Nocturnal voices: sound matter and acousmatic ghosts

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La Selva (The Forest, 1998), a 70-minute compilation of 'sound environments from a neotropical rainforest' by Spanish sound artist Francisco López's, pays homage to one of the founding documents of acoustic ecology: Alexander von Humboldt's short essay 'Das nächtliche Thierleben im Walde' ('The Nocturnal Life of Animals in the Jungle'). Added to the German naturalist's most popular work, *Ansichten der Natur* (Views of Nature, 1808), only from its third edition published in 1849, Humboldt's essay compels us to join its narrator in an act of immersion. Bivaking in the upper Orinoco delta, the sleepless naturalist eventually learns, aided as usual by his Indigenous guides, to break down the noise of the forest into individual sound patterns associated with different animal species and to recreate their ebbs and flows in his own narrative tapestry. Or better: Humboldt invites us to read his text as a verbal score, transposing to the page the pitches and timbres of animal voices that, just like individual instruments in an orchestral work, rise above the forest's incessant ground hum. I quote from Elise Otté's and Henry G. Bohn's first English translation, published in 1850. 'Among the many voices which resounded together –writes Humboldt–

> the Indians could only recognize those which, after short pauses, were heard singly. There was the monotonous, plaintive cry of the Aluates (howling monkeys), the whining, flute-like notes of the small sapajous, the grunting murmur of the striped nocturnal ape (*Nyctipithecus trivirgatus*, which I was the first to describe), the fitful roar of the great tiger, the Cuguar or maneless American lion, the peccary, the sloth, and a host of parrots, parraquas (*Ortalides*), and other pheasant-like birds. […] Sometimes the cry of the tiger resounded from the branches of a tree, and was then accompanied by the plaintive piping tones of the apes, who were endeavoring to escape from the unwonted pursuit. (Humboldt 1850: 199)

Humboldt's account of 'the education of his senses' –in Oliver Lubrich's (2018: 96) apt expression– also sketches out, and puts into experimental practice, an alternative project to *Views of Nature's* overall framework that is, rather, visual-ekphrastic. Here, instead, Humboldt zeroes in on the sonic manifestations of life, by developing a technique of 'close-listening', which, once established, will also be deployed on the only seemingly silent diurnal forest:

> …but if, in this apparent stillness of nature, we listen closely for the faintest tones, we detect a dull, muffled sound, a buzzing and humming of insects close to the earth, in the lower strata of the

> atmosphere. Everything proclaims a world of active organic forces. In every shrub, in the cracked bark of trees, in the perforated ground inhabited by hymenopterous insects, life is everywhere audibly manifest. It is one of the many voices of nature revealed to the pious and susceptible spirits of man (Humboldt 1850: 201)

As Lubrich points out, in Humboldt's account of nightly listening, '*Ansichten der Natur* have become *Stimmen der Natur* –voices of nature– as if Humboldt had spontaneously changed the character of his project. He has thus learned to convey the character of a place not solely as *vision* bus also as a *symphony*: *land*scape as *sound*scape' (Lubrich 2018: 97). Of course, we should keep in mind that this symphonic transcription implies not one but two previous instances of translation. It is not the naturalist but his Indigenous guides who first single out, and put a name to, the animal sound that is being recognized. This first name, produced through an act of collective memory-making, is the native or 'vulgar' one that is still relatively close to the sound source itself, which (as in 'parraqua') it may even mimic through the use of onomatopeia. Humboldt's original German version of the essay does something similar in the way it proceeds to transcribe this native term into a German noun –'aluates' becomes 'die Aluaten'– after which, in parenthesis, are usually added either the German vernacular name or its Latin taxonomic equivalent. Each of these double acts of naming is also accompanied by a short description of the sounds emitted by an animal, generally by likening them to musical instruments or vocal timbres. What Humboldt is inventing here, in fact, is a recording technology *avant-la-lettre*, or perhaps rather *avant-le-machine*: a method of ekphrastic note-taking that approximates in the medium of writing the capture of sounds by Thomas Edisoن's phonographic cylinders first patented in 1877, almost thirty years after Humboldt's essay was first published.

