

Maxine Sheets-Johnstone

University of Oregon, 1585 E 13th Ave., Eugene, OR 97403 United States
msj@uoregon.edu

The Import of Animal Nature

Human Cultures and Biological Evolution

Abstract

Human cultures are akin to evolutionary animal species, showing variations in how they conduct themselves and relate to other cultures. These cultural distinctions include variations in freedoms, values, male dominance practices, and perceptions of superiority or inferiority, significantly influencing cultural realities such as racism, poverty, and laws. Humans further distinguish themselves culturally from nonhuman species, safeguarding a status as unique, precious, and highest among living beings. However, this distancing reveals human vulnerability, mortality, and the struggle for existence described by Darwin. Religion addresses human vulnerability through beliefs in God and an after-life, yet religious responses to strangers and nonhuman animals differ, sometimes welcoming, sometimes oppressing. The various aspects of human culture pointed out above have roots in a range of evolutionary realities that inform both human and nonhuman forms of life. These realities warrant detailed specification in terms of both phylogenesis and ontogenesis.

Keywords

human being, animal, culture, nature, biology, evolution, phylogenesis, ontogenesis

“What is striking here is the essentially grounded difference between nature in a stricter sense, the lowest and first sense, i.e., *material nature*, and nature in a second, broadened sense, i.e., things that have a soul, in the genuine sense of ‘living’, *animal nature*.”

Edmund Husserl (1989: 30)

Introductory

To appreciate the integral ties between human culture and evolutionary biology, it is pertinent to call attention first to the fact that human cultures are species akin to evolutionary animal species: there are variations in the way human cultures conduct themselves and have conducted themselves from the very beginnings of human culture, and variations in the way human cultures relate and have related to cultures that conduct themselves in ways other than the ways they do – perhaps most commonly the way in which persons of one culture conduct themselves in relation to persons of another culture. In just this sense, though there are infinitely fewer cultural species than animate biological species, common characteristics similarly describe cultural species. Though there may certainly be overlapping common characteristics, basic variations are in fact evident across cultural species. These basic variations constitute peculiarities indigenous to a particular culture or cultures. For example, there is variation in cultural traditions such that certain freedoms are accorded in this culture but not in that culture; certain values and beliefs are

cherished in this culture but not in that culture; certain practices in male dominance are recognized in this culture but not in that culture; certain individuals in this culture but not in that culture are regarded more worthy, superior to, and more respectable than certain other individuals who are regarded inferior, unimportant, or deficient. Many of these variations are engrained cultural traditions, perhaps most prominently in the cultural realities of racism and poverty, thus variations in the way certain individuals are differentiated from other individuals in the same culture. Moreover, corporeal/behavioral variations align with cultural traditions in just this context. What is recognized as proper and improper behavior is differentiated within as well as across cultures. Thus, what one can do and not do obtains not only in this culture but not in that culture, but further, what one can do and not do obtains for this individual but not that individual, both individuals being of the same culture. Such differentiated possibilities extend into punishment for crimes and into stipulations as to what constitutes a crime in the first place. National laws and norms uphold many of these cultural traditions and practices.

Just as humans distinguish among themselves intra-culturally and inter-culturally, so humans more broadly distinguish themselves culturally from nonhuman species. Such distancing from other evolutionary species is often a human way of safeguarding and preserving an eminent, near *über alles* status among living creatures, hence to being unique, precious, and ultimately higher if not the highest in rank among all living beings. At the same time, however, such distancing testifies to the vulnerability of being alive and alive among other animate forms of life, hence testifies to the struggle for existence as described and documented by Darwin. As might be evident, human vulnerability and ranking are not unrelated to mortality, that is, to the knowledge that death follows life and does so naturally. For some humans, this knowledge leads to a trust in religion, to the beneficence of God, and to beliefs in an after-life. As is well-known, religionists commonly ignore if not deride evolution; the idea that humans descended from nonhuman animals is straightway anathema to them. Religions are indeed not just spiritual institutions but cultural institutions that can be open or closed to nonhuman animals as to strangers. While some religions preach and even practice a welcoming of strangers, some distance themselves from strangers even to the point of oppressing them or straight off killing them.

The various aspects of human culture pointed out above have roots in a range of evolutionary realities that inform both human and nonhuman forms of life. These realities warrant detailed specification in terms of both phylogenesis and ontogenesis.

I

In general, the human derision of nonhuman animals is a prejudice that overlooks myriad facts of life, among which the fact that many nonhuman animals have cultures too; traditional practices are endemic to their social group, practices that are in many instances learned. As well-known evolutionary biologists Richard W. Wrangham, Frans B. M. de Waal, and W. C. McGrew point out,

“Virtually every definition of culture in the social sciences premises human uniqueness. Even a book entitled *The Evolution of Culture* claims that ‘man and culture originated simultaneously; this by definition’ (White 1959: 5), thus barring any thought of continuity with other species.” (Wrangham, de Waal and McGrew 1994: 1)

What is socially learned is fundamental to the preservation of traditional practices that define cultures. But what is socially learned is itself fundamentally a matter of realities of biological being. It is these realities that warrant recognition, for it is these realities that incontrovertibly document the foundational relationship of culture to evolution.

To begin with, animate beings come into the world moving. Movement is their mother tongue. Given this evolutionary truth, the significance of self-movement and the consciousness of self-movement through the entire evolutionary spectrum of self-moving forms of life can thus hardly be ignored. In turn, neither can the qualitative dynamics of movement and the kinesthetic or proprioceptive (see Lissman 1950 and Laverack 1976 on invertebrate proprioception) awareness of those dynamics be ignored. Those dynamics inform all forms of effective self-preservation, as is explicitly evident in the foundational movements of approach and avoidance (Schneirla 1959).

Self-movement and the consciousness of self-movement are biologically pregiven. As epistemological realities, they inform curiosity, inquisitiveness, intelligence, and more. They are the bedrock of mindful bodies in creating synergies of meