

OVERTONE SINGING

HARMONIC DIMENSIONS OF THE HUMAN VOICE

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INTRODUCTION: WHERE ART MEETS SCIENCE AND CONTEMPLATION

With my work, such as making fieldwork trips to a remote place to study the music of this anonymous herdsman I called Mergen, and with my art, such as singing long drawling sounds with other flute-like sounds on top, I explore a corner of the world of music that you can call very, very obscure. Within the music world that most people know, listeners are likely to mentally place it outside the styles, artists or composers they are most familiar with. The musicians and composers we will talk about are never really mainstream but at best connected with a big name in an oblique way, like the Tuvan musicians who recorded at the studio of Frank Zappa the year before he passed away. Geographically but also culturally, Siberia is not on most people's radar. Tibet or Mongolia sound a bit less remote nowadays but are still exotic destinations for most people. And is this the music of *now*? The music we will explore is often hailed as either archaic or futuristic. Most listeners agree that it is a phenomenon unlike any other vocal sound or music. Many go even further when they say that this is unlike any other music from our planet: an inexplicable music that is intriguing and also alien.

Let us see whether we can flip this picture 180 degrees. What is there to say for a singing technique that is so far removed from the average music lover's awareness and the average singer's daily practice? My answer is that the technique of overtone singing is often not just another new musical style or catchy sound; it has the potential to alter the way you hear *all* music and sounds, including those you are most familiar with. Overtones are hidden but omnipresent. Most people would ask: *How is it possible to make such sounds?* My answer: You cannot speak or sing without also producing dozens of overtones of your voice. And my counterquestion: *How come we never heard it before or nobody told us about this?* Becoming aware of the overtones resounding through your mouth every time you speak is something like learning that your body is 70% water: hard to believe, but true.

This sounds rather dry and scientific, though. One of the most interesting aspects of learning about overtones is that they can become a part of our lived experience, not just an abstract fact. When that happens, we adjust preconceived ideas we had about sound. It can be a surprising sensation when you start to hear overtones in the buzz of a refrigerator, in the changing sound spectrum of your electric toothbrush or in the plucking of a guitar string (like the overtones played on open guitar strings at the start and end of 'On the Road Again' by Canned Heat). Like stars in the distance, overtones may appear as tiny glitters in a sonic world that previously only accommodated the more obvious sounds. For overtone singers, who master

techniques to bring out those same glittering sounds so clearly with their voice that it sounds almost unnatural, this kind of listening is second nature. We all inhabit the same world, yet ours is a bit richer, with more detail and lots of small surprises. Even though I (like you) mostly do *not* hear overtones as distinct sounds because they are too faint, I do often sense them in the timbres, densities and resonances of voices and instruments, animal and natural sounds, urban and industrial noises. This is the universe where my music takes shape. This expanded hearing has reshaped the way I sense the words I speak and the music I hear. This is the story I want to share about a neglected corner of our sensory world where we can actually create new things by changing our listening – or even by changing our voice.

MY EARLY FASCINATION WITH SOUND

My fascination with harmonics began in the late 1980s when I asked myself: What is *sound colour* or *timbre*? How do I instantly recognise the voices of dozens of people I know, even on the phone? What is different between an *oh* and an *ah*? What changes in the sound spectrum (containing all the frequencies from low to high) when Jimi Hendrix uses a wah-wah pedal? I had no trouble understanding the ‘stuff’ that makes up pitch and harmony, or rhythm or loudness, but I felt distant from timbre, and it made me curious. In the university where I studied musicology, I could not find a single book about timbre; there were just shelves full of books about harmony, melody and so on. Some years before, in high school, I had begun imitating all sorts of instrumental and vocal music using only my voice. An early ‘project’ with a classmate was obsessively imitating all the instrumental parts of Herbie Hancock and the Headhunters records from the mid-1970s. These ultra-cool guys carefully tweaked the sound of their synthesizers, guitar, saxophone, drums and percussion. Together with the sound engineers, they manipulated the spectrum or timbres on many levels to obtain a rich sonic texture. Indirectly (and sometimes directly) they also tweaked the mixture and loudness of the overtones that make up the sound spectrum they were playing. So when I imitated them with my voice, I also changed the overtones that make up all the different qualities of timbre. At that time I had no clue about or awareness of overtones. As a musicology freshman, this interest exploded in many directions when I was exposed to 1000+ years of European music and many of the world’s music traditions. Out of curiosity I began to imitate all kinds of vocal and instrumental music using just my voice, then I went on to chant and sing with others by way of improvisation. My fascination with that mysterious quality of ‘timbre’ endured as I spent considerable time producing long notes with varying colours and intensities with my best friend. We usually did not have a specific aim in mind, used no words and, more than anything else, *listened* to our voices. At some point I found an answer to the question ‘What is timbre?’ I could directly perceive its substance: the overtones.

