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'I CALL, YOU RESPOND?'

Game Calls, Hunting and Sound Mimicry in the Black Forest

ABSTRACT

This paper focuses on game calls, also known as *appeaux* in French or *Wildlocker* in German, instruments located at the intersection of interspecies communication and aesthetic creation. A reciprocal barking encounter with a roe deer in the Black Forest in Germany serves as a starting point to explore alternate semiotic registers that involve similarity and mimicry, beyond the exclusive symbolic structures of human language. This article highlights several non-symbolic properties that emerge through sound mimicry with game calls: a kind of playfulness of magic, a deep emotional implication, a familiarity and embeddedness in the particular Umwelt of the individuals, and the impossibility of translation into (human) symbolic language. The article suggests that new tools for investigation need to be developed to be able to learn about these issues, as called for by recent posthuman literature on multispecies relations.

KEY WORDS: game calls, interspecies communication, mimicry, Black Forest

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INTRODUCTION

Human lives and ways of living cannot take place or be described in isolation; as all species become caught in the multilayered entanglements of the global economy, we become more and more aware of the disruption of human–animal interactions.[2] The many voices, stories and sounds that compose these interactions all carry meaning, in the sense that they represent something to someone, pointing to the deeply semiotic nature of interspecies worlds as described by scholars in the biosemiotics field, who build on the work of Thomas Sebeok and Charles Sanders Peirce. One particular kind of entanglement that I will focus on is that of sonic imitation, of calling and responding, of trying to mimick someone else's voice to build a very particular modality of communication. This article begins by considering sound mimicry in the context of biosemiotics, reviewing recent scholarship on the transmission of meaning between species. Ethology has interrogated whether or not animals are capable of understanding symbolic codes, of building syntaxes, and if they are capable of referentiality and abstraction, elements which serve to define *language* as a different modality of communication.[3] Similarly, zoomusicology also asks whether or not animals make "music," suggesting that simply shifting definitions and criteria allows for new understandings of the perceptual worlds of animals—including us human animals.[4]

Working in the temperate Black Forest at the border between Germany, France and Switzerland, I became particularly interested in little sound devices usually called bird whistles or game calls in English, *appeaux* ("caller") in French, and *Wildlocker* or *Lockjagd* in German. Game calls are most often wind instruments that use fipples or reeds to resonate hollow cavities, but they also include rattles, twisted pegs, membranes, and other ways to produce and amplify sound. Interestingly, in English, there is no dedicated name to designate the instruments; a call usually refers to the cry itself, the summons or invitation, derived from the same verb that comes from the old English cognate *ceallian*, for 'to shout, or utter in a loud voice' (Online Etymology Dictionary). In French, *appeau* is a term used specifically for whistles made to 'counterfeit the voice of birds to lure them into a trap' (Dictionnaire Le Littré), while the related *appelant* refers to using live captive animals to call prey. In German, *Wildlocker* and *Lockjagd* are used interchangeably, with Jagd being the substantive

2 See, for instance: Rachel Carson, *Silent Spring* (Greenwich: Fawcett Publications, 1962); Lynn Margulis, *The Symbiotic Planet* (New York: Basic Books, 1999); Rosi Braidotti, *The Posthuman* (Cambridge and Malden: Polity Press, 2013); Donna J. Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham: Duke University Press, 2016).

3 See, in particular: Eduardo Kohn, *How Forests Think: Toward an Anthropology beyond the Human* (Berkeley: University of California Press, 2013); Timo Maran et al., *Animal Umwelten in a Changing World: Zoosemiotic Perspectives* (Tartu: University of Tartu Press, 2016); Vinciane Despret, *Habiter En Oiseau* (Arles: Actes Sud., 2019); Irene M. Pepperberg, "Vocal Communication in Nonhuman Animals: View from the Wings," *Animal Behavior and Cognition* 7, no. 2 (2020): 95-100.

4 See, in particular: Tobias Fischer and Lara Cory, *Animal Music* (Cambridge: MIT Press, 2015), Hollis Taylor, *Is Birdsong Music?* (Bloomington: Indiana University Press, 2017).

for hunt. *Locken* comes from the Old High German *locchôn*, 'to entice, allure, decoy.' *Wild* as a substantive in German is also a collective term for all huntable mammals and birds, according to the *Digitales Wörterbuch der deutschen Sprache* (DWDS). One uses the term *Wild* for game, and speaks of the *Wild* to designate these beings out there that can be seized and extracted for resources. Who is wild then, is a prey, and begets the pronoun of an *it.*

Such whistles have been used for a variety of purposes, from hunting to playing, and some paleontologists have asserted that *appeaux* may have been found in caves as early as the Aurignacian period.[5] This article provides an initial and partial historical overview of game calls, and highlights a serious gap in studying these objects, either in anthropology, musicology, or semiotics. It is important to give historical and political contextualisation of these sound-makers, both in their development and commercialisation as hunting tools but also as hyperlocal craft objects, games and hobbies made from nuts, leaves and reeds, that grew in myriads of forms based on oral histories and interpersonal relations separated from musical pretensions. In order to think the human as part of an ecology of many selves and many voices, alternatives forms of knowing are essential, particularly in the localities of central European forests which are the oldest prey of forestry science, privatisation and timber exploitation. It seemed therefore essential for me to stay with those troubles and walk with, and through, the living beings that collectively co-create these planted forests, from deers to hunters to instrument builders, using the first person narrative as a storytelling tool that is pivotal to describe the sensous, sounding worlds of resonance and imitation.

