

Carlos Yoder and Manfred Bartmann (2017):

A post-workshop interview about MAKING MUSICAL INSTRUMENTS TALK.

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Carlos Yoder and Manfred Bartmann

## A post-workshop interview about MAKING MUSICAL INSTRUMENTS TALK<sup>1</sup>

### Introduction

Our workshop was meant to explore ways of experiential as well as experimental learning using Indian tablā, a bodhrán, which is an Irish frame drum, as well as a newly invented East Frisian tea-tin bow.<sup>2</sup>

Both of us have been involved preparing the forthcoming CD *Manfred Bartmann's Frisia Orientalis II: "Making Music of Speech"*. In our workshop we offered insights into the making of the audio track No. 5 "Rökeldoab Dada. A grooving Low German mouth music."

The questions are posed by a hypothetical interviewer.

**Question 1:** Manfred, what does "Rökeldoab Dada" mean? What are the lyrics about?

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<sup>1</sup> This article comes with two audio examples (BartmAudio1; BartmAudio2) and an interactive pdf explaining Manfred Bartmann's East Frisian tea tin bow, (BartmInter activeTeaTin.pdf) on the basis of photos, more figures and more audio examples.

<sup>2</sup> Concerning musical bows: Dargie, David (1988). *Xhosa Music: Its Techniques and Instruments, with a Collection of Songs*. Cape Town and Johannesburg: David Philip; Graham, Richard (1994). *Ethnicity, Kinship, and Transculturation. African-Derived Mouth Bows in European-American Mountain Communities*. For Gerhard Kubik: Festschrift on the Occasion of His 60th Birthday, edited by A. Schmidhofer and D. Schüller, 361-80. Frankfurt am Main: Peter Lang; Kirby, Percival. R. (1953). *The Musical Instruments of the Native Races of South Africa*. Johannesburg: Witwatersrand University Press. (= a reprint. The original edition was printed and published by the Oxford University Press in 1934); Kubik, Gerhard (1999). *Africa and the Blues*. Jackson: University Press of Mississippi; Kubik, Gerhard (2001). *Africa. The New Grove Dictionary of Music and Musicians. Vol. 1*. Edited by S. Sadie and J. Tyrrell, 2<sup>nd</sup> edition. London: Macmillan, 197-210.; Lawergren, Bo (1988). *The Origin of Musical Instruments and Sounds. Anthropos, 83 ( 1/3), 31-45*; Rycroft, David K. (2001a). Khoikhoi Music. *The New Grove Dictionary of Music and Musicians, Vol 13*. Edited by S. Sadie and J. Tyrrell, 2<sup>nd</sup> edition. London: Macmillan, 571-574; Rycroft, David K. (2001b). Musical Bow. *The New Grove Dictionary of Music and Musicians, Vol. 17*. Edited by S. Sadie and J. Tyrrell, 2<sup>nd</sup> edition. London: Macmillan, 465-469; Schöpf, Jürgen (2008). *The Serankure and Music in Tlôkweng, Botswana*. Edited by Max Peter Baumann (Intercultural Music Studies 6). Berlin: Verlag für Wissenschaft und Bildung (VWB); Vogels, Oliver (2012). *Rock Art as Musical Artefact: Prehistoric Representations of Musical Bows in Southern Africa*. Edited by Ricardo Eichmann, Fang Jianjun and Lars-Christian Koch. *Studien zur Musikarchäologie VIII*. Rahden/Westfalen, 177-194.

**Manfred:** The lyrics are held in East Frisian Low German. As Low German itself forms a bundle of dialectal varieties, the East Frisian branch is known for very special expressions and phrases, some of them weird, others even shocking.

The lyrics are all about pouring from a teapot.<sup>3</sup> However, this is done by directing the spurt of tea or water through the sleeve ("Mau") of a traditional blue North German collarless work shirt ("Busrüntje")<sup>4</sup>. The lyrics go like this:

Treppott utgeeten, äben Treppott utgeeten (pouring from a teapot)  
Dör'n Busrüntje Mau, dör'n Busrüntje Mau (right through the sleeve of a work shirt),  
in 't Rökeldoab (pouring the liquid through the sleeve right into a grimy hole).  
heel liek (very straight, unbowed), heel secüür (very secure)  
He is unwies (extremely foolish)<sup>56</sup>

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<sup>3</sup> Figure 1.

<sup>4</sup> Stürenburg, Cirk Heinrich (1972[1857]). *Ostfriesisches Wörterbuch*. Aurich/ Leer: Schuster, [Reprint], 28: "Buseruhntje, Buserundje = weiter, rund geschnittener Brustrock, Hausjacke von Linne oder Cattun ohne Schöße. Entweder c.m. 'Büste, Brust', oder mit 'Buus' = Scheune, Viehstall, - also hiernach = Stalljacke." In the late 70s, the more so in the 80s, Buseruhntje or Busrüntjes were almost to become a uniform for many starry-eyed, somehow North German oriented folk revivalists, some of them heavily relying on Groth, Klaus (1852). *Quickborn. Volksleben in plattdeutschen Gedichten dithmarscher Mundart*. Hamburg. Scheffler, Christoph (2009). *Min Hart stiggt to Hoeh. Christoph Scheffler singt Klaus Groth*. artychoke 0708-CD ([www.artychoke.de](http://www.artychoke.de)); Bartmann, Manfred (2011). *Frisia Orientalis. Applied Ethnomusicology and Documentation* ([www.plattschapp.de](http://www.plattschapp.de)), the document "10AsIkWeggung.pdf" (2 pages, = Booklet/Tracks), 1: "Groth (1819-1899) equated Low German with the spirit of its speakers. Nowadays East Frisian activists m to be trying hard to re-establish this mythical linkage. Another parallel: as a politically hyper-correct, self-styled saviour of his day, Groth made his declarations emphatically - as if no supporting evidence were necessary. As a result, Groth's collection of poems was to become the foundation stone of a then Neo-Low-German literature. Admittedly Groth wanted the scripting of his vernacular to be appreciated as a patriotic deed, though it was his deliberately adept verbal imagery that made him an eminent modern author of his time. Groth's poetical world is full of melancholy revolving around the sweet sorrow of parting". Needless to say Groth's lyrics do not refer to the East Frisian pulsation concept, the more so when set to music. Scheffler, Christoph (2009). *Min Hart stiggt to Hoeh. Christoph Scheffler singt Klaus Groth*. artychoke 0708-CD ([www.artychoke.de](http://www.artychoke.de)), also Bartmann, Manfred (2011). *Frisia Orientalis. Applied Ethnomusicology and Documentation* ([www.plattschapp.de](http://www.plattschapp.de)), there the audio track no. 10 'As Ik Weggung'. Concerning Groth's influence also Lesle, Ulf-Thomas (2015). *Identitätsprojekt Niederdeutsch. Die Definition von Sprache als Politikum. Sprache, Literatur, Raum. Festgabe für Willy Diercks*. Edited by Robert Langhanke. Bielefeld: Verlag für Regionalgeschichte, 693-741; Roth, Karl Heinz/ Lesle, Ulf-Thomas (2016). *Völkische Netzwerke: Alfred Toepfer und das Stiftungsunternehmen ACT/F.V.S. Eine Forschungsbilanz. Zeitschrift für Geschichtswissenschaft*. 64 (3), 230.

<sup>5</sup> Rights with Manfred Bartmann 2017.

<sup>6</sup> Low German is full of English (Teepott = teapot) and even French loanwords (secüür); Note that we do not follow any fixed spelling system of any specific Low German dialectal variety. An East Frisian one was brought forward by Byl, Jürgen/ Brückmann, Elke (1992) *Ostfriesisches Wörterbuch. Plattdeutsch/Hochdeutsch*. Leer: Schuster. This dictionary became a

As these words are demanding something almost impossible, the lyrics I was to make of them are not intended to make much sense. According to my informant Elfriede Lottmann from Norden (\*1932), to whom I owe many a song as well as many Low German rhymes and phrases, many of them coming with a specific groove due to a pulse driven rhythm, a much naughtier version of this phrase was used for benchmarking purposes, i.e., for evaluating somebody's knowledge of Low German, simply by using extraordinary and at the same time rare expressions. Please note that this customary procedure of dealing with starry-eyed fans of Low German does not aim at the ability to read and write, which in doing so, would make Low German resistant and equal to other literary languages in Europe. Instead it refers, in the first instance, to a Low German oriented prosody and pronunciation, nevertheless at the same time demanding empathy for an odd and sometimes even weird narrative. However, these sayings also come with a pulse-oriented rhythm of speech, a crucial finding I used extensively when producing my first CD<sup>7</sup>. When exploring the musicality of speech, this finding was to emphasise that a listener's perspective is much more worthwhile than a reader's perspective.

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spelling reference as soon as its 168 pages saw the East Frisian pale light of day. The Low German orthography has seen a few reformations since. Conformity has been enforced ever since. As I am more interested in the characteristic sounds of East Frisian Low German, and interested to explore its musicality, this is not my philosophy. Gerrit Herlyn (1909-1992), a famous protestant pastor, author and radio presenter in his lifetime, whom I had the privilege to interview in Leer as soon as 06.02.1990, then using my cassette recorder marantz CP230, also did not agree with any forcible coordination of any Low German orthography. Later on, starry-eyed preservationists of Low German were to become famous for these tendencies. Herlyn refused them all, please compare Herlyn, Gerrit (1978). *Unnerwegens van Lütje Milm na Groothusen*. Weener: H. Risius, 5: "Wi versetten uns dartegen, dat de plattdütse Spraak fastschreven word un eens Dags kummt dar so 'n Mienheer Duden her, un de seggt uns, wat recht is un wat 'n Fehler is un wo dat dr henmuttert, un all anner gellt dann up eenmal neet mehr as blot noch sien rode Enkt."

<sup>7</sup> Bartmann, Manfred (2011). *Frisia Orientalis. Applied Ethnomusicology and Documentation* (www.plattschapp.de). CD. There, the document "Low German Mouth-Musics - a Pulsation Concept. A Short Introduction by Manfred Bartmann" (13 pages, = Booklet/ Introductions/ IntrLowGermanMouthMusics.pdf). On that CD four audio tracks refer to pulse-oriented East Frisian mouth musics, please compare the booklet entries (= Booklet/Tracks) "01OlfDolf Deih.pdf" (2 pages), "02MartinmasRhymes.pdf" (4 pages) "03RubbingTheEaster Drum.pdf" (3 pages), and "04MidwinterBells.pdf" (5 pages). The folder /Podcasts/ provides further explanations as well as field recordings three of these audio tracks are based on, every podcast appr. 14 min: *BartmannPodcast1of3MartinmasRhymes.mp3*, *BartmannPodcast2of3 Easter DrumRubbing.mp3*, and *BartmannPodcast3of3MidwinterBells.mp3*.



Figure 1: Elfriede Lottmann from Norden pouring from her favourite teapot. Photo by Manfred Bartmann, 2016.

According to Stürenburg, 'rakeln' can be translated as to stir, to touch, to hurt, or to insult. Stürenburg also puts the old English phrase 'it recks me not' as related to the Low German 'raken' or 'rakeln', 'dat kann mi nee raken' (= this cannot wreck me)<sup>8</sup>. Stürenburg also uses 'to rake' when explaining the Low German verb 'inrakeln', which means to rake the still glowing remains of an open fire into a hole. 'Rökeln' may also mean to poke, as well as to prod and stir (a fire) with a poker to make it burn more fiercely.<sup>9</sup>

**Question 2:** So far, so good, Manfred ! However, as this track is all about a 'Rökeldoab Dada', I am still missing the meaning of 'Doab' as well as the meaning of 'Dada'.

**Manfred:** A Doab denotes a hole, sometimes a disgustingly dirty one, at least something you wouldn't touch, let alone stir up. In East Frisia it forms part of a

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<sup>8</sup> Stürenburg, Cirk Heinrich (1972[1857]). *Ostfriesisches Wörterbuch*. Aurich/ Leer: Schuster, [Reprint], 194.

<sup>9</sup> Stürenburg, Cirk Heinrich (1972[1857]). *Ostfriesisches Wörterbuch*. Aurich/ Leer: Schuster, [Reprint], 201. There the entry "rökeln" as a by-form of "rakeln".

traditional fire pit, full of soot and ash, as a so-called Rökeldoab or Rakeldoab. It may also hold firehooks and pokers. Of course it is not recommended to poke into it or to stir up the soot as a Doab is used to cover dying embers in order to preserve them for re-starting the fire the very next morning. A Doab may also form part of a meadow, full of brackish water. I never saw cattle drinking from a Doab. This dark liquid is also said to contain mysteries you must not stir up. You may also use this term to express a strong feeling of annoyance, displeasure or hostility, as you may say: I am as angry as brackish water, as Doabwater. That means: You better keep your distance. A Doab is a metaphor for containing something not to be raked through, let alone ruthlessly. In this light I decided to add some more lyrics:

Ik bin net so düll as Doabwater (I am as angry as water from a grimy hole)  
Doabwater so ingrimsig (water from that hole being so grimy).

The New Oxford American Dictionary tells us "Dada was an early 20th-century international movement in art, literature, music, and film, repudiating and mocking artistic and social conventions and emphasizing the illogical and absurd."<sup>10</sup> The Dada movement comprised "artists who rejected the logic, reason, and aestheticism of modern capitalist society, instead expressing nonsense, irrationality, and anti-bourgeois protest in their works."<sup>11</sup>

My artistic intention is consistent with this as far as I reject the idea that this piece of music be associated with the music of the folk revival; at the same I point out that it lacks any sense of the sublime goal of saving East Frisian Low German from extinction, let alone any clear or sound reasoning. Nevertheless it represents the sounds and grooves of a dialectal variety with which I grew up.

**Question 3:** Carlos, in what way is the playing of the Indian double drum tablā connected to the rhythm and melody of speech?

**Carlos:** The methods for learning, playing, and teaching the tablā are all inextricably linked to speech. Both individual tablā strokes and patterns are called *bol*, from Hindi 'speech'. This 'speech' is 'recited' from tablā master to disciple in a wholly oral transmission. Each *bol* is represented by a syllable that is then mapped to a particular stroke on the tablā, e.g., na, tin, tirakite, dha, ghege, dheredhere. Traditionally bols were not supposed to be written down,

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<sup>10</sup> McKean, Erin (2005). *New Oxford American Dictionary (Second Edition)*. New York: Oxford University Press.

<sup>11</sup> URL Dada (2017).

but it is easy to find today huge compendiums of *tablā* compositions using Devanāgarī or Latin scripts.<sup>12</sup> However, no standard notation has ever emerged for writing *tablā* compositions.

Bols are committed to memory, and the recitation<sup>13</sup> of *bols* is as important to the student as the performance itself. While the vast majority of *bols* are used for pedagogical purposes, there are some complex bols (for example also in the Carnatic tradition) that are composed, learnt, and performed exclusively orally, without committing them to any instrument.

Therefore, *tablā* players who have been exposed to the *guru-śiṣya-paramparā* system of learning (such as myself), most of the time—if not all the time—think of a performance in terms of speech, both internalised and manifested.

**Question 4:** Carlos, would you be able to interpret almost any spoken word or phrase on the *tablā*?

**Carlos:** I can certainly try! ;-). It goes like this: in Hindustani music there is a common performance device called *jawāb-sawal* or 'question-answer', where two instruments engage in a musical 'conversation'. The first instrument (usually the *guru* or the most experienced of the two performers) will perform a composed or improvised musical segment that the second instrument will imitate or contrast immediately. Nowadays the most common performance of *jawāb-sawal* is by one melodic instrument (e.g., sitar, santur, bansuri) and one percussion instrument (e.g., *tablā*), usually during the penultimate section of a raga performance. The 'answer' performed by the *tablā* will not only reflect on the rhythmic components of the melodic 'question', but will also mirror and/or contrast any glissandos and other melodic articulations by modulating the pitch of the larger bayan drum.

**Manfred:** I had noticed this Indian 'question-answer' practice on various occasions. Nevertheless Carlos and I did not refer to it, let alone rely on it when recording 'Rökeldoab Dada'. We tried to provide a glimpse of it when recording another track, 'April '84 - fieldworking in East Frisia', another song of mine which saw the light of day 2014 during the aforementioned Symposium 'Music and Otherness' in Ljubljana, which for me was the first opportunity ever to perform it in public, even with Carlos. Nevertheless, on this occasion it was

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<sup>12</sup> Wegner, Gert-Matthias (2004). *Vintage Tablā Repertory: Drum Compositions of North Indian Classical Music*. New Delhi: Munshiram Manoharlal.

<sup>13</sup> *padhant*, which means 'reading'.

me just playing my bass-bodhrán, yet not knowing anything about the *jawāb-sawal*.

**Question 5:** Carlos, when and how did you first become aware that the Rökeldoab track was in the making?

**Carlos:** I wanted to work with Manfred for a couple of years already, especial after performing tablā with him in Ljubljana, Slovenia during his presentation at the symposium 'Music and Otherness' organised by the ICTM National Committee for Slovenia (August 2014).<sup>14</sup>

**Manfred:** Fond memories! It was then when I realised what a great musician Carlos is. I never had seen him perform before, let alone had any idea where all his knowledge and musical expertise stems from. We had already swapped experiences and stories that mark our shared musical preferences already in St. John's, NL on the occasion of the ICTM world conference in 2011, particularly by referring to our common great friend from Ireland, the incomparable singer Andy Irvine<sup>15</sup>, meanwhile hailed as 'a tradition in himself'. In St. John's I had that gut feeling that teaming up Carlos would just be a feast. With hindsight we were bound to connect musically in one way or another which then was to happen in Ljubljana. There, Carlos was especially keen to learn about the impressions I had locked into my heart and will always wish to share with any new friend, having experienced live concerts of the legendary Bothy Band<sup>16</sup>, way back in the 70s a couple of times, Carlos sadly never having had that opportunity simply because he is much younger than I am ! The Bothy Band was probably the most powerful Irish band to make traditional tunes blossom, allowing them to breathe using intricate rhythmic arrangements, hereby relying heavily on the technique of interlocking<sup>17</sup> between Dónal Lunny's<sup>18</sup> Irish bouzouki (tuned GDAD)<sup>19</sup> and Micheal O Domhnaill's<sup>20</sup> DADGAD-guitar.

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<sup>14</sup> Bartmann, Manfred: *Why Ethnomusicology? We are East Frisians! Applied ethnomusicology, East Frisian Power Structures and the Preservation of Low German*. Ljubljana, City Museum, August 28th, 2014. Unpublished.

<sup>15</sup> URL Andy Irvine (2017).

<sup>16</sup> URL Bothy Band (2017).

<sup>17</sup> Interlocking means to make rhythmic impacts "fall in between each other like fingers of folded hands", Bartmann, Manfred (2016). *Doing It without Doing It. Notes on the 'Africanness' of Ginger Baker, Allegedly the 'World's Greatest Drummer'*. *Studia Instrumentorum Musicae Popularis IV (New Series)*. Edited by Gisa Jähnichen. Münster: MV-Wissenschaft, 10. This requires a common so-called elementary pulse, Kubik, Gerhard (1979). *Pattern Perception and Recognition in African Music*. The Performing Arts. Music and Dance. Edited by John Blacking and Joann W. Kealiinohomoku (= World Anthropology.



I am proud to report that our work on the Rökeldoab Dada was to breathe the spirit of that great band by superimposing various layers of rhythm, to say nothing of Carlos' ability to fit so well into the realm of Irish jigs, double jigs and slip jigs which inspired our recording from beginning to end. And of course Carlos is familiar with the sounds and timbres of the Irish frame drum bodhrán<sup>21</sup>. Mine is a bass-bodhrán I acquired via Andy Irvine's German agent Gabi Nendel. She had it made via her connection to 'Ringo' John MacDonagh way back then, Ringo then working as the rhythmic powerhouse of another iconic Irish band, De Danann<sup>22</sup>.

**Carlos:** Having had that intense meeting in Ljubljana in 2014 I gladly took the opportunity to join Manfred in Bernie's studio in Salzburg<sup>23</sup>, Austria in June 2015, where I recorded tablā and recited *bols* for Manfred's forthcoming new CD *Frisia Orientalis II: Making Music of Speech*.

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Edited by Sol Tax). The Hague, Paris, New York: Mouton Publishers, 221-249; Bartmann, Manfred (2011). *Frisia Orientalis. Applied Ethnomusicology and Documentation* (www.plattschapp.de), CD. There the accompanying document "Black African Musics. A Short Introduction by Manfred Bartmann" (7 pages, = Booklet/ Introductions/ IntrBlack AfricanMusics.pdf). In the German/Dutch borderland, people following the midwinterish tradition of striking the churchbells also make use of systems of interlocking; Bartmann, Manfred (1991). *Das Beiern der Glocken in der Grafschaft Bentheim, Denekamp (NL) und Ostfriesland. Bewegung und Klang*. Ludwigsburg: Philipp. With an accompanying audio cassette (= doctoral thesis at the university of Göttingen). Alternatively, may be more accessible because the explanatory documents in the comprehensive CD-ROM section are all in English: Bartmann, Manfred (2011). *Frisia Orientalis. Applied Ethnomusicology and Documentation* (www.plattschapp.de). CD. There please compare the podcast "Bartmann Podcast3of3MidwinterBells.mp3" (appr. 14 min), the booklet entry *04MidwinterBells.pdf* (5 pages, = Booklet/ Tracks) as well as the document *Low German Mouth-Musics - a Pulsation Concept. A Short Introduction by Manfred Bartmann* (13 pages, = Booklet/ Introductions/ IntrLowGermanMouthMusics.pdf). "These findings give strong evidence that a musical thinking based on beats, elementary pulses, interlocking, movement patterns, (...) is by no means limited to the African continent." Bartmann, Manfred (2015). *Doing It without Doing It. Notes on the 'Africanness' of Ginger Baker, Allegedly the 'World's Greatest Drummer'* In: *Studia Instrumentorum Musicae Popularis III (New Series)*, edited by Gisa Jähnichen, 1-20. Münster: MV-Wissenschaft, 10, footnote 45.

<sup>18</sup> URL Dónal Lunny (2017).

<sup>19</sup> Bartmann, Manfred (2013). Open G Tuning + Banjo + Cassette Recorder = Rolling Stones. Traditional Tunings of Banjos, Bouzoukis, and 5-String Guitars in Rock Music, Folk Music and Beyond. *Studia Instrumentorum Musicae Popularis III (New Series)* Edited by Gisa Jähnichen. Münster: MV-Wissenschaft, 57-58.

<sup>20</sup> URL Micheal ODomhnaill (2017).

<sup>21</sup> URL Bodhrán (2017).

<sup>22</sup> URL De Danann (2017).

<sup>23</sup> www.obaxe-music.com, last accessed 9 May, 2017.

The recording process was definitely *sui generis*—the preliminary arrangements shifted and re-formed according to what was being recorded, which sent both Manfred and engineer/producer Bernie Rothauer in unexpected tangents towards the finished product.