For 'noise' to turn into 'voices of nature', then, it must undergo a multi-step process of transculturation, first in the field and then at the desk. These are required for 'nature' to reveal itself to the human 'spirit', in equal measure, through feeling and through reason. Humboldt's point in 'The Nocturnal Life of Animals', in fact, is twofold. On the one hand, he is reflecting on the differences between nature's visual apprehension as prospect and its aural perceoption as a sonic and rhythmic texture. Yet, framing this discussion, there is also a more general argument concerning the relation between language and the senses – that is, the degree of proximity to and of detachment from, the *Naturgefühl* or 'feeling of nature' as opposed to its abstraction by way of classification. The wider question Humboldt is after is about how erudite, scientific language can hold on to the felt 'liveliness' of natural elements

['Lebendigkeit des Naturgefühls'] that remains present, he asserts, in the native languages of the inhabitants of steppes, deserts and jungles. These, Humboldt claims, literally bear the imprint of close, daily contact with nonhumans and, thus, remain concerned with use rather than exchange value, with the hunter-gatherer's or herdsman's need for interspecies communication rather than the naturalist's abstract, orderly naming of living organisms. 'Speech acquires life from everything which bears the true impress of nature,' writes Humboldt, 'whether it be by the definition of sensuous impressions received from the external world, or by the expression of thoughts and feelings that emanate from our inner being' (Humboldt 1850: 192).

But then, language itself is in fact a crossroads of 'animations'; it is an exchange medium between the 'impressions' of environmental stimuli and the ideas and feelings emerging from inside the mind. The trick of naturalist description –not unlike that of shamanic invocation– is to facilitate this in- and outflow through a technique of controlled suspension of thought. 'That which is written down on the spot,' Humboldt claims, 'or soon after the impression of the phenomena has been received, may at least proclaim to possess more freshness *[Lebensfrische]* than what is produced by the recollection of long past events' (Humboldt 1850: 192). The art of writing in the field is to preserve the plasticity of language as received from an environment's native inhabitants. This requires an exercise of self-limitation on the part of the observer, so as to maximize the mind's permeability. Making language amenable to the 'impressions' of the location, the naturalist concludes, 'will be the best attained by simplicity in the narration of whatever we have ourselves observed and experienced, and by closely examining the locality *[durch die beschränkende Individualisierung der Lage]* with which the subject matter is connected' (Humboldt 1850: 192).

By subsequently moving from these general considerations on writing in the field to the 'sample case' of the nocturnal forest transcribed into soundscape, Humboldt also appears to single out sound, rather than vision, as a shortcut from life to language. Because language is itself sonic, the insistent humming or stirring *[Regung]* of the living remains *materially present* in the linguistic sign, in much more vivid fashion than ocular impressions in the landscape view. For Humboldt, soundscape has to supplement landscape; therefore, at night, when vision is suspended and the naturalist does not have to busy himself with the exercise of visual capture, he can at last lend his ear to sonic matter. The 'voices of nature' are the supplement emerging in the space and time of the suspended image: exactly the position that 'The Nocturnal Life of Animals' occupies within *Views of Nature* as a whole.

Humboldt's reflections on the relations between language and the sonic environment are echoed in one of the classic discussions on Latin American music: Mário de Andrade's *Ensaio sobre a música brasileira* (Essay on Brazilian Music), published in 1928. The piece, written at a time of fervent cultural debates about 'national expression', discusses how a 'Brazilian soundscape' that is already latent in popular forms can be 'elevated' to the level of art. Whereas Humboldt had speculated about the impact of environmental sound patterns in Indigenous languages, to the effect that the nonhuman surroundings remain materially as well as symbolically present in these, Andrade sees in the hybridization of musical forms a direct reflection of the 'Brazilian race'. Because music and dance (discussed in terms of rhythm, melody, instrumentation and voice) are expressive forms that draw on the body as their support, they are also immediately connected to physiology and the unconscious: 'a national art,' Mário asserts, 'is already being made in the unconscious of the people' (Andrade 1972: 16). Rather than literature or the visual arts, 'Brazilian popular music is the most complete, the most totally national, the strongest creation as yet of our race' (Andrade 1972: 24). But this very proximity to the popular body, Andrade continues, also means that music, in Brazil, is still a 'social' rather than a properly 'aesthetic' phenomenon: Brazilian music remains at a 'primitive' stage, in a 'phase of construction' (Andrade 1972: 18) because, in order to become available to the erudite composer, the popular first needs to be patiently sourced, transcribed and classified. It is, Andrade suggests, 'through intelligent observation of the populace and by making use of it, that artistic music will develop' in Brazil (Andrade 1972: 24). 'Artistic music' emerges when the unconscious, embodied expression of the race is drawn upon by the classically trained composer, yet no longer with any documentary or representational purpose but as base material available just as any other to the creative impulse: 'The artist only has to give to the already existing elements an erudite transposition that would make popular music into artistic music, by turning it immediately disinterested' (Andrade 1972: 16).

Whereas, throughout his text, Andrade argues against the use of Indigenous motives as a shortcut towards national musical expression, a composer he frequently commends is Heitor Villa-Lobos. Although Mário is more interested in Villa-Lobos's inspired combination of popular syncopated rhythms in pieces such as the diptych for piano *Saudades das Selvas Brasileiras* (Longing for the Brazilian Forests, 1927) than in the personal myth of the composer-adventurer these were contributing to, he nevertheless sympathizes with Villa-Lobos's early interest in ethno-musicological research. Indeed, as early as in 1919, for his

collection of short choral works *Canções típicas brasileiras* (Typical Songs of Brazil), Villa-Lobos had incorporated field recordings of Pareci ritual chants made by anthropologists Edgar Roquette-Pinto and Elsie Houston in 1912 for the two opening movements 'Môkôcê-cê-máká' and 'Nozani-na', also maintaining the originals' pentatonic scale. Another orchestral piece, *Uirapuru: The Enchanted Bird,* draws on a Pareci myth about an enchanted Uirapuru, or tropical musician-wren, which Villa-Lobos claimed to have heard during his own travels through the Amazon in 1910. Maria Alice Volpe attributes Villa-Lobos's Uirapuru theme, performed as a *leitmotiv* by a violinophone, to the birdsong transcription made by British botanist Richard Spruce during his 1849-1850 expedition through Brazil (Volpe 2001: 305). The composer would continue using Indigenous rhythms, scales and percussive instruments in a range of works evoking the forest landscape, including *Erosão (Origem do Amazonas)* (Erosion: Origin of the Amazon, 1950) and the orchestral ouverture *Alvorada na Floresta Tropical* (Dawn in a Tropical Rainforest, 1953).

Not unlike Humboldt, then, Andrade and Villa-Lobos are looking to mobilize the indexical as well as the symbolic capacities of sound. Sound, for them, is both an archive capable of maintaining present its source (the animal, the native, the racial unconscious) and a mode of representation, through which the local and particular can be recast in metropolitan forms: the ballet and the symphony are to their field-recorded source materials what the naturalist's essay had been to Humboldt's first notes 'written on the spot'. Both are underwritten by the same distinction between 'raw' sonic matter and the 'refined' final product, the soundscape. Modern acoustic ecology has moved from its initial focus on isolating and classifying sound patterns emitted by individual (especially bird) species, and towards a more holistic attempt at capturing the composite structure of particular sonic environments. It assumes –in the words of two prominent practitioners– 'that natural soundscapes consist of a combination of biophonies and geophonies – the acoustic examples that typically originate within the landscape. […] Biophony and geophony together make up the voice of what remains of the untrammeled natural world' (Monacchi and Krause 2017: 298-299).

Note that eco-acoustic rendering of 'natural soundscapes' as advocated here still requires an instance of cleansing, in order to recover an 'untrammeled natural world': namely, the filtering-out of human aural presences, or indeed any sounds that cannot be attributed to 'natural sources'. Moreover, in distinguishing between biophonies and geophonies, soundscape also remains ekphrastically predicated on the visual landscape's distinction between figure and ground. Against such attempts at modelling aural on visual space, the

work of Francisco López has instead sought to mobilize the modernist French composer Pierre Schaeffer's concept of 'acousmatics' – in Michel Chion's definition, 'a sound that is heard without its cause or source being seen' (Chion 1999: 18). Acousmatics can bring about 'a perceptual shifting from recognition and differentiation of sound sources to the appreciation of the resulting sound matter' (López 1998: 1). Acousmatic experience –which, López insists, is akin to the way animals in the forest live day-to-day, hearing but not seeing their predators or prey– 'can contribute significantly to […] "blindness" or profound listening' (López 1998: 2). In contrast to Humboldt and Villa-Lobos but also to mainstream acoustic ecology, in what López calls environmental acousmatics, 'nature is not present as a reference, symbol or nostalgic evocation, but rather through the sound itself. [His] recordings do not consist of *soundscapes* […] but of *sonic milieus*' (Solomos 2019: 95-96). This is because, in *La Selva* 'the presence of the noisy milieu/medium is not minimized. Rather, signal and noise, foreground and background, event and context are presented together, alluding to the notion that what is heard stems from the combination of sound source and its environment' (Thompson 2017: 88).

Listening to *La Selva* is in many ways an experience suprisingly close to that of a classical symphony, bringing back to mind Humboldt's analogy of the orchestral forest. Beginning with a percussive chatter that may or may not be the composite sound of cicadas, frogs, and bird cries (but which also sounds a lot like electronic noise in industrial techno music), the more than hour-long piece takes us through the *accelerandi* and *ralentandi* of multiple animal voices as well as the reverberations of nonorganic forces such as rain and thunder through the tree canopy and the underbrush. Long periods of relative stillness suddenly give way to the dramatic *crescendo* of thunder welling up from a distant murmur, and of storm agitating the treetops before torrential rain hits and literally drowns out all other voices. At different times of the day –compressed into short, movement-like sequences– a variety of animal voices take the lead although, most of the time, there is no clear distinction between lead and supporting voices in the intricate call-and-response structure of animal and environment sounds cuing in and out of the niches left by others. Unlike most eco-acoustic soundscape recordings, *La Selva* does not include a glossary of species for listeners to refer to as they patiently unravel (as Humboldt did in 'The Nocturnal Life of Animals') the sound tapestry in order to identify individual threads. Rather, López's piece entices us to take in the forest as a single as well as a composite, non-unitary *objet sonore* (as Schaeffer in his writings on *musique concrète*

called the sound that is heard independent of its originating source and, thus, focusing exclusively on its inherent sonic characteristics).

López's 'formalist' rendering of the forest chimes with anthropologist Eduardo Kohn's notion of forests as composite, semiotic networks of 'living thoughts' where morphodynamic processes of form-giving play themselves out in interspecies communications. 'The biosocial efficacy of form –Kohn argues– lies […] in the way it both exceeds and is continuous with its component parts. It is continuous in the sense that emergent patterns are always connected to lower-level energetics and materialities' (Kohn 2013: 167). Coevolution, of which the forest is the composite expression, is 'a reciprocal proliferation of regularities or habits among interacting species. The tropical forest amplifies form in myriad directions thanks to the ways in which its many kinds of selves interrelate' (Kohn 2013: 182). Yet before we hurry to commend López for producing a more truthful representation of this signifying forest than eco-acoustic soundscape recordings, his warning against 'the illusion of place' and his assertion that '*La Selva* (the music piece) is not a representation of La Selva (the reserve in Costa Rica)' (López 1998: 2) should give us pause. Although his own professional background is in entomology and ecology, in his soundworks López has made a point of distinguishing his scientific from his musical work, even as he acknowledges the former's influence on the latter. 'I consider *La Selva* to be a piece of music, in a very strong and profound sense of the word,' he writes in the sleeve notes to the album: 'I believe in an expansion and transformation of our concept of music through nature […] music is an aesthetic (in its widest sense) perception/conception of sound. It's our *decision* –subjective, intentional, non-universal, not necessarily permanent– what converts nature sounds into music' (López 1998: 2). Indeed, López suggests, we might even listen to *La Selva* as a concrete jungle, one of aural signals registered, and digitalized, by high-sensitivity recording devices: as 'nature' in the machine age and, thus, as irreducibly entangled with technology. Sound-recording machines are by definition incapable of perceiving the sound-emitting body, to the effect that sound becomes itself the object, its own materiality coming to the fore.

But let us stay for a moment with the idea of 'decision', on behalf of the listener, whether to hear in *La Selva* this material concreteness of sound matter or rather the (indexical or metonymic) representation of 'La Selva'-the-place. If the nature of sound is in the ear of the listener, this also means that (as Humboldt had already begun to realize) the sound-image relation always hangs in the balance. It has the character of a suspended presence. Machines may be capable of what Schaeffer called a 'reduced listening' (López prefers 'blind' or

'profound' listening) but, for the human listener, acousmatic sound also inevitably calls back one of the formative experiences of subjectivity, the infant's aurally continuous perception of the mother who meanwhile moves in and out of the visual field. This relation of sound to an image both remembered and potentially yet to materialize, is also a founding principle of sound film, the narrative grammar of which is to a great part built on the on-off relationship between sound and image that film theorist Michel Chion calls the *acousmêtre*.