TWO CALLS IN ONE NIGHT: AN AUTO-ETHNOGRAPHIC MOMENT

I had been out in the hills near Sankt Georgen im Schwarzwald, in the northern parts of the German Black Forest, since the middle of the afternoon, equipped with a pair of stereo microphones, a tripod and a recorder. I was listening to the intermingled voices of blackbirds, jays, redstarts, blue tits, song thrushes and collared doves, along with the inescapable drone of the departmental road 33 a few kilometers down the Brigach valley. An occasional airplane dragged a slow swoosh of white noise above our heads, long minutes of lingering engine exhaust. The hiss of a breeze intermittently rattled the frosted needles of the tall spruce trees, the only kind of tree planted on these hills. My plan was to record some general environmental sounds before and during dusk, and when the night would settle, to try to locate a tawny owl I had heard in my last visit a few days before, if she called again. In the vespertine transition toward the darker, colder, quieter night, I noticed how the constant stream of traffic seemed to increase and penetrate even further through the trees, steady, palpable.

5 Jacques Allain, "Un appeau magdalénien," *Bulletin de la Société préhistorique française* 47, no. 3 (1950).

The night indeed brought with it a change in awareness, listening becoming more acute and directly connected to muscular reactions, as sight became less reliable. The sound of the traffic on the road down the valley seemed to become louder, more insidious to me, a *noise* but also a very clear orientation marker. I stood still and in the fuzzy sphere of sounds that seemed to touch me, I was able to actively identify the idiosyncratic call of the tawny owl, transcribed perhaps as "hooo…hu-hu-hooo." I started walking again and came across a gravel path, hard and efficient, made for firetrucks and forest management lorries; immediately as I stepped on the infrastructure, it revealed who and what I was. The particular sound of the plastic soles of my shoes, crossing the limestone pebbles, carried with it a story of stone quarries, heavy trucks carrying gravel and pouring mineral rivers onto the road, of workers in orange uniforms flattening the ground.

The gravel crunched under my feet as I kept walking, when suddenly someone got started in the bushes nearby—the shrubs were alive with a big rustling and jumping and jerking! I froze, squeezing my tripod, wondering who could be there, hoping to avoid a face-to-face with a boar. But something in the sound already described a creature much lighter than a boar. The shrubs cracked in high-pitched, delicate snaps; the stomping wasn't heavy. And she, the creature, also seemed to have frozen, so she must be a prey animal, whose ancestors managed to survive through discreetness and agility, through not being seen or heard; a herbivore. I will come back to this chain of signs and interpretations later on in the article; spontaneously, *physiologically,* I knew that animal to be a non-threat to me. And conversely, the sound of my bipedal walking on gravel was interpreted by someone else as a potential threat indeed. The two animals both held still, in shock. Lines of question and attention were flying in the air, waiting for another sign. One of us ready to dart off in the undergrowth, the other slowly finding the way to the record button and lowering the tripod to the ground. This suspended moment of relation lasted a long minute; the intention of recording barely brought me, human, back to my human perspective. I was shaking; I wanted to know; without much forethought I yapped out a single bark, almost a yelp, woody like a dog's voice; an instinctive attempt to establish communication, a question, a hello. What was that call? Was that a human call? It felt like borrowing a voice, a friendly voice, an animal voice.

As I waited for an answer, I realised that I could smell her, an odour of ripe mushrooms and brown fur and warm body. The sensuous sign was specifying: I was now quite sure to be facing an adult male roe deer (*Reh* in German, *Capreolus capreolus*), who was standing less than ten meters away from me, behind the shrubs of bramble. I wondered what the roe buck thought of me, of my barking, of my smell. The recorder was running, and I waited with excitement. Suddenly, a dry branch snapped, and there he jumped—one agile leap through the shrubs that cracked gently, a few more, and he was out of reach. He barked a few times with his raspy voice, getting further and further away. His move was swift, too fast for any reaction that I could have had. I stood still, hoping that the digital recorder would be able to reproduce the delicate sonic textures of her sprint.

SIGNALING SOMETHING TO SOMEONE: BIOSEMIOTICS AND ZOOMUSICOLOGY

Human-animal relations have woven long, codependent and often harmful entanglements; their sonic materialisations still have much to teach us in the way of kinship and relation. The voices heard in the Black Forest "are not the utilitarian grunts of feeding or social tokens of sexual union; these sounds are intricate, layered, responsive, generative and humorous," points out biologist David George Haskell in a recent podcast dedicated to animal sounds.[6] They carry emotional content and touch us in myriads of ways, often unacknowledged. These kinds of signals—calls, cries, grunts, hoots—are termed 'gesture-calls' by the anthropologist Robbins Burling, who points out that these are still deployed by humans in parallel to language: laughter, sighing, yawning, as well as frowns, smiles, shrugs, etc.[7] The emotional contents that enable empathy and connection remain rooted in non-verbal intonations, in the contours of phrases, in melodies and successive pitches, in timbre, an ensemble of characters called prosody, where the receiver could hear despair, of fear or of contentment. Prosody, which colors expression, is *not unique to humans* and the accounts of legitimate interspecies understandings abound across disciplines and backgrounds. Describing the action of signs created and interpreted by living forms is an emerging field of study, combining research approaches from linguistics, biology and philosophy. Charles S. Peirce first proposed that animals, plants and even single cells all engage in semiosis, that is, in "the process in which something is a sign to somebody."[8] In this well-known model of semiosis, three elements are necessary for semiosis to occur: an object, a sign, and an interpretant, a triad undoubtedly applicable to non-human animals.[9] It was the semiotician Thomas Sebeok that thoroughly demonstrated the semiotic nature of life, departing from the limited linguistic analysis, to propose an understanding of the perceptive environment of animals (and other living forms) that could include other forms of meaning-making, not limited to language—and therefore not exclusive to humans. These other modalities of semiosis include non-verbal, iconic and indexical signs, that do not use abstracted symbols but may still represent something to someone.[10] Sebeok was building on the work of biologist Jakob von Uexküll, who founded in 1926 an institute dedicated to investigating the *Umwelt* of different non-human animals, believing evolutionary change to be a progressive unfolding of meaningful *plans* rather than a

6 David G. Haskell, "The Voices of Birds and the Language of Belonging," December 20, 2022, in *Emergence Magazine Podcast*, podcast, MP3 audio, 00:53:00, https://emergencemagazine.org/podcast/.