My contribution to “Rökeldoab” was one of the last I recorded in that session. If memory serves, I listened to the basic tracks a few times, and then recorded a basic 6-beat *dādra* pattern that I embellished with extra fills and breaks as a reaction to what I was hearing from the basic tracks. We did not punch in nor overdub any parts, so it must have been done in one take.

**Manfred:** I think Bernie Rothauer deserves a special mentioning here ! He is hailed as Salzburg's first choice if you want a certain groove to be evoked when recording your music. He is very perceptive and will always will give you incisive advice, the more so he has a great ability to 'hear the band', something the great Irish musician and producer Dónal Lunny is famous for, according to Andy Irvine<sup>24</sup>.

**Question 6:** Dear **Carlos**, dear **Manfred**, this interview is being held in English. What's the language both of you prefer when talking to each other in a more informal manner?

**Manfred:** Well, we are talking informally right now, I think. However, when working in our study group, we all speak English. Nevertheless Carlos has a marvellous talent to make me speak *el castellano* which is the Spanish I learnt in Spain, having attended '*los cursos de verano para extranjeros*' in the early 80s in Salamanca and in Santander. All in all, Carlos gets me back on my Spanish track every now and then.

**Question 7:** You are offering two audio examples: the first one is the mastered track, the second one seems to be a preliminary version. Anyway, where do these warbling sounds come from? They even remind me of R2-D2, the astromech droid popularised by the Star Wars movies.

**Manfred:** There is a story behind all this. Carlos and I are both huge fans of the Star Wars movie series. However, Carlos knows much more are about the creator of these particular sounds than I do. So it was he who made me learn about the American sound designer Ben Burtt, whom I hadn't heard of before. Carlos and I hadn't really talked that much about Star Wars although I already

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<sup>24</sup> Personal communication on various occasions in the course of the last 3 decades.

had used these sounds when giving a paper in Astana on the occasion of our 43th world conference.<sup>25</sup>

**Carlos:** The Astana conference was very special in many respects. Frankly, I had no idea that Manfred would refer to Ben Burtt. "In the Star Wars series, part of R2-D2's beeps and whistles are Burtt's vocalizations, also made using an ARP 2600 synthesizer."<sup>26</sup>

**Manfred:** So Carlos and I were to meet in yet another field, one more or less beyond those we had already worked in. I always thought that all the sounds that come from R2-D2 stem from an algorithm<sup>27</sup> I used when delving into psychoacoustics<sup>28</sup>, especially into the problem whether there could be speech perception without any traditional speech cues. Remez et al.<sup>29</sup> refer to signals of speech that had been reduced dramatically to so-called sine wave replicas, i.e., bearing nothing but the traces of patterns of vocal resonances. As sine wave replicas often evoke speech perception, especially if they are offered as A/B testings<sup>30</sup>, they are also called sine wave speech.<sup>31</sup>

**Carlos:** Manfred, please help me to cope with that sound image (Fig. 2). Are there any A/B testings displayed in Fig. 2?

**Manfred:** Yes, the whole example can be seen as a first attempt to exploit psychoacoustic A/B testings in an artistic manner. Please compare the accompanying sound file audio2, which corresponds to the sound image. Fig. 2

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<sup>25</sup> Manfred's paper: *Making Music of Speech: Experimental Approaches*. *Applied Ethnomusicology, Prosody, Interculturalism* (unpublished). On the occasion of the 43rd ICTM World Conference, 16-22 July 2015, Astana, Kazakhstan.

<sup>26</sup> URL Ben Burtt (2017). Various authors: Ben Burtt. [https://en.wikipedia.org/wiki/Ben\\_Burtt](https://en.wikipedia.org/wiki/Ben_Burtt); last retrieved 28 May, 2017.

<sup>27</sup> Having studied Rubin, Philip (1982). *Sinewave Synthesis Instruction Manual (VAX)*. Version 2.1, August 11, 1982. Computer printout, 34 pp.; I used APP Boersma/ Weenink (2015).

<sup>28</sup> Psychoacoustics is "a branch of psychophysics". It "is the scientific study of sound perception." URL Psychoacoustics (2017). Also Bartmann, Manfred (2005). *Musikalische Systeme im Kulturvergleich*. Enzyklopädie der Psychologie. Themenbereich D. Praxisgebiete. Serie VII. Musikpsychologie. Band 1: Allgemeine Musikpsychologie, edited by Thomas Stoffer and Rolf Oerter, 95-122. Göttingen, Bern, Toronto, Seattle: Hogrefe, Verlag für Psychologie.

<sup>29</sup> Remez, R. E., et al. (1981). Speech Perception without Traditional Speech Cues. *Science* 212, 947-950.

<sup>30</sup> URL A/B testing (2017).