Sometime later I made the step from merely ‘picking up’ some harmonics to consciously manipulating them. Having solved the problem of timbre on the basis of direct observation and experience around 1990, I continued to develop my skills, mostly as a private practice. I gradually developed a greater awareness of resonance in different spaces and musical contexts and applied that to work I did in experimental theatre and for the occasional concert during the 1990s.

Accidentally or not, The Netherlands was fertile ground for several pioneers in the field of overtone singing and Tuvan throat singing. Rollin Rachele, the author of one of the first books devoted solely to overtone singing and a fine overtone singer in non-traditional styles, lived just around the corner from me. His eight-week course initiated me into the peculiarities of specific overtone techniques. My sister, whom I also often chanted with, brought me a tape of a painter and musician from Germany, Michael Vetter, who had developed a musical language shaped around timbre and overtones. Soon he gave a concert, and his instruments and stunning, virtuoso overtone singing echoed all around us in a church in the heart of Amsterdam. Instead of clapping, everyone remained silent when the last sounds reverberated between the towering walls. It was unheard of how a single person could produce such an amazing array of sounds. I knew this was the music I had somehow expected and been looking for. But there was more to come.

In 1992, Maxim Chapochnikov, a Russian immigrant in Amsterdam, brought fresh recordings from a throat singing festival in the heart of Siberia to our national Dutch broadcasting station VPRO, where I first met him. Independently of each other, he and Bernard Kleikamp from PAN Records in Leiden began to invite overtone singers from the Republic of Tuva. They published some of the first groundbreaking recordings that changed people’s idea of what a human voice is or can be. For a while, The Netherlands became a hub for touring Tuvan musicians and the place where several unique musical collaborations happened. In 1992, I packed my bags for a five-week Russian language course in Moscow, then Maxim helped me connect with Dr Valentina Süzükei from the research institute in Kyzyl, the capital of Tuva. The day after I arrived there, with little practical knowledge of Russian, I walked around the broad lanes of the town with this Tuvan music professor. She greeted or pointed out several acquaintances and told me, ‘That person is a good singer in the *filharmonia* ... over there you see a master on the Tuvan fiddle ... that young lady plays several instruments’. Then we ran into a throat singer, Deleg Yura. She introduced me, told me to interview and record him and went on to her meeting. I still have the tape with my first stammering interview and his excellent throat singing in my hotel room.

All these fortuitous events and connections greatly helped me begin my study of Tuvan *khöömei* (the generic local term for overtone or throat singing) in southern Siberia, combining my singing skills and musicological training. In 1994, I finished my master’s thesis about *khöömei*. In said thesis,

I did not write anything about my intuitive vocal explorations because they had almost nothing to do with Tuvan throat singing. Research questions in any area tend to be quite specific and focussed. At the time it was not *bon ton* to write about subjective experiences in musicology, especially if those experiences were of a spiritual nature. Yet, for me, several important developments as a musician and scholar I would now call ‘embodiment’ and ‘contemplation’ took place. My background in ethnomusicology and my practical experience with modern, contemporary overtone singing and Tuvan throat singing suggested that I could place the older and the modern forms in a clearer perspective. Having started meditating by way of making sounds, and while reading plenty of articles about the acoustics, perception and phonetics of the technique, I envisioned a comprehensive book in which art meets science and contemplation.

THE FIVE PARTS OF THIS BOOK

The challenge with this book is to give you a comprehensive understanding of a musical technique and principle in its ancient as well as modern forms; to show its cultural, religious and spiritual significance in widely diverging areas; and to explain its physical, acoustical properties as much as possible from an embodied and experiential perspective – not dry, theoretical facts. This scope is reflected in the four main sections: Physics, Traditions, Modernities and Metaphysics. In addition, I want to show you how I, for one, hold that panorama of ideas and practices together: hence the fifth and final part, Quintessence. To keep all those strands of creative, intellectual and contemplative work afloat in a more or less consistent view is sort of a juggling act, and that is what I have always loved to do most. I assembled what traditional practitioners, professional musicians and composers have told me and summarise what scholars have written about overtone singing and related subjects. We move from very specific case studies about a single musician or acoustic problem to another but always come back to bigger questions. Harmonics as such are timeless aspects of the sensory world that have left their traces in our ears and brains during the timespan of our long evolution. Very few ethnic groups are known to have sustained a tradition of overtone singing for centuries, patiently passing on their skills for countless generations. Only very recently do harmonics, issuing from the voice as distinct sounds, enter into more general and global awareness. I consider this step a milestone in human evolution and feel immense gratitude for being able to explore, explain and ‘execute’ it. This book is intended for readers who are willing to open their ears, eyes, minds and perhaps their mouths to acquire a full picture of an art and a phenomenon that does not belong to any single culture, region or epoch. I will now walk you through the book’s five parts, but I urge you to start reading wherever you like. Remember that none of the traditions has a well-developed *theoretical* understanding of harmonics! Frequent cross-references and use of the index will facilitate reading a single chapter or parts thereof, depending on your interest and your existing knowledge of or experience in overtone singing.