7 Robbins Burling, "Primate Calls, Human Language, and Nonverbal Communication," *Current Anthropology* 34, no. 1 (1993): 25-53.

8 Dario Martinelli, *A Critical Companion to Zoosemiotics: People, Paths, Ideas* (Dordrecht: Springer Netherlands, 2010), 2.

9 Marcello Barbieri, "Three Types of Semiosis," *Biosemiotics* 2, no. 1 (2009): 19-30.

10 Kalevi Kull, "The Biosemiotic Fundamentals of Aesthetics: Beauty Is the Perfect Semiotic Fitting," *Biosemiotics* 15, no. 1 (2022): 47-60.

haphazard agglomeration of accidents.[11] The development of zoosemiotics meant fighting against the human-oriented "glottocentricity" of linguistics to acknowledge "the sign behavior of well over two million extant species of animals."[12] All living agents, he argued, as opposed to non-living ones, have a capacity to contain, replicate, and express messages, and extract signification, making semiosis the fundamental characteristic of all terrestrial life forms.[13] Zoosemiotics, as Sebeok called this field of research, requires fine distinctions between the processes of signification (receiving a sign), representation (making a sign), and communication (a process where both sender and receiver take part and the message is understood). Through the zoosemiotic model, therefore, it should be possible to lift the requirements for intentionality and abstraction that long denied animals the capacity for language or music.[14]

Decentring linguistics as well as conventional musical analysis makes it possible to study animal sounds in themselves. In order to further open the investigation, it is useful and necessary also to propose definitions of music-making that include non-humans as whole, conscious, semiotic agents. In her 2007 doctoral thesis, musicologist Emily Doolittle proposes to use the term "aesthetic sound" to encompass both the music-like sounds of non-human animals and the music of humans.[15] Christopher Small advocates for using *musicking* as a verb rather than *music* as a frozen noun; he offers the definition of musicking as taking part, in any capacity, in a musical performance, whether by performing, by listening, by rehearsing or practicing, by providing materials for a performance, or by dancing; thus re-distributing agency among the involved parties.[16] In his loose definitions of zoomusicology, François-Bernard Mâche pointed that sonic signs could be studied in themselves, focusing on the message rather than attempting to identify a communication scheme referring to the object or to the sender.[17] He argued that imitation, the ability to successfully present something as something else and to create confusion, is perhaps the main musical universal. Music, then, made both by humans and non-humans (what Doolittle would more broadly call aesthetic sound), is an "apprehension of the world," entangled in resonant (imitative) relations of metaphor and metonymy. Martinelli, in his study of musical structures by avian and cetacean individuals, emphasises that the distinctions between human and animal music only result from behaviouristic and mechanistic interpretations of animal

11 John Pickering, "Natural, Un-Natural and Detached Mimicry," *Biosemiotics* 12, no. 1 (2019): 119.

12 Thomas A. Sebeok, *Essays in Zoosemiotics* (Toronto: Toronto Semiotic Circle, 1990), 38.

13 Thomas A. Sebeok, *A Sign is Just a Sign* (Bloomington: Indiana University Press, 1991), 22.

14 Timo Maran, "Dimensions of Zoosemiotics: Introduction," *Semiotica* 2014, no. 198 (2014): 1-10.

15 Emily Doolittle, "Other Species' Counterpoint—An Investigation of the Relationship between Human Music and Animal Songs" (doctoral dissertation, Princeton University, 2007), 74.

16 Christopher Small, *Musicking: The Meanings of Performing and Listening* (Connecticut: Wesleyan University Press, 1998).

17 François-Bernard Mâche, *Music, Myth and Nature*, trans. Susan Delaney (Philadelphia: Harwood Academic Publishers, 1992).

utterances; rather, he finds universal techniques of music-making, that include improvisation, variation, peer-to-peer transmission, creative uses of tempo and timbral manipulation.[18]

Whether considering the hunter who can imitate bird calls to attract them, or the vocal learning abilities of nightingales who pick up new songs throughout their entire life, the acoustics of particular ecosystems influence all musical practices. And when considering mimicry (a broader term that may include inaccurate, failed or misleading imitation), we are in fact dealing with deception—with the capacity of natural forms to create confusion, a playfulness at the thresholds of coherent analysis. Maran, in *Mimicry and Meaning*, points out that the "ability to perceive something as something else appears to have a strong linkage with illusion, belief, magic . . . and imagination."[19] He insists that mimetic relations need to be understood not in general, but rather as a specific relation between three individuals (the mimic, the model, and the receiver, all linked through the mimetic sign). Resemblance, therefore, does not occur between mimics and models, but rather exists in the confusing message perceived by the third agent in the system, i.e., the receiver in their *Umwelt*.[20] In this sense, sound mimicry should be understood more as "a multiplicity of things related by family resemblance rather than as a monolith," according to Doolittle,[21] or indeed as a game, driven or not by direct intentions.