<sup>31</sup> BartmAudio2 as well as Figure 2: Rökeldoab. Making music of a speech signal.

shows a spectrogram, i.e., visual representations of some acoustic signals. It shows how the spectral density varies with time (horizontal). Degrees of amplitude are shown at various frequencies on a vertical axis. The one displayed here (Fig. 2) is grey-scaled. It comes with a linear vertical frequency-axis, showing the first three formants<sup>32</sup> of the respective signal against time. Formants are traces of acoustic resonances. They appear as mere sine waves here. These were extracted from the audio signal using the Dutch application 'PRAAT - doing phonetics by computer'.<sup>33</sup>

**Carlos:** I find it hard to read the spectrograms whilst listening to the accompanying soundfile.

**Manfred:** Please note that in Fig. 2 different spectrograms may represent very similar sounds, as well as similar spectrograms may refer to different sounds. Fig. 2 displays explorations of sounds. They all come as A/B testings. A/B testing is a method to note the similarity or dissimilarity between two sound versions (A and B) by testing a listener's response to version A against version B, while version B is always modified in some respect. So A will always serve as an indication of a specific sound to function as a point of departure while B is an invitation to recognise any changes of sound quality. In other words: a perceptual set<sup>34</sup> is put forward as a basis or as a predisposition for speech perception, the more so to be able to focus any modification.<sup>35</sup> All in all, this also has to do with music cognition, which "is an interdisciplinary approach to understanding the mental processes that support musical behaviours, including perception, comprehension, memory, attention, and performance."<sup>36</sup>

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<sup>32</sup> URL Formant 2017.

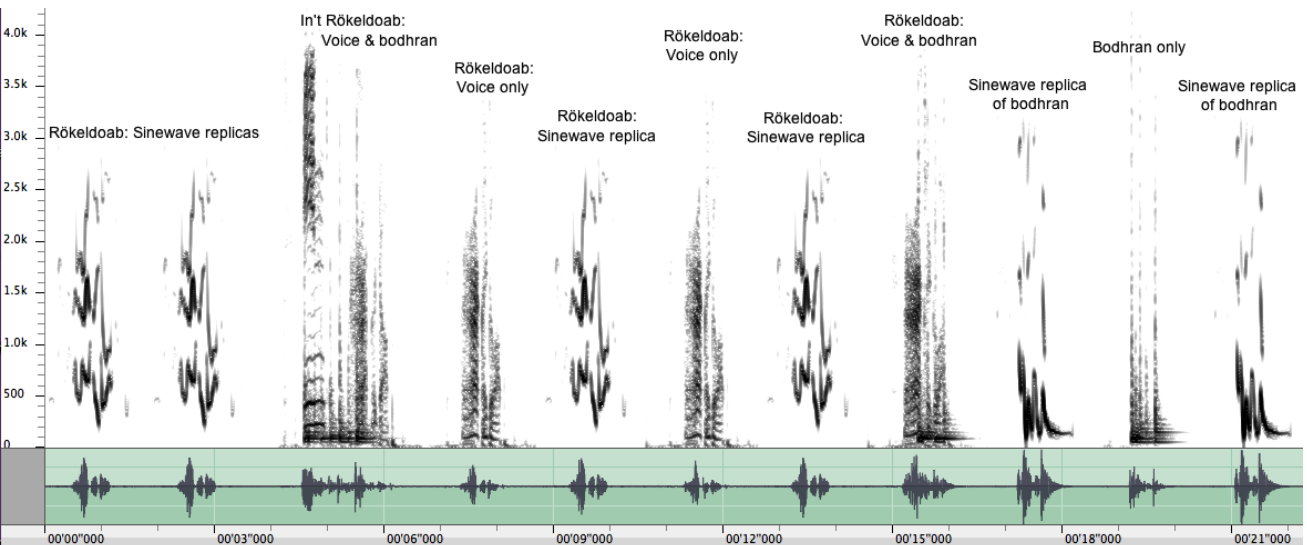
<sup>33</sup> APP Boersma/ Weenink (2015).

<sup>34</sup> URL Set (psychology) 2016.

<sup>35</sup> Weiten, Wayne (2010). *Psychology: Themes and Variations*. Wadsworth.

<sup>36</sup> URL Music Cognition (2017).

Figure 2: Rökeldoab. Making music of a speech signal and a drum signal. Having extracted traces of formants as sine waves, then using A/B testings. Please compare audio2. Illustration by Manfred Bartmann, 2017.



**Question 8:** What do you think: If you two had the opportunity to record this track once again, what do you think should or could be different?

**Carlos:** Honestly? The experience was wonderful to me, so I don't think I should like to change anything. Sure, I tend to favour a bit more structure when we're paying studio time, but the results speak for themselves.

