



## **Listening to the Voices of the World**

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Olivier Messiaen, the composer who believed birds to be the greatest musicians, was born in Avignon just over one century ago. Fifty years ago, Messiaen was travelling around the world making tape recordings of birdsong and transcribing them into musical notation. Messiaen was probably the first composer to pay serious attention to our surrounding soundscape.

## The world as a sound vibration

According to different traditions, the world was created from one or several primordial sounds: from the rhythm of Shiva's drum, for example, or from the sacred syllable *Om*, which Hinduism considers to be the sound of the universe itself. Certain traditional cultures in Africa and Asia claim that sound is the true substance of reality, that musical rhythms embody the essential rhythms of natural phenomena, and that the matter we now take to be fundamental reality is merely a condensation of sound vibrations.<sup>1</sup>

In ancient China, long earlobes were believed to be a sign of wisdom, the sign of a person who knew better how to listen than to speak. Two thousand years ago in Europe, the Stoic philosopher Epictetus claimed that "Nature gave us one tongue and two ears so we could hear twice as much as we speak".

Vestiges of the original concept of the primordial nature of sound still exist today. Many musicians and music lovers consider sonority to be the essence of the world. After all, good music can bring our feelings together and make our hearts beat to the same rhythm. Some time ago, *La Vanguardia* published a back-page interview with Jordi Jauset, author of *Música y neurociencia: la musicoterapia* (2008), entitled "Good music makes cows produce more milk". This is departing somewhat from our subject, but hundreds of studies on the therapeutic effect of music are there to remind us that sound is much more essential and powerful than has often been thought.

In his major work, *The Glass Bead Game*, German novelist Hermann Hesse describes a scholarly game developed by a community of the future, in which the players seek out echoes between musical themes and scientific or philosophical subjects. At the beginning of the long novel, the narrator describes how "in the legendary China [...] it was held that if music thrived, all was well with culture and morality", to such an extent that "if music decayed, that was taken as a sure sign of the downfall" of the country. The *Lüshi Chunqiu* or *Spring and Autumn Annals of Mr Lü* (also quoted by Hesse) is an encyclopaedic classical Chinese text compiled around 239 BC, which clearly states the power of music for maintaining or altering the equilibrium of the world:

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<sup>1</sup> For example, the Indian tradition of Shivaism, as described by Alain Daniélou. In a different context, *El origen musical de los animales-símbolos en la mitología y escultura antiguas*, a curious 1940s publication written in Spanish by German musicologist Marius Schneider refers to many such traditions and attempts to explain the order of the Romanesque capitals in Girona cathedral and Sant Cugat del Vallès monastery through a series of musical symbols. Equally interesting are Hans Jenny's 20<sup>th</sup>-century works on cymatics which were later developed by other authors. Cymatics comes from the Greek *kyma* ("wave") and refers to the study of the physical forms produced by sound phenomena.

“Music is based on the harmony between heaven and earth, on the concordance between light and darkness. Perfect music has a reason. It is born of equilibrium. Equilibrium comes from that which is right, and that which is right springs from the meaning of the world. Therefore, music can only be discussed with one who has understood the meaning of the world.”

“[...] The music of a period in which order prevails is serene and unhurried, and its government is well-balanced. The music of a restless period is agitated and frenzied, and its government is flawed”.<sup>2</sup>

As a counterpoint to these ancient traditions, we can now listen to a few chords from contemporary cosmology. Today’s astrophysicists see the origin of the universe in the so-called *big bang*, a sound described by the onomatopoeic word for gunshot or explosion. It is indeed curious to note that our new creation myth of a primeval explosion, which is taken so seriously by modern scientific society, is referred to by an expression of sound (even if none of us were around at the time to hear it).

On the other hand, one of the major hopes of contemporary physics is the so-called *string theory*, which seeks the fundamental elements of the universe not in individual particles, but in microscopic one-dimensional entities called *strings* (by analogy with the string instruments of music). Physicists imagine these strings somewhat like guitar or piano strings; their basic properties are determined by their states of vibration and oscillation, just like those of a musical instrument.<sup>3</sup> The fundamental elements of the world have long been sought in atoms and subatomic particles, but the search has now turned towards different types of vibration. After centuries of mocking Kepler and other great astronomers who claimed to hear (or intuit) musical harmonies in the proportions and rhythms of the planets, scientists may now discover that there is indeed some form of vibratory sound dimension at the heart of the universe.

If we now leave the heights of cosmological abstraction and come down to a nearer, more direct experience, we also find vibrations in the landscape of our own body. Advanced practitioners of corporal techniques such as Kashmir yoga and Chinese chi kung claim to feel the body as vibration rather than as matter, as vibrations whose rhythms vary according to one’s psychological mood or one’s physical condition.

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<sup>2</sup> *Chunqiu* or “spring(s) and autumn(s)” is the classical Chinese way of referring to both years and annals.

<sup>3</sup> This aspect of string theory was highlighted by American physicist Lisa Randall on 30 September 2008 during the *En Ressonància* symposium at KRTU Cultural Centre in La Pedrera (Barcelona).

## Metaphors of seeing and listening

Landscape has traditionally been linked to the sense of sight. Cultural history shows an interesting contrast between visual perception and auditory perception.<sup>4</sup> Many traditional cultures ascribed special importance to sound and hearing, but the Western world has largely been described as a predominantly visual, oculo-centric culture. This is particularly true of today's society. In Homeric Greece, there still existed the strong auditory paradigm of the blind poet; the inspired, sightless bard who listened, recited and improvised; the famous blind prophet of Thebes, Tiresias, who could not see what was before him but was able to predict the future. Vestiges of this paradigm still existed in classical Greece, but by that time the predominating model of knowledge was visual. Plato's thought, in some measure the origin of our Western culture, came from a fully visual paradigm, in which light is a metaphor for truth, and darkness a metaphor for ignorance. Plato's disciple Aristotle explicitly states in his *Metaphysics* that "sight is the principal source of knowledge".

Let us examine the words used by Plato to designate the primordial forms of reality. In Greek, the words *eidos* and *idea* (the roots of our words *idea*, *ideology* and *ideal*) literally mean "image" and "sight". In etymological terms, therefore, an idea is an image or a sight. In fact, Plato has not much time for music or rhythms: musicians and poets have no place in his *ideal* republic. Far from the pre-Platonic Greek world which expressed itself through bards, talking oak trees, the murmur of the sea and the rustle of the wind, the legacy of Platonic ideas and images has given us today's hyper-visual world, in which light and sight are still identified (at least unconsciously) with truth and knowledge. The Latin verb *videre* ("to see") is the root of the word *evident* (that which is fully visible). In a world avid for certainty, we aspire to *foresight*; we try to avoid the *unforeseen*. The *Enlightenment* is our name for the century when human reason felt itself most powerful and confident. Luminous clarity is our model of knowledge, thus a person said to be *lucid* (full of light), *clairvoyant* or *brilliant* can *elucidate* or *enlighten* us. The implicit identification of sight with knowledge, traceable in most Western languages, can also be found in colloquial expressions as: "Look! Don't you see what I mean?", "a highly *regarded* theory", "an *eye-opening* experience", "in the *eyes* of the law" and so on.

All these expressions refer to visual perception as something active, something which can know and take in all the details with a glance. On the other hand, hearing-related expressions evoke a more receptive attitude. We talk about "*lending* an ear", "*keeping* an ear out" and "*having* an ear to the ground". The verb *to obey* comes from the Latin verb *ob-audire*, meaning *to hear*. Whereas sight tends to "have a close *look*" and analyse, sound tends to communicate and unite. We speak about people being in *consonance* with each other (i.e. sharing the same sounds), or in *dissonance* with each other (i.e. following different sounds).

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<sup>4</sup> A huge philosophical bibliography exists on the contrast between sight and hearing. Three outstanding writers on this subject are Maurice Merleau-Ponty (1945, 1964 and 1969), Hans Blumenberg (1957) and David Michael Levin (1985, 1988 and 1989).