A BRIEF EUROPEAN HISTORY OF GAME CALLS

The oldest fossils all reveal organs dedicated to making and receiving sounds, pointing to the crucial importance of listening and uttering in evolutionary processes. Research in anthropology and archaeology has extensively investigated the origins of sound-making practices in humans and other species, be they accidental, aesthetically-driven, or simply serendipitous.[22] Sonic mimicry undoubtedly started through voice and whistling, as musicologist Gary Tomlinson describes, in very early hominin worlds around two million years ago, a "*voicescape* in which lungs, larynx, and vocal tracts helped to negotiate environmental affordances and social entrainments."[23] In the liner notes of a recent release of commercial recordings of bird imitators, a popular form of performance art documented in North America and Europe at the turn of the 20th century, the music researcher Ian Nagoski ponders

18 Dario Martinelli, "A Whale of a Sonata—Zoomusicology and the Question of Musical Structures," *Semiosis, Energy, Evolution And Development Journal* 1, no. 5 (2005): 2-29.

19 Timo Maran, *Mimicry and Meaning: Structure and Semiotics of Biological Mimicry* (Cham: Springer International Publishing, 2017), 19.

20 Maran, 48.

21 Doolittle, 174.

22 See, for instance: Ian Morley, *The Prehistory of Music: Human Evolution, Archaeology, and the Origins of Musicality* (Oxford: Oxford University Press, 2013); Oliver Virouch and Olivia Ladinig, "Music and Evolution," *Musicae Scientiae* 13, no. 2 (2009): 7-11.

23 Gary Tomlinson, *A Million Years of Music: The Emergence of Human Modernity* (New York: Zone Books, 2015), 89.

about the implications of this practice: what influence might the imitation of birds, game animals and other forest sound events, have had onto the shaping of human linguistics? At what point, he writes in the liner notes of a cassette, "did imitative calls of other species assist our ancestors in hunting? . . . When exactly was it that a person was so adept at producing a call during a hunt that he was asked to do it again for the entertainment of others or taught it to his children as a life-skill?"[24] His questions are of crucial importance not just for musicology, but also in the evolution of creativity, language and communication as well. This article focusses on relatively recent, yet under-researched, objects of mimicry: game calls used to imitate animal sounds.

The oldest known prehistoric tools that manifest a clear sonic affordance are bone flutes found at the caves of Geissenklösterle in the Swabian Jura, Isturitz in the Pyreneans, and Saint-Marcel in Ardèche.[25] Three of these flutes are associated with the Aurignacian period, around 40,000 years ago, which is marked by strong artistic expressions like those of the Chauvet caves. The other flutes are linked to the more recent Magdalenian culture, with carbon dating indicating that they were made between 12,000 and 18,000 years ago. One flute in particular, found at Saint-Marcel, shows a series of deer ears engraved on its side, leading archaeologists to think that it could be a deer call (in French: an *appeau*) which could mimick the call of the doe during mating season.[26] The piece is damaged, and it is difficult to imagine what it could sound like, but it is quite large (26 cm long) and could therefore emit relatively low tones (Figure 1). An experiment conducted by a team of experimental archaeologists, who reproduced the flute using vulture bones and flint tools, speculates that it may have functioned rather like a kazoo, with a membrane vibrating above the notch, rather than a simple edge-blown whistle.[27] Tomlinson remarks that these flutes, because of the pitch holes, represent an abstraction, playing with the physics of sound in itself, showing the builder's interest in producing discreet fixed pitches not naturally present. The flutes, he speculates, are not associated with the *functional meanings* of the intonations of prosody—emotional signification—that we described earlier: "the pitches underwent an absolution from signifying… music was

24 Ian Nagoski, *Ecstatic & Wingless: Bird-Imitation on Four Continents, ca. 1910-44*, released October 2016, Canary Records, digital release.

25 Allain, "Un appeau magdalénien," 182.

26 Allain, 189.

27 Carlos García, "The Experimentation Process in the Skin of the Researcher: the Case of the Isturitz, Le Placard and Saint-Marcel 'Whistles,'" ed. Gonzalo Compañy et al., 187-191, *Actas De Las V Jornadas De Jóvenes En Investigación Arqueológica, Arqueología Para El Siglo XXI* (Santiago De Compostela, 2012).

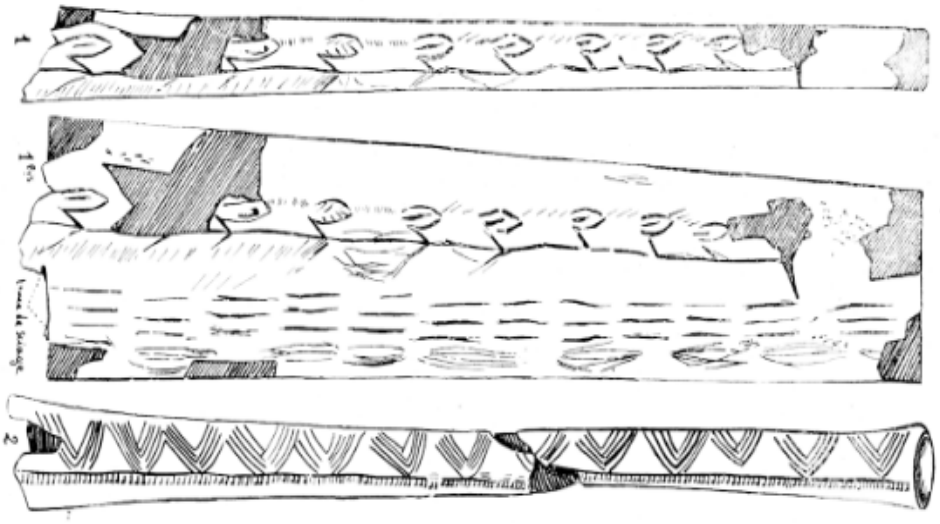

Figure 1. Prehistoric bone flutes and calls.

Top: Saint Marcel flute, possibly a game call, with deer ears engraved on the side. Bottom two: flutes from the Placard. Source: Jacques Allain, "Un appeau magdalénien," 1950.

from the first, in this sense, absolute."[28] But this separation of semiotic function and absolute aesthetics, as we will see, is neither necessary nor useful to the research.

Other records of game calls can be gathered from Antiquity: a tablet from the Egyptian Thinite period shows a character wearing a jackal skin and playing a long unpierced flute, in the middle of various animals, including a deer.[29] A text from Horapollo's *Hierogliphica II,* written in the 5th century CE, translates as follows: "When the Egyptians have to represent the idea of a man who allows himself to be taken in by the bait of flattery, they draw a deer and a flute player; in fact, the soft sound of the flute is used for deer hunting, because this animal lets itself be taken by its charm,"[30] attesting to the magical powers of game calls. This is further corroborated by Aristotle, who describes how "deers are taken by singing or playing the flute… This is how we manage to attract and surprise them. While one of the hunters is singing in plain sight, another secretly approaches the deer and strikes."[31] The flute, or the singing, bear double affordances: first, they are good imitations of deer calls, and therefore successfully fool deers into coming close to the player. In Peircean semiotics, this could be called an indexical relation, as the sign (sound) utilizes the direct physical connection between it and its object (the voice of the deer). But at the same time, it is impossible to separate the call from its intrinsically encoded emotional contents: the "charm" and the "surprise" of the playing generate some form of enchantment, and indeed become the sonic metaphors that Mâche was describing

28 Tomlinson, *A Million Years of Music*, 18.

29 Allain, "Un appeau magdalénien," 188.

30 Horapollo, *Hierogliphica II,* trans. Jacques Kerver, 1543. https://studiolum.com/en/cd08-horapollo.htm.

31 Aristotle, *Histoire des Animaux,* Volume III, Book IX, Chapter VI., trans. Barthélemy St Hilaire, 1883. http://remacle.org/bloodwolf/philosophes/Aristote/animaux9.htm#VI

as musical universals.[32]

It is difficult to give a trace the early development of whistles and game calls, for their fabrication was always rural, handmade and experimental. Impermanent materials such as leaves, wood pegs, onion membranes, and oxhorn were mainly used until metals became widely available. The priest Noël Chomel, in his *Economic Dictionary* of 1709, described in detail the origin of a type of hunt called the *pipée,* which involved using a bird call made of a vine leaf tightened between two hollow pieces of wood.[33] If an owl was to get lost outside in the daylight, blinded by the sun, other birds would gather around to attack her because, he writes, "all birds, and more particularly magpies and crows, have an incredible antipathy for owls." The cunning hunter could therefore prepare glue traps on a tree and imitate owl calls to attract jays, magpies, and other birds rush to attack the owl. References to bird calls (*appeaux*) abound in the 18th and 19th century literature in France. In the ornithological volume of the *Methodological Encyclopedia* (a new and enlarged edition of Diderot's *Encyclopedia*), published at the end of the 18th century in France, an *appeau* is defined either in the sense of an instrument, "a whistle by the means of which a hunter imitates the calls of the birds he wishes to attract" or as a bird, "a live bait bird whose call will attract other birds of the same species who hear it."[34] The whistle is described in the encyclopedia as a reed similar to those of organs, which is contained in a box of varying size, depending on the desired call. This origin points us to bird imitations that are nested in utility and extraction, where the whistles are a form of deception used to hunt living beings.

Only with commercialisation did the game calls start to become catalogued. From the 1850s onward, several types of calls were standardised and manufactured for hunting; the Raymond company traces their first industrial productions of bird calls in 1868 in France.[35] The company is now part of *Helen Baud*, the biggest producer in France, who explicitly sells appeaux for the purposes of hunting. The Larousse Dictionary of 1932 features a full page of game call illustrations, including calls for

32 Mâche, "Considérations biomusicologiques," 199-206.

33 Noël Chomel, *Dictionnaire Oeconomique Contenant Divers Moyen d'Augmenter son Bien* (Editions Etienne Ganeau, Paris, 1718), 591, https://archive.org/details/bub_gb_g-icl__yxPgC/page/n4/mode/1up?view=theater

34 Pierre Mauduyt de la Varenne, "Ornithologie" in *Encyclopédie méthodique. Histoire naturelle des animaux (Methodological Encyclopedia of the Natural History of Animals).* Vol 2. (Published by Charles Panckoucke: Smithsonian Libraries, 1782-92), 493. https://www.biodiversitylibrary.org/bibliography/82248