**Manfred:** Thank you, Carlos! Well, I also think our recording<sup>37</sup> stands for itself. Nevertheless I had the chance to explore some advanced techniques when playing the East Frisian tea tin bow.<sup>38</sup> I managed to imitate the melodic line "Dör'n Busrüntje Mau, dör'n Busrüntje Mau" that I sing more than I declaim it in our recording by pressing the plank of the bow, and doing so, changing also the string tension. This affects the timbres likewise. I demonstrated all this in our workshop. This also forms part of the aforementioned interactive PDF.<sup>39</sup> When trying to make musical instruments talk, I think two listening strategies will always compete. You may concentrate on pitches, especially on pitch modulations, which requires one to hear more analytically. On the other hand, you also may concentrate on modulations of timbre, especially on formants, which requires a more holistic hearing.

On that note, I decided to rely on that particular algorithm which is probably similar to that one, the speech-like sounds of the famous R2-D2 may have been created, to help me offer a third listening strategy. These warbling sounds may help to question your perception of pitch and timbre and doing so, detect more of the details and subtleties. In one way or another, the sine wave speech reminding one of R2-D2 turned out to be a great device when making music of speech, in these cases by extracting almost speech-like modulations from musical signals.

**Question 9:** Manfred, East Frisians may have the impression that you prefer some very old-fashioned, maybe even outdated Low German vocabulary. Anyway, what is your message? Do you intend to have terms like Rökeldoab revitalised?

**Manfred:** Frankly, I don't think so. However, the gloomy connotations and dark mysteries symbolic of the many grungy holes in East Frisian everyday occurrences have survived in a more figurative sense, especially as figures of speech when discussing political affairs. When asking for the meanings of Rökeldoab in retirement homes, connotations and contexts were discovered

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<sup>37</sup> BartmAudio1 on the accompanying DVD.

<sup>38</sup> BartmAudio1 on the accompanying DVD.

<sup>39</sup> BartmAudio1 on the accompanying DVD, page 11, there Figure 9: "pitch modulations by pressing the plank ...".

fairly easy. This was taken as an encouragement to make use of the term and some of the connoted sayings in a new piece of music. And of course these efforts serve to empower people living in retirement homes by appreciation of their implicit knowledge. Their reactions helped a lot to work out new forms of cultural expression. Maybe some of these old terms are disappearing, nevertheless their undercurrents still linger on. Somehow hidden meanings keep telling us: Don't get caught up in inscrutable pitfalls !

**Question 10:** How would you sum up your experiences when making musical instruments talk ?

**Manfred:** Carlos has pointed out that this is exactly what you learn when training as a tablā player. This made me think of how to extend that learning experience to the usage of any other instrument, especially how to evoke speech-like sounds from a musical bow. Knowing that any sound has a potential to be used musically, I wondered whether traces of formants extracted from any instrumental sound could be interpreted as speech. We accomplished this by using the sine wave synthesis algorithm.<sup>40</sup> All in all, the sounds we used pretend to evoke unmediated experiences, simply because we conceptualised them as such. We used the aforementioned tricks though. So in the end, we would be able to make anybody perceive almost anything. Is that not a little bit scary?

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### Accompanying Audiovisual Material:

#### BartmAudio1

Rökeldoab Dada. A grooving Low German mouth music. © Manfred Bartmann 2017. A pre-release. Part of Manfred Bartmann's CD *Frisia Orientalis II: Making Music of Speech* © Manfred Bartmann 2017 (forthcoming). All rights reserved. Manfred Bartmann (East Frisian tea tin bow, bodhrán, programming, vocals) with the help of Bernie Rothauer AUT (frame drum, scratching a tin, programming) and Carlos Yoder ARG, SLO (tablā). Lyrics and music: © Manfred Bartmann. (06:02), 320 kBit/s, 13.9 MB.

#### BartmAudio2

Rökeldoab. Exploring sine waves. Making music of a speech signal and a drum signal. Having extracted traces of formants as sine waves, then using A/B testings. Preliminary, explorative recording. © Manfred Bartmann 2017. All rights reserved. (00:22), 705 kBit/s, 1.9 MB. Lyrics and music: © Manfred Bartmann.

#### BartmInteracticeTeaTin.pdf

Manfred Bartmann: Manfred Bartmann's East Frisian Tea tin Bow. A Short Introduction. An interactive pdf with many photos, spectrograms and corresponding audio files. 12 pages. A pre-release. Manfred Bartmann's CD *Frisia Orientalis II: Making Music of Speech* © Manfred Bartmann 2017 (forthcoming). Part of the internet-based explanatory material on [www.manfred-bartmann.de](http://www.manfred-bartmann.de) (forthcoming). All rights reserved. Please note that a current version of a PDF-Viewer is required (for example Adobe Reader) to play back the embedded soundfiles.

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