The visual object tends to be static, or can at least be reproduced statically in painting and photography. An image can be approached, located and explored. Sound, on the other hand, is ungraspable, dynamic and impermanent. Looking can be clearly domineering, as for example when we stare at somebody; listening tends to be receptive, maybe curious or inquisitive, but never domineering. Sound is impermanent, it comes and then it goes away. When we record a sound, we can make it come back as often as we wish, but it still vanishes immediately afterwards. The contrast between permanent, controllable image and dynamic, ungraspable sound is closely related to the Western development of a type of knowledge linked to the visual model, a knowledge which largely aspires to control reality. Descartes' *Discourse on the Method* invites us to "render ourselves lords and possessors of Nature".<sup>5</sup> Descartes wanted ideas to be "clear and distinct", a phrase which reveals the underlying visual model of knowledge.

However, the evolution of knowledge based on the visual model seems to be running out of steam. We have already mentioned how the auditory model appears to be gaining ground in contemporary physics through the vibrations of the string theory. Over the last centuries, physicists imagined their models of fundamental reality in visual terms: atoms could be visualised as billiard balls, electrons as small planets orbiting around the nucleus. In the early 20th century, however, the "clear and distinct" Cartesian visualisation of the intimate structure of matter started to come up against major obstacles. The Heisenberg uncertainty principle means that we cannot simultaneously *visualise* the exact position and the exact velocity<sup>6</sup> of subatomic particles. The particles have been visualised as billiard balls for generations, but are becoming increasingly non-visualisable as they "dissolve" into symphonies or concerts of vibrations. Reality seems to be inviting physics to move away from visual metaphors and towards sound metaphors.

Sociologist Zygmunt Bauman describes the movement from solid modernity to liquid modernity, i.e. from a world of solid permanence to a world of increasing fluidity, inconstancy and uncertainty, which affects our institutions, our work, our personal relationships and even the economy. From a different perspective, the movement from solid modernity to liquid modernity is also the movement of a world based on a visual paradigm to a world based on an auditory paradigm.

Metaphors of sound and hearing should likewise be restored to landscape. The sight-related desire to control has contributed appallingly to the destruction of landscape. Outrageous *eyesores* are often built to afford sea or mountain *vistas* to tourists and new residents. For centuries, we have gazed at landscapes, scrutinised landscapes, with an *eye* out for the maximum amount of resources and the maximum amount of profit. We have gazed and stared at landscapes in our domineering way, but we have not listened to them. We did not listen because we thought that landscapes had nothing to say.

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<sup>5</sup> Part V: "Et ainsi nous rendre comme maîtres et possesseurs de la nature".

<sup>6</sup> Physicists use the more exact term *momentum*.

We did not listen to landscapes, but neither did we *hear* them or *feel* them in our hearts as we should. We must *listen* to landscapes in order to become a harmonious part of them. Listening has a clearly receptive dimension, an attitude of attentive readiness to respond to what is being asked of us by each place. (Interestingly, the Catalan word *escolta* means both “listening” and “boy scout”. In a way, the exploring nature of a boy scout is what is needed for listening to landscapes. The word *escolta* in Spanish and Catalan can also mean “escort”, in the sense of one who accompanies and protects.<sup>7</sup>) When we listen to landscapes today, we are also being asked to protect them.

In short, the three essential dimensions of listening and relating to soundscapes are receptivity, exploration and protection.

## The sonority of landscapes

Landscapes have been producing sound for millions of years, from long before humans arrived on the scene with our music and our languages. We can imagine each physical space as a huge resonance box containing the sounds of the world. Each place and each season of the year has its own prevailing winds, which whistle and howl in different tones depending on whether the resonance box is a coast, a plain or a closed valley. The rain itself may even sound differently as it falls into one resonance box or another. The most primitive soundscapes may have been the howl of wind over the earth's mineral structures, the crash of a storm over waves, the thunderous roar of a tempest and the babble and trickle of streams, rivers and torrents whose tempo and sonority change with each volume of flowing water. The Earth in its purely geological state had an atmosphere, which produced sound. Each place and each season has its own sound-producing instruments, e.g. trees that rustle their leaves at the slightest puff of wind, flowers that attract the buzz and whirr of insects. Each place and each season has its own particular range of bird species. The scores of the landscape are played by the instruments of wind, water, birdsong, the buzz of insects, and a host of others. The scores vary from place to place and from season to season; one birdsong enters the stage as another departs; the rhythm of the winds changes apace.

Just as a skilled oenologist can identify a wine not only by grape variety but also by region or even by vineyard, will we one day be able to identify a landscape from its sounds?

Ornithologist Jordi Sargatal once said that his passion for birds sprang from Pablo Neruda's line “Bird by bird, I've come to know the Earth”. This was the Neruda who wrote “I am the Pablo bird/ bird of a single feather” in *The Me Bird* poem (1965). The coming to know the Earth “bird by bird” is a reminder that each landscape has its own birds, and suggests that birds are part of the song

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<sup>7</sup> “Escorta” and “escolta” have different albeit parallel etymologies. Corominas' *Diccionari etimològic i complementari de la llengua catalana* and the Enciclopèdia Catalana *Diccionari etimològic* both include “escorta” under the entry for “escoltar”.

emanating from that landscape. When these species become threatened or extinct, the landscape loses one of its primordial forms of expression: the spontaneous song of its feathered inhabitants.

A desertified landscape has already lost most of its natural sound instruments, except for the mineral timbres produced by wind. The wider the variety of species existing in a landscape, the wider the variety of registers and sound instruments produced by its life forms. Variety is an indicator of the health of any given ecosystem.

Could the frequency and diversity of birdsong be taken as an indicator of the health of a landscape? Can we speak of the birdsong quality in a given place as an indicator of the quality of its landscape? A student of mine in England explored this possibility in his doctoral thesis. He recorded the call of the song thrush (*Turdus philomelos*) in different places; evaluated the environmental health of those same places; and analysed the birdsong recordings. The results were suggestive but inconclusive. However, in science, as we all know, absence of evidence does not mean evidence of absence. Further research may be necessary.

Catalan artist and author Perejaume began to explore the voices of landscape in his book *Oïsmè*<sup>8</sup>, published over a decade ago. More recently, in *L'obra i la por*, he takes up the same subject again. He tells us of his decision to speak and write in the same way as landscape speaks and writes; he gives examples of talking landscapes, such as a swinging rock near Alcover called Catroc; he also reminds us that poets have always known that the landscape talks to us. The 19<sup>th</sup>-century Catalan poet Verdaguer wrote about the “voice of Montseny Massif” and the “voice of Puigmal Mountain”; Perejaume himself does likewise in some of his poems; so does Mallorca-born poet Blai Bonet.<sup>9</sup> In *L'obra i la por*, Perejaume reminds us that our relationship with Nature is “as if we had all agreed, almost unanimously, not only that the trees, the earth, and the rivers do not speak, but that they have nothing to say”; he invites us to “consider how we humans have granted ourselves the exclusive use of voice, and ask ourselves what part our voice plays in the wider voice”. For Perejaume, the human voice is part of the wider voice spoken by the world.

Perejaume is also the author of a filmed sequence capturing the voice of a landscape. In *Assaig de mimologia forestal*, a “prepared wood” (“something like John Cage’s prepared piano”) is the only character that speaks, “first with noise-makers strung along the branches and then with the branches rustling in the wind.” Towards the end of the film, subtitles reflect on the voice of the wood and the voice of landscapes in general.<sup>10</sup>

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<sup>8</sup> “Oïsmè” comes from Baronia de Sant Oïsmè, a hamlet in Noguera County (Lleida) with a Romanesque church and castle. The saint’s name (a variant of Onesimus) sounds like *oïu-me* (“hear me” in Catalan). Perejaume turns him into the patron saint of landscapes demanding to be heard.

<sup>9</sup> Cf. *Obreda* by Perejaume. The poem “Lo plus bell catalanesc del món” by Blai Bonet (1957) transmits all the rhythmical strength of the sounds of the Mediterranean landscape.