35 Les appeaux Raymond, "Historique," http://www.appeaux-raymond.com/appeau/inventeur-appeau.php

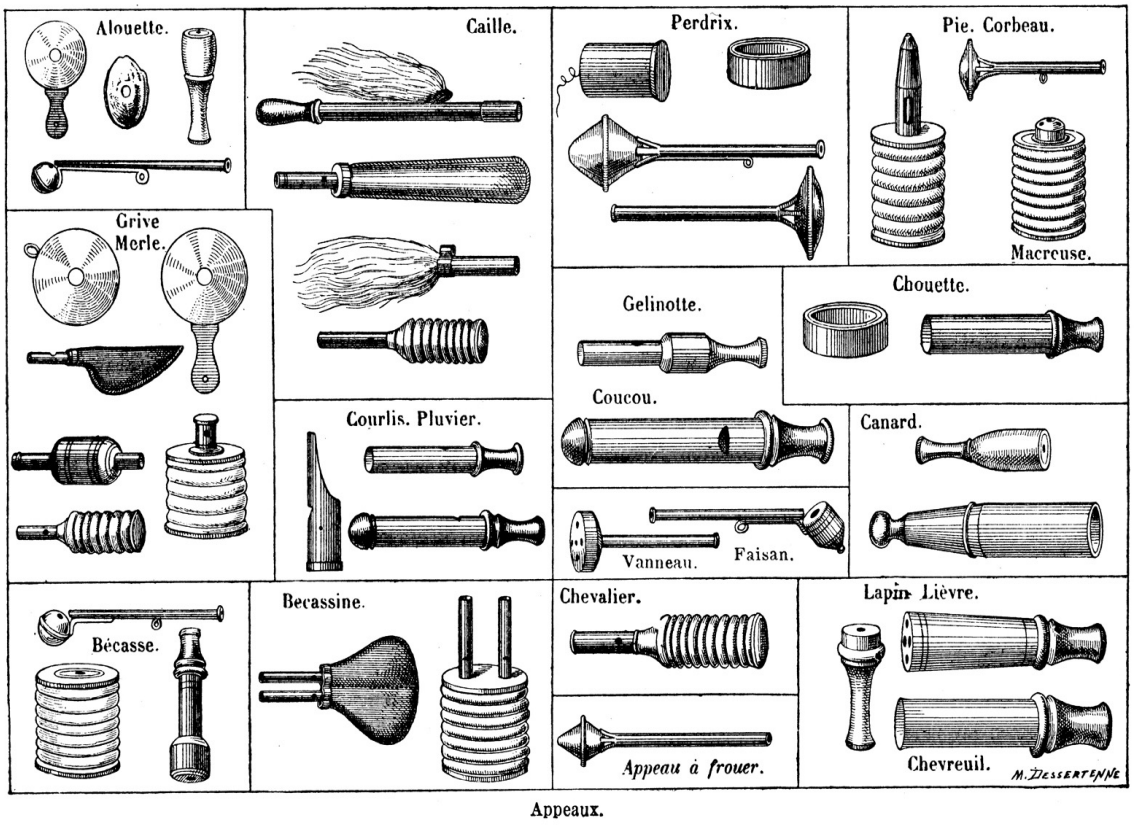

Figure 2. Appeaux (Bird calls). Public domain illustration by M. Dessertennes, Larousse Dictionary, 1932.

birds like quails, skylarks, crows and magpies, but also hares and roe deer (Figure 2). Across the Atlantic, historians locate the first industrial prototypes of metallic duck calls in the USA made by Fred Allen from 1863 on, although the first patent for a duck and goose bird call was deposited by David Fuller in 1885, containing a barely more elaborate version of Chomel's *pipée*. The whistle was made of a barrel, which functions as the amplifier, much as does the bell of a trumpet, a mouthpiece with a reed (today usually Mylar, but sometimes brass, hard rubber or nickel silver), which vibrates to create the ducktalk, and a cork wedge which holds the reed in place.[36] Further research would be needed on the manufacturing histories of these instruments, which were perhaps dismissed as toys or hunting accessories. It is also crucial to take a deeper look at their ontologies, following Milla Tiainen's reminder of the "distinctive capacity of sound to emerge in and establish relations."[37]

THE "RIGHT" KIND OF CALL?

While it would be simple to categorise game calls as purely indexical items of imitation, it becomes clear that they should rather be located in chains of affects and

36 Joel Vance, "Duck Calls: A Fascinating History," *Sportman's Guide*, January 19, 2010, https://guide.sportsmansguide.com/adventures/duck-calls-a-fascinating-history/.

37 Milla Tiainen, "Sonic Technoecology: Voice and Non-anthropocentric Survival in *The Algae Opera*," *Australian Feminist Studies* 32, no. 94 (2017): 360.

relational processes. An ethnographic account of hunters in the Vogesen region of France in the 1980s, for instance, recounts how the hunt for the "vieux coiffé" (older, solitary male deer) with game calls requires a great deal of experience, particularly in the final moment where the hunter is close to the buck and needs to call him. The call needs to be just right; "if you rut too old, you will scare [the deer]; if you rut too quiet, he will not deign to come out, or maybe he will run you over! You have to call right, pique his curiosity, his jealousy, to defy him and encourage him to come out."[38] The hunter interviewed by Hell describes a "subtle game" that then emerges: the deer answers to the calls of the man, who then starts hitting the ground with a branch, to sound like a rival deer trampling the ground and rubbing his antlers against the trees. Interestingly, in this account, the hunters use expressions like calling "right" or "just" ("il faut bramer juste"), a term also used to describe tuning and tonal relations in music. Similarly, the philosopher Baptiste Morizot describes the intensely emotional experience of tracking wolves in the Vercors massif in his book *Manières d'être vivant:*

> That's when it pierces through the night. The howl of a wolf, perfect, right beside us. We freeze as if hit by lightning . . . . Then, I answer. I howl as I've learned to do it, to correspond to the attitude, to the fabric, to the particular coil of their tongue. I mimic as best as I can . . . without understanding a single word. Another silence, almost in love, waiting for an answer to my attention. Then he sings. A magnificent cry, very monotonous, almost too perfect. So I answer again, one has to stay courteous, but how can we get out of this mascarade?[39]