‘How do you do that?’ is the first question most Western listeners ask when hearing those whistling notes above a low drone. It is also the question this book addresses in Chapter 1. Many listeners and readers who come to this music have received an education based on European models of knowledge, which means you need some concrete facts first. Instead of focussing entirely on musical and theoretical aspects, we investigate how we all make sounds in our body, how we shape them and how overtones play a role in most sounds we hear and make. Most of us do not have the slightest awareness of the complexity of the system to produce speech and a host of other noises. A mere thought in our brain is enough to utter it, and before we know it, the people at our table have (literally) incorporated that thought into their brains. Overtone singing is somewhat akin to learning a new language as an adult: We need to figure out where to put the tongue or add breath or emphasise the throat. From there we move on quickly to the advanced stages of creating clear, audible overtones. As much as possible in plain language, and with the help of many graphs, I explain the finer details of articulating or shaping vowels and overtones using specific mouth positions. We gradually see how singers can tip the balance from the *fundamental* we usually hear (with a certain timbre) to the *overtone* we usually don’t hear. We learn how monks and nomads tip that balance even more towards piercing overtones or towards crazily deep (sub)fundamentals by adjusting the source sound from their larynx. We will dwell on the somewhat confusing terms *overtone singing* and *throat singing*, look in the opposite direction to ‘undertones’ and consider the possibilities of female voices and choruses to produce overtones.

Chapter 2 shifts the focus to the creative act of listening. You may think your brain simply registers the sounds out there in a more or less mechanical way. But there is a lot of selecting and processing going on to produce a sense of sound inside your head. Unawares, we adopt certain innate strategies for listening, which also means there are signals that we *do not* hear. If we compare ourselves to the Turko-Mongols, we are truly poor receivers of sound signals! To me they are sound technologists who cracked the code of how to listen better. Overtone singing is a technique that invites us to *break through habitual patterns of listening*: it confronts us with questions of perception (how we register sound signals from the outside world and transform them into neural patterns) and cognition (how we process them in the brain). I call the exploration of old and new musical, creative languages combined with creative listening strategies *paraphony*.

There is much to learn from composers and musicians who have a talent for listening and explore such concepts in their works. But there are also limits to what we can learn. To witness a Mongolian throat singer produce a melody of whistle-like sounds for the very first time is a life-changing, jaw-dropping shock for some people. For others it is just a mildly amusing curiosity because their hearing does not get fired up the way other people’s ears do.

Thinking back, I never had a jaw-dropping experience with vocal overtones, probably because I was already expecting there must be more to timbre than ‘one whole thing’. But I was never mildly amused, either. I became *obsessed* with the question of why so few cultures knew about overtone singing until recently and wanted to get first-hand answers from the experts. I got my early training in ethnomusicology, and that perspective informs my exploration of traditions in Part Two: Traditions. One important work that many of us refer to again and again is *How Musical Is Man?* by John Blacking, who stated: ‘Ethnomusicology is not only an area of study concerned with exotic music, nor a musicology of the ethnic – it is a discipline that holds out hope for a deeper understanding of all music’.¹ To which I may add that ‘music’ must be stretched to include all kinds of sounds produced by humans and their environments. We will first turn our attention to the Inner Asian mountains and steppes, where nomadic (or formerly nomadic) peoples sustain lively sound-making cultures based on timbre and overtones. Tuva, where people speak an old Turkic language, has been my foremost destination for fieldwork because it boasts a great number of excellent *khöömei* singers. I was fortunate to witness a powerful renaissance of indigenous musical traditions in Tuva and neighbouring republics during the 1990s and meet dozens of talented musicians, many of whom have passed away.

The subsequent sections of Part Two highlight many other ways to make the overtones of human voices audible. A young Mongol wonders about his own voice, which sounds more like metal than flesh, and a young Khakas man discovers a talent, almost overnight, for telling lengthy epics in a deep guttural voice. The Mongolian, Khakas and other traditions stem from a common root, together with Tuvan throat singing. The chordal chanting of Tibetan Gelugpa lamas is a very different story, as is Mediterranean polyphonic singing from Sardinia that sometimes gives rise to a ‘virtual voice’ of fused timbres. These traditions are alive and well, as I was able to witness with my own ears in India and Italy, and so is American barbershop, which I have never heard up close. Now, in 2022, the very tiny slice of Xhosa people who practise overtone singing in South Africa is in serious decline. It is my hope that this book could spark more people’s interest in one of these little-known music cultures so that they can be sustained for generations to come. I should add that I have been able to return only to Tuva again and again; some of the other eyewitness accounts are from more than two decades ago. In this short time a new generation has begun to change those traditions that are still very much alive.

Two to three decades before Turko-Mongol musicians were able to freely travel abroad, composers and musicians in Europe and the USA began to learn about and explore the possibilities of making music with the overtones resonating in human voices. Part Three: Modernities traces the development of overtone singing as a vocal technique practised mostly in the Western world. The pioneers had to start mostly from scratch since they were unaware of or lacked ways to contact the Asian singers or lamas

who knew more about the technical procedures of singing overtones. Most works coming from Europe and the States followed an aesthetic paradigm informed by avant-garde and experimental music and developed into newly created styles that had little or nothing to do with the older traditions. Many groups emerged that focussed specifically on presenting these vocal sounds, some of which operated under the label ‘overtone choir’ (‘Obertonchor’) – or, in the case of the best-known representative: Harmonic Choir.

The Western narrative often emphasises that overtones are a universal phenomenon, that overtone singing has characteristics that apply everywhere. But, as we will see, there is plenty of variation in the musical styles and in the stories these musicians tell. Within the Western proliferation of musical subcultures, artists like Karlheinz Stockhausen, Michael Vetter and David Hykes have been dismissed as being either New Age or ‘too difficult’ and avant-garde. We must look closer than that to discover the stories that pioneering musicians try to tell us. Once there were many female vocalists at the forefront of experimental harmonic techniques, like Joan La Barbara, and after a period of domination by male singers, we hear more women in the youngest generation of singers. We will also see that the distinction between ‘tradition’ and ‘modernity’ is quite arbitrary because there is a lot of mutual influence and frequent collaborations.

This book’s fourth part, called Metaphysics, is a companion to Modernities. It shifts the emphasis to such issues as meditation, therapy and philosophy insofar as they are related to harmonics and overtone singing. Although it draws upon some Eastern sources, its main focus is the Western world, where the fundamental principles of overtones are used as a metaphor, a belief system and a cosmology – even, one might say, as an artistic form of physics. In the new millennium yoga and meditation have become accepted, well-established tools for millions of new converts, partly endorsed by new scientific research. The positive effects of overtone singing and other harmonic sounds (singing bowls, didgeridoo, Jew’s harp, gongs) are widely reported or claimed in therapy and healing. Solid scientific proof is much harder to come by, and so we must look into several closely related subjects, such as ancient beliefs in the wholesome effects of harmonious proportions and relationships, the body-mind problem and chanting, mantras and therapeutic singing. Overtone singing can be a healing and therapeutic force for some singers but a great technical barrier for others. This is where tapping into the healing power of vowels, opening up to the natural resonances of the voice and a change of consciousness can be a solution.

After zooming in on many subjects and geographical areas, we will zoom out and link up the findings. As a cultural musicologist and vocal performer not bound to a single style or genre, I am constantly comparing statements (or works of art) made within one circle (say: contemporary music professionals) to those of another one (say: anthropology of music). The fifth and final part, Quintessence, puts the four overarching themes in dialogue. It articulates what makes certain practices and ideas in the field of

overtone singing stand out and debunks some persistent myths. It presents my vision of how to integrate the issues treated separately in the first four parts. I am placing sound in the centre and contrasting ideas about the self with some of the philosophical implications of modern science. I invite readers to weave the threads between all these aspects of sound and music in their own way.

It's all part of the fascinating paradox of overtones produced by human throats, made audible: a first attempt to glimpse the entire field, to give equal attention to all traditions and new inventions, to historical backgrounds and scientific evidence, to hearing and (a bit less) to singing (that's another book or online course). I am extremely happy that the *Anthology of Overtone Singing*, mostly consisting of my on-site field recordings, now covers all the older traditions. Even though I wrote about all of the traditions in earlier editions of this book, I had not visited or made sound recordings of Tibetan, Sardinian and South African Xhosa overtone singing. By now I have made fieldwork trips to every area or, in the case of the Xhosa, spent time with the musicians on tour, witnessed their performance first-hand and made recordings. That means my current *Anthology of Overtone Singing* covers every area where overtone singing or throat singing has been practised for centuries. In addition, there are several demos and examples of modern overtone singing performed by myself, either alone or with others. The text of Parts One and Two often makes explicit reference to these recordings. The tracklisting appears at the end of this book, and there you'll find information on how to access the music (or just search for *Anthology of Overtone Singing*).