<sup>10</sup> The film ends with this text by Perejaume:

“The tradition of talking oaks goes back to the ancient sanctuary of Zeus at Dodona (in Epirus, near present-day Ioannina), where the priests received messages from the god through the rustle of the leaves of a sacred oak tree. Homer recorded how, ‘from the divine

## The geo-sonority of cultures

Human sonority must now be added in to the sound repertory. Landscapes are also expressed through the human sounds that have co-evolved with them over the centuries. One human sound repertory is traditional music with its flutes, flageolets, drums and bells (bell-ringing part of the soundscape in many cities, e.g. Valencia). The human voice and human singing are also part of it.

A relevant case in point is that of the Australian aboriginals, who have lived with the landscapes of their continent for at least 40.000 years (some studies estimate 70.000 years). Their culture is the oldest in the world and therefore the “closest” to the ancestral sonority of the Earth. It is known that the arrival of the aboriginals caused an impact on Australian ecosystems. However, once they had adapted to the new landscapes, they were able to inhabit them in a sustainable way for thousands of years. The concept of a mythological era called “dreamtime” (*Altjeringa* or *Tjukurpa* in two extant aboriginal languages) is a key factor in understanding their relationship with the landscape. Traditionally, the aboriginals consider each outstanding feature of the landscape (hills, caves, rocks, streams and so on) to be a living vestige of their mythical dreamtime ancestors. A complex series of traditional songs explains the origin and the meaning of each feature on the landscape. The territory is criss-crossed by songlines which give voice (and rhythm) to the landscape.<sup>11</sup> When the aboriginals go walkabout, they chant their songs for days on end, always in the local language (about 500 of which existed on the Europeans’ arrival) on each part of the journey. This means that on a long walkabout, they must speak the language of each of the different landscapes they pass through. Bruce Chatwin recounts an anecdote about an aboriginal who shared a jeep with him on one of his trips around Australia. The man began to gabble his chant, in a vain attempt to adapt its rhythm to the speed with which the vehicle drove along the songline. The songline chants are made to be sung at walking pace, immersing oneself in the rhythms of the landscape.

On other islands nearer home, songs were also deeply rooted in the earth, at least until very recently. In *L’obra i la por*, Perejaume mentions Baltasar Samper’s research on work songs from the fields of Mallorca. He relates how Samper’s informants were unable to sing their songs into an indoor phonograph, partly because the songs could only be sung to the rhythm of work in the fields, but maybe also because the songs had co-evolved over the centuries with the landscapes of the

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oak-tree of lofty foliage’, Zeus advised Ulysses to return to Ithaca. In *Prometheus Bound*, Aeschylus also referred to an oak tree talking ‘in plain and clear words’. Centuries later, in *Georgics*, Virgil still marvelled at Jupiter’s beloved “mighty oak with its giant branches’. Between those distant times and the present day, oak trees seem to have engulfed the silence of the gods.”

“However, if the trees, the rocks and the sky do not have or do not appear to have a divine voice, we should at least grant them a democratic voice, some form of participatory, parliamentary and political voice. We could invite them to speak ... and then stand back to hear the roar of their response. In the words of the poet Miquel Bauçà: ‘It was not us speaking; it was the sky’.”

<sup>11</sup> Or used to. Since the European colonisation of Australia, many traditional aboriginal paths have been blocked by new buildings, and their songlines deafened out by the din of roads and cities. *The Songlines* by Bruce Chatwin is one of the finest documents on this practice.

island. Old people on Mallorca still remember those early 20<sup>th</sup>-century recording sessions, and recall the feeling of fear when their voices were recorded. On hearing the songs played back to them and seeing Samper walking off with the strange-looking phonograph, they felt that their "voices had been taken away from them".

Language is a soundscape in which we are all immersed. Even when we are ostensibly silent, most of us continue to chew over words in our minds, words with their own particular sound. If we are asked to think of a given word, most of us will imagine it as a word written on a page of a book, on a sheet of paper or on a screen. We imagine the visual form of the word. However, we must not forget that words were originally oral sounds. For many thousands of years, words had no visual form. Relatively recently in history, in different parts of the world, signs were invented to visualise words which then became frozen into the written forms we now know.