Morizot's excitement upon hearing the first howl points to the poignance of accidentally receiving an animal call and deciding to respond to it. In order to mimic the wolf, he must become wolf, he must know their ways and pose as a wolf, effectively displacing his own identity as a human and camouflaging as canine. He enters a relational space where he is able to encounter the wolves as complex, entangled selves rather than objects. It is worth noting that he uses the term "langue" (tongue) in French, which also refers to language: there is a subtle blur between the physical organ and the semiotic system. The decentring that Morizot performs requires, as noted later in the same book, radical nuance: these other selves are untranslatable, which does not mean that they are impossible to translate, but on the contrary that we ought to always keep translating and retranslating in other ways, listening for echoes and resonances across species.[40]

While manufacturing game calls may help to mask one's voice and therefore forge a new body through the alteration of voice, the contents of communication remain untranslatable. François Morel, who has been making appeaux in the south of France as *Quelle est belle company* for over 40 years (for purposes explicitly other than hunting) describes the five techniques that he uses to make instruments "ancient."

38 Bertrand Hell, *Entre Chien et Loup: Faits et Dits de Chasse Dans La France de l'Est* (Paris: Éditions de la Maison des sciences de l'homme, 1985), 92.

39 Baptiste Morizot, *Manières d'être Vivant* [*Different Ways of Being Alive*], translation by author (Arles: Actes Sud, 2020), 32-33.

40 Morizot, *Manières d'être Vivant*, 68.

The flute principle seeks to send a tight current of air against a sharp splitting edge, such as a fipple or a traverse mouthpiece. The bottle principle is very similar, but relies on an edge-blow cutting on the side of a pipe, and often calls for semi-closed cylinders, rather than open pipes. The whistles have a bent form of a sphere, like an apricot kernel pierced with two holes; the air contracts and expands in what is called the Venturi effect. The tightened membranes (skin, leaf, rubber, etc.) that vibrate between two props are the core of all reed instruments. Finally, Morel's imitation devices also use mechanical friction, where two materials rub against each other or twist into one another, creating squeaks and creaks that are easily controlled into sounding birdlike. Interestingly, Morel thinks of his imitations as very partial, limited; "not quite imitations at all, but rather an evocation of the character of the bird's song", as he explained in a telephone interview in April 2022. Sometimes, but only ephemerally, he gets the sense of a true sonic contact with his bird neighbors, wrens as well as larger migratory birds like cranes. The moment is minuscule, delicate, and breaks down as soon as one tries to force meaning onto it. "These conversations are secrets that must stay between me and the birds," he explains in a documentary,[41] suggesting that the experiences and intimate knowledge shared sonically cannot be transduced into a symbolic and loaded grammar, for they belong to a different modality of exchange and representation.

The instructions that often accompany game calls, when they are commercialised, are particularly interesting in their depiction of affect. Some of them give simple usage tips, while others provide full scores that truly reconfigure the hunter as a musician with a programme. Faulhaber, an Austrian manufacturer of game calls, developed among many others a series of instruments dedicated to imitating simple doe calls as well as doe laments, doe anguish calls, and fawn distress calls. In the instructions brochure, they praise "true to nature results" thanks to the "fidelity of the produced effects,"[42] raising questions about what makes a good imitation: what makes a deer sound like a deer to a deer. The instructions for doe anguish calls, for instance, give clear directions on pitch, notated graphically, timbre with vowel indications, syntax and timing. The notation used to represent these calls resembles many transcriptions of bird calls and other animal sounds that prevailed before the advent of recording technologies and spectrograms (in this regard, the biologist Rachel Mundy covered an extensive history of notation and recording techniques in her 2018 *Animal Musicalities*).[43] The notations use implicit conventions: the arrow of time runs from left to right, and the frequency (pitch) is represented from low at the bottom to high at the top. Although the brochure states that the instruments are already pitched accurately, no reference point is given to know how deep the crescendo should be (Figure 3), for instance, requiring the hunter to already have

41 Jacques Mouriquand, "L'homme qui siffle aux oiseaux," December 27, 2017, https://www.youtube.com/watch?v=XlUrFzWpkgU.

42 Faulhaber Wildlocker, "Lament Deer Call," https://www.wildlocker.at/en/product/faulhaber-does-lament/.

43 Rachel Mundy, *Animal Musicalities: Birds, Beasts, and Evolutionary Listening* (Middletown: Wesleyan University Press, 2018).

heard and memorized a personal reference.

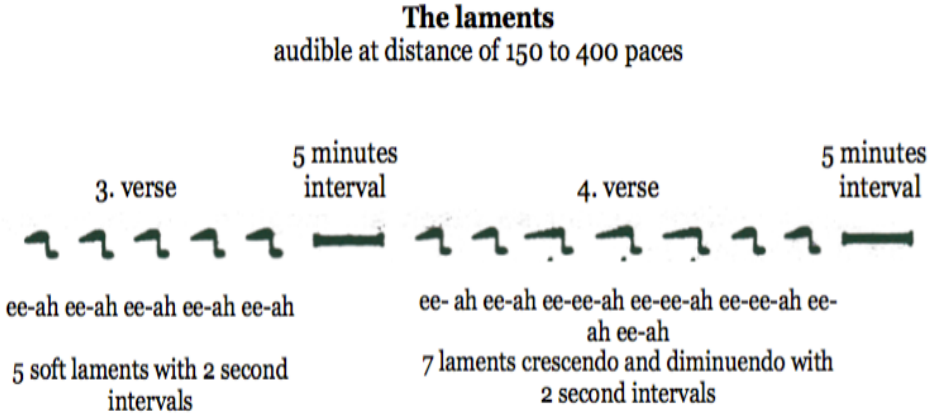

Figure 3. Instructions to create doe "laments" for hunting.

