work obeys a meloharmonic plan where every tone seemingly has a mandatory place. This illusion is reached by only a few microtonal works shortly after. The principle in "Cosmos" is a non-octaving scale, using 1350 cents as "modulo" (to be understood as re-occurring interval "frame"), divided in 5 5 5 5 7, where "1" stands for a quartertone (=50 cents). The first step then is  $50 \times 5 = 250$  cents. The whole progression is in cents: 250, 250, 250, 250, 350.

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5 Julián Carrillo, Rectificación básica al sistema musical clásico; análisis físico-músico "pre-sonido 13". Mexico 1930

6 Harry Partch, "Genesis of a Music", 1949. Revised New York 1974.

7 Bob Gilmore, Harry Partch: A Biography. New Haven, Conn. 1998

8 Ben Johnston, "Maximum clarity" and other writings on music. Urbana Illinois 2006

9 Jean-Luc Hervé, Dans le vertige de la durée (Vortex Temporum de Gérard Grisey). Paris 2001

10 Lukas Haselböck, Gérard Grisey: "Unhörbares hörbar machen". Freiburg i.Br. 2009

11 Gêrôme Baillet, Gérard Grisey - Fondements d'une écriture, S. 110/133, L'Harmattan / Itinéraire, 2000

12 Olivier Messiaen, Technique de mon langage musical. Paris 1944. Technik meiner musikalischen Sprache. Paris 1966, p. 32

13 Ivan Wyschnegradsky, Cosmos op. 28 for 4 pianos (quartertone composition), 1939/40, rev. 1945. Belaieff, Frankfurt/M. 1998

Was there a Wyschnegradsky impact on the young composers in Paris? "Le Visage nuptial" (first version 1946) is one of the rare works of Boulez where he uses quartertones. Later he abandoned them savagely. Wyschnegradsky was soon apparently completely ignored. His language did not suit the "serialism" vehemently propagated by Boulez.

Stockhausen, working in the field of electronic music, had an easier and steadier access to new concepts in the pitch realm. His "Studie II" (1954) uses a scale of 81 tones, starting with 100 Hz, steps  $5^{1/25}$ . The idea is to subdivide the interval 5/1 (corresponding to the distance to the 5<sup>th</sup> partial) in 25 steps of 111.45 cents each.<sup>14</sup>

In the context of the avantgarde discourse these microtonal options were never picked out as a central theme in the 50s and 60s.

Ligeti, working in the Cologne Electronic Studio of WDR with Stockhausen and mainly with Gottfried Michael Koenig, there leaving the twelve tones completely, later undertook only punctual trips into microtonal extensions, like in "Ramifications", "Doppelkonzert für Flöte und Oboe", in certain brass sections in the "Piano Concerto", until in 1993 in his "Violin Concerto" and thoroughly in 1998-2003 in his "Hamburgisches Konzert", he formulated a very personal microtonal language in the horn section, influenced by Just Intonation, but arriving at "unjustness", a test trip into a foreign territory: Ligeti uses different overtone series stacked. 2012 the Italian composer Alessio Elia analyzed this work in detail.<sup>15</sup>

As to Luigi Nono, we find microtonality in the focus of his later works, e.g. in "A Carlo Scarpa architetto ai suoi infiniti possibili" with its close-to-utopian crossing frontiers, up to  $1/16$  tones = 12.5 cents. The title means in English: "Dedicated to Carlo Scarpa and his infinite possibilities", or: "... and his possible infinities".<sup>16</sup>

What about the concert presence of microtonal music? Grisey is willingly played by many ensemble, Ligeti's "Hamburgisches Konzert" and Nono's "A Carlo Scarpa" rather seldom. With an overwhelming success, Partch's opera/oratorio "Delusion of the Fury" with a reproduction of the set of his instruments was given as European premiere in Bochum 2013 by "Musikfabrik Nordrhein-Westfalen". Ben Johnston is a

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14 Stockhausen, Karlheinz, Texte 2: Aufsätze 1952–1962 zur musikalischen Praxis, ed. Dieter Schnebel. Köln 1964, p. 37ff

15 Alessio Elia, The "Hamburgisches Konzert" by György Ligeti. From Sketches and Drafts to the Final (?) Version. Musical Structures, Techniques of Composition and their Perception as Aural Phenomena. PhD thesis, University of Rome "Tor Vergata". Rome 2012. PDF-file can be ordered from the author

16 following the Hamburg architect Manfred Sack, in: DIE ZEIT, 15 March 1985 No. 12.

On Nono's late microtonality we have this essay:

Rainer Zillhardt, Überlegungen zu den äußeren und inneren Bedingungen mikrotonaler Strukturen anhand von Luigi Nonos Orchesterstück A Carlo Scarpa. In: Musik der anderen Tradition, ed. Heinz-Klaus Metzger and Rainer Riehn. Mikrotonale Tonwelten. München 2003

seldom guest in Europe, later more to this ... Also Carrillo with his self-designed instruments or Wyschnegradsky don't make it easy for the musical life. Among the younger composers, the Austrian Georg-Friedrich Haas is a kind of shooting star.

The "Ensemble modern" in Frankfurt includes microtonality in all its stylistical shades in concerts and also seminars of IEMA (International Ensemble Modern Academy). The ensemble "Mosaik" and especially its conductor & composer Enno Poppe move successfully within microtonality. And these three ensembles are only examples.