I want to conclude by reconnecting Chion's notion to the question of the presence/absence of the human in the soundscape, which we briefly touched upon above. The way I see it, the notion of *acousmêtre* can add some welcome nuance and purpose to the somewhat stale discussion in eco-acoustics on whether or not anthropogenic sound (such as airplane engines or electric chainsaws) should be maintained or filtered out from 'nature recordings'. Rather, I suggest, the *acousmêtre* might offer us a way of understanding what ecological historian Jason Moore calls the 'double interiority' between the histories of nature and of capitalism on a planetary scale. In order to understand this 'world-ecological' relation between interdependent, co-constitutive spheres (or 'bundles', in Moore's vocabulary), I shall briefly refer to Tatiana Huezo's ravishingly beautiful as well as intensely moving filmic debut *El lugar más pequeño* (The Tiniest Place, 2011) in which the filmmaker revisits the Salvadorean highland village from which her mother and grandmother escaped to Mexico before she was born, in the midst of a genocidal counterinsurgency war waged by the national army. In a radical break with the compositional conventions of narrative *testimonio*, Huezo's film separates the stories told by survivors on the soundtrack (who returned to the abandoned village after the end of the civil war) from a visual sequence dominated instead by tracking shots and close-ups taken during hikes through the surrounding forest or through the still half-ruined village of Cinquera where traces of past lives and deaths abound – sometimes literally, in the form of human remains found in the underbrush. The simple but highly efficient principle of separating the narrators' voices from the bodies of survivors who appear on screen towards the end, looking silently at the camera when all stories have been told, generates, as Kaitlyn Murphy observes, 'a sense of haunting and in-between-ness in the film, resulting in a testimonial space that feels more affective than transactional, and unlocks the commonly understood relationship between testimony and witness' (Murphy 2016: 580-81).

Rather than anchoring the voice in the survivor's body (who is simultaneously the guarantor, as embodied evidence, of the truth of the narration), here it is instead spread out across, and intermingled with, the aural manifestations of the fields and forest surrounding the village,

including the grunts of cows driven out in the morning, the cries of birds and the croaking of frogs in the forest at nightfall. Indeed, the human voices themselves, with their unmistakeably Central American accent, contribute to the impression of a *testimonial milieu* that is aural rather than visual in kind, and where human and more-than-human lives and deaths respond to and reinforce one another. Acousmatic testimony separated from the body and 'reflected back' from the sonic milieu of the forest not only fashions a dimension of ghostliness onto the voices of the living but, more importantly, it also *makes those of the dead matter*.

From the opening story of an old woman narrating the survivors' return to Cinquera, punctuated by bird cries, the song of the cicadas and the nightly croaking of frogs as she tells of a ruinous, hellish place strewn with bones and inhabited only by snakes and bats, the nonhuman environment is present not just as an aural background but also, I would argue, as acousmatic witness. It 'backs up' the narration, yet not in ornamental fashion but as entering in dialogue with it from other living temporalities that have always overlapped with those of the human inhabitants of Cinquera. The acousmatic zone, in Huezo's film, as an area of encounter and exchange between human and more-than-human becomings, is also where the dead and disappeared remain present as ghostly matter, but matter no less. It forges –as Murphy righly points out– a time and space *between* 'historia y ambiente', between human and ambient voices, which is of an affective rather than representational kind.

'The Nocturnal Life of Animals in the Forest' (or, for that matter, the *Dawn in the Rainforest* or 'Sound Environments from a Neotropical Rainforest') may be the stuff of music, but that does not mean that they cannot also be a particular kind of storytelling. Hearing, as cultural geographer Yi-Fu Tuan pointed out decades ago in a classic book, is closer to touch than vision, not least because, as listeners, we are on the receiving end rather than in control of the action: 'The sound of rain pelting against leaves, the roll of thunder, the whistling of wind in tall grass, and the anguished cry excite us to a degree that visual imagery can seldom match. […] Why is this? Partly, perhaps, because we cannot close our ears as we can our eyes. We feel more vulnerable to sound' (Tuan 1990: 8). Unlike visual landscape, which renders our surroundings into an object at the behest of our gaze, the aural environment undermines subjective self-entitlement. We are ultimately not in control of the sounds that address and enter us, whether or not we 'decide' to hear in them the music of nature or the ghostly voices of history. Indeed, as Huezo's film so beautifully reveals, the two may not be separate from one another in the first place, and it is us, in fact, who they make resonate with their nocturnal voices, who they turn into their sonic object, making sound matter.

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