Source: "Instructions for the FAULHABER Call-Set imitating deer calls," Faulhaber Wildlocker website. https://www.wildlocker.at/en/product/faulhaber-does-lament/

It is necessary, then, to ask what makes a call effective, what is meant when the company claims "fidelity." Game calls attempt to build a deceiving acoustic index for the receiver; the focus is not on perfect imitation, since anyway no two hearing systems are the same, but rather on creating an acoustic experience that resembles a lamenting doe or a fawn in distress to a buck. This is difficult, Stoichita and Brabec de Mori propose, because listeners are "very sensitive to infinitesimal variations."[44] The prosodic features that "betray" the speaker's inner feelings do not seem to match *conventions* about how they should be interpreted. Stoichita and Brabec de Mori argue that only through previous observations do listeners infer knowledge about the identity and emotional state of the sender. Such imitation skills are therefore beyond dispassionate virtuosity, and require the sender to be deeply familiar with the ecology of selves that surrounds her; in other words, mimicry could not be successful if it were removed from the particular *Umwelt* of both sender and receiver.

I may also suggest that the material threads woven to shape, build and share the instruments also have a part in making them more true. Christiane Armengaud, interested in the vanishing oral traditions surrounding instruments of "musique verte" (green music), conducted a survey of these little techniques and do-it-yourself tricks, travelling through rural France and interviewing elderly people about their childhood games. The whistles that Armengaud describes are evanescent, nested in joyful games, "incodifiable sounds that exist outside of beauty canons" and "ephemeral objects… that give again a meaning to the expression, *playing* music."[45]

44 Victor A. Stoichita and Bernd Brabec de Mori, "Postures of listening," *Terrain—Anthropologie & sciences humaines* 18 (2017): 6.

45 Christiane Armengaud, *La Musique Verte: Appeaux, Sifflets, Crécelles* (Paris: Christine Bonneton Editeur, 1980), 8.

Armengaud's emphasis on non-standardisation is crucial. The *appeaux* could be made of any readily available material, from willow branches to olive or apricot pits, small pieces of wood from pine cones, bark, leaves feathers, pieces of iron wire, and of course, with the unassuming but powerful blade of grass stretched between two fingers. They would be played in the fields and in person, taught through oral history, existing in a liminal space between toy and tool: how and where the instruments were made is also part of the stories told through the instruments. In this sense, the act of playing game calls pertains to the territories of magic and illusion mentioned by Maran in order to arouse curiosity, surprise, attraction, or desire.[46] All in all, the "rightness" described by hunters, the playfulness advocated by Armengaud, or the intimate communication evoked by Morel all seem to point to an active, complex modality of communication deeply woven in affect.

CONCLUSION

Mimicry comes full circle as a shared practice of echo across species and across habitats. This article begins to tie bonds between recent posthuman thinking and works in biosemiotics, and opens questions about the material threads that tie together researchers, subjects and objects in the ecology of selves. As multifaceted practices of interspecies play, hunt and communication, it is crucial to approach the use of game calls through biosemiotics, enabling a move away from the rigidities that surround musicology and ethology. Particularly, the requirement for linguistic representation, where signs are conventional and systemically related to one another, fail to include a large part of nonhuman representational processes. Eduardo Kohn, in his beautiful exploration of living thoughts and sylvan semiosis, thoroughly emphasises how conventional signs are just one of several semiotic modalities: "all life is semiotic and all semiosis is alive. In important ways, then, life and thought are one and the same: life thinks; thoughts are alive."[47] This article highlights several non-symbolic properties that emerge through sound mimicry and that ought to be studied in a posthuman approach to biosemiotics. Imitators, hunters and researchers describe a kind of playfulness, a kind of magic, fever or trance that permeates their attempts to imitate animals and exchange sonic messages with them. Further research would be needed in this field, as alternative forms of human-animal therapy continue to grow and as the rising concerns of the environmental crisis seek to overcome the nature-culture psychological disconnects. It is clear that deep emotional and relational bonds are at stake when engaging in such play, but understanding which ones and how they operate deserves attention. Furthermore, it was also suggested that familiarity, repetition and a sense of intimacy are crucial to the practice. Thinking with game calls is an encouraging way to embed ourselves into the places that surround us: speaking

46 Maran, *Mimicry and Meaning*, 2017.

47 Eduardo Kohn, *How Forests Think: Toward an Anthropology Beyond the Human* (Berkeley: University of California Press, 2013), 16.

from a European point of view, those might be city parks, liminal green spaces, backyards or planted forests. The sonic qualities and musicalities of animal calls also have a relevance to musicology, particularly since many have suggested that imitation could be at the very roots of music and language. Finally, game calls and imitative practices also remind us of the impossibility of translation across species; there are no symbolic equivalents. However, there may be emotional and visceral connections, there may be shared experiences, there may be relations of affect that emerge from the practice. As Anna Tsing notes, "human nature [in all its myriad forms] is an interspecies relation" and as such requires an "indefinitely expandable trans-knowledging approach" in order to think the human as part of an ecology of many selves and many faces.[48] Those, I suggest, are core pillars of interspecies research and need to be encouraged further, if we are to continue taking nonhumans seriously. ⊡

48 Anna Tsing, "Unruly Edges: Mushrooms as Companion Species: For Donna Haraway," *Environmental Humanities* 1, no. 1 (2012): 141.

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