Let us have a short look at Partch's destiny as a composer: Harry Partch was almost completely ignored in the U.S. (exception: an apparently unsuccessful concert in New York) until the 50s, when his friend and co-musician in the Partch ensemble, Ben Johnston, helped him staging e.g. "The Bewitched" in Illinois, where Johnston had become professor for composition. John Cage, who knew Partch personally, did not carry his name to Europe, nor the name of Ben Johnston, later Cage's Scrabble and chatting partner. Johnston became known in Europe as late as 2008, mainly through the fulminant Donaueschingen premiere of a more than 40 years old orchestra work "Quintet for Groups". Only the "Microtonal Piano Sonata" had been played before, in Bonn, at the festival "Musik der anderen Tradition" (1981), initiated by Hans-Rudolf Zeller.

Ligeti brought Partch-LP's from his Partch visit 1972 to his class in Hamburg, where he held a professorship since 1973. As early as 1972, Ligeti had proposed to invite Partch to "Berliner Festwochen" 1973<sup>17</sup>, which came true late in 1980, after Partch's death 1974, with "The Bewitched".

Today we **again** have a very open situation of "intonations", similar to Europe in the Renaissance, or like in the many musics of the world: Instruments are tuned according to local conventions. They are used "distuned" as in rock music. Or they are tuned in historic tunings. New or seldom heard intervals arrive at the listener and complete the set of the old ones. Often listeners are not aware of them. The new or distuned ones somehow color the sound, e.g. in the rock formation "Radiohead" since many years, or in the "distorted spectra" of Grisey. They are just his "sound". But the longing for "systems" also exists: Some composers strive for "Just Intonation", like the Hamburg-born composer Wolfgang von Schweinitz, now working in the U.S. Composers refer to non-European scales, like Klaus Huber to Iranian or Arabian scales.

A paradigm change away from old avantgarde positions shows up. Microtonality is one facette of this. A central question of musical thinking arises more and more: What is to be done with "sound", especially with one of its main qualities, the specific pitch? How do I build meloharmonic context for sound, perhaps in a new

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17 Amy C. Beal, *New Music, New Allies - American Experimental Music in West Germany from the Zero Hour to Reunification*. Berkeley 2006, p. 179

definition? A huge field of 1001 and more tones within or without "octaves" comes into view. For this book we of course have to choose a selection.

We two editors here present a book for students and professional composers. What is more, and this may be utopian: This book may become a fountain even for laypersons with some previous knowledge, who long for an understanding of music in its deepest harmonic and melodic structures. To achieve this we want to go down to the "basics" of the so-called "natural scale", "partials" or of "temperament" etc. It will be explained how to calculate intervals in "cents". We, together with the authors, try to build a "readable" book in spite of the complex, manifold matter.

"Music" does not exist within a landscape of **only** 12 pitches per octave. This was a fiction from the beginning, when a fixation on a tone space started, given by keyboard instruments as reference. John Schneider, exceptional specialist on these questions, guitarist and composer from California, one of the outstanding specialists in questions of old and innovative tunings, will write about these questions and its implications for today. Through his two articles, the readers may find a more easy entrance point into the topic of this book. Here begins the framework of the 1001 stories.

We want to take the reader into the magic world of minuscule pitch gradations. For this aim, we invited authors from Hochschule für Musik und Theater Hamburg as well as friends and specialists from abroad:

How can we reach a possible "freedom" in recognizing and accepting other pitches than the 12 per octave that are already known? How can we form our perception? Julia Werntz from Boston's New England Conservatory writes about ear training in microtones and first exploratory steps in microtonal composition. She is teaching microtonality in Boston now in the second generation, following her late teacher Joe Maneri.

And as soon as we leave Europe and listen to a far-away music: How can we approach "scales" or a pitch reservoir like in Persian "Dastgah", with its subtle "field of freedom" for specific steps within a partly flexible "scale"? Do we have chances to "understand" it without a master to teach us with his instrument? Dastgahs are in fact, through the old Greek music, related to Europe. Sarvenaz Safari invited the Iranian musicologist Khosrow Djafar-Zadeh to give us a thorough view on this linear music of the "Dastgahs".

Which "picture" do we hear, when, detached from grown pitch patterns, a new scale structure is invented? Is the "Bohlen-Pierce-Scale", thought out independently by two scientists, Heinz Bohlen and John Pierce, just a new "mirror" of western scale thinking, in spite of its "exotic" 13fold subdivision of the "tritave" =  $3/1$  (octave plus fifth in Just Intonation)? For Heinz Bohlen, meeting music theorist Diether de la Motte's class in Hamburg 1972, the old "major chord"  $4/5/6$  was not the end of the story. An author's collective around Georg Hajdu (with Nora-Louise Müller und

Konstantina Orlandatu) writes about possible bridges for listening and understanding. Todd Harrop invents, starting with the Just Intonation Bohlen-Pierce basis  $3/5/7$ , BP-Diamonds in analogy to Adriaan Fokker's "Periodicity blocks".

Another special story in our book: Composer and music therapist Heiner Ruland thought about the possible emotional content of intervals from the "natural" scale. He stacked intervals  $7/4$ ,  $11/8$  and  $13/8$ . His former student Matti Pakkanen now invented mallet instruments, built to fulfill some of these circles. He explains the theories of Ruland and his own compositions using these new scales.

As soon as we think of this multiphony in Just Intonation, new temperaments, exotic scales, not as affront to our western thinking, but as an enrichment, we are "freed" from an older understanding of musical syntax.

Some authors add links to soundfiles for the articles. Interwoven in this book are pictures by Azadeh Balash, painter and musician from Graz, and poems by Sarvenaz Safari. Let us lean back into these 1001 tales, to step into a context of the acoustic, the visual and the textual-philosophical world. Music cannot be heard only. This all is just a glimpse to musical possibilities. The 1002nd one waits for us ...