Languages and dialects have co-evolved with landscapes over the centuries, to the extent that organisations like UNESCO have recognised that one of the best ways of protecting an ecosystem is by protecting the indigenous languages which have evolved out of that landscape, in constant dialogue with its sounds and its ways of life. On the one hand, indigenous languages have a vocabulary which enables native speakers to distinguish details that newcomers might never even notice, such as the identification of species, migratory fluxes and seasonal rhythms. On the other hand, local languages may have gradually developed a syntonised relationship with the soundscapes of the surrounding ecosystems. If this syntonisation with the landscape is lost, the next step may be the destruction of the physical space itself. It has been said that Australia lost many of its vegetal and animal species after colonisation, simply because the British settlers had no words with which they could make sense of the new landscapes. According to linguist Peter Mühlhäusler, "The rapid loss of much of Australia's vegetation and animals following European colonization was, in important ways, the result of the invaders' lack of linguistic resources for understanding what they encountered [...].The European way of perceiving the Australian landscape radically missed the reality [...]"<sup>12</sup>

If "languages over time become fine-tuned to particular environmental conditions",<sup>13</sup> we wonder to what extent landscapes are linked to sonorities developed by languages and dialects over the centuries. Obviously, the evolution of different modes of expression is influenced by the confluence of many linguistic substrata. However, it is also possible that the landscape leaves its mark on language, e.g. through place names. We can all think of certain place names which were suggested by the places themselves. But if we imagine a landscape as a huge resonance box with

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<sup>12</sup> Peter Mühlhäusler, Linguistics professor at the University of Adelaide, quoted by Tove Skutnabb-Kangas (2000).

<sup>13</sup> Peter Mühlhäusler, quoted by Tove Skutnabb-Kangas (2000).

its own sound identity, could the box have an influence on the sounds heard inside it? Do coastal and mountain accents subtly reflect the sonority of the landscapes in which they are used every day? The English spoken in Great Britain in the 17<sup>th</sup> and 18<sup>th</sup> centuries was by no means a homogenous language. It is interesting to notice, however, that over the span of a few generations, British English, North American English and Australian English have become three modes of expression differentiated principally by their sonority, which we call accent. The lexical and grammatical differences are minimal: the main difference is one of pronunciation, accent, and sonority. The rapid evolution of sound differentiation within English is undoubtedly linked to the main dialects of the immigrants arriving to the different regions: in the case of Australia, London cockney and the English spoken in Ireland were the two major dialectal ingredients in the mix. However, the reason why one particular sound ends up predominating over the others has not been properly studied. Might Australian landscapes have contributed to shape the sonority of Australian English? Might North American landscapes have contributed to the range of sounds within North American pronunciation?

## Listening to the voices of the world

We believed that the world was deaf and mute. Nobel prize-winning biologist Jacques Monod wrote in a famous passage from *Chance and Necessity* that modern societies have happily accepted the power given by modern science, without wishing to listen to the inherent message transmitted by science. According to the great scientist, the inherent message is that man lives in fundamental isolation, on the boundary of “an alien world that is deaf to his music”. This phrase was written at the height of technological and scientific optimism, before the first oil crisis, when many people believed that the future would obviate the need for work, and that by this stage we would be space-travelling around the cosmos. At that time, some of the keenest minds in our society believed that the world was deaf to our music. A deaf world is an absurd world. The word “absurd” comes from the Latin *ab+surdus* (“deaf”), as in “*turning a deaf ear*”. We have all too often turned an absurdly deaf ear in our dialogue with the world. The world may have turned a deaf ear to our voices because we were deaf to the voices of the world.

Or maybe the world has responded with Kafka-esque indifference to our consideration of it as a warehouse of raw materials and as a backdrop to our heroic deeds. When we endow objects, landscapes and the world with entity and identity, everything changes.

What would happen if, instead of wanting to rule the world, we started listening to it, listening to the voices of the world?

I believe that our future depends, to a large extent, on learning to listen to the voices of the world, in the three attitudes of receptivity, exploration and protection discussed earlier on in this paper. Our cultural round table will be hugely enriched if we share it with the voices around us: natural

# Soundscapes

voices, cultural voices, ancestral voices, modern voices, all the voices to which, until recently, we have largely turned a deaf ear.

The landscape has a voice. Let's listen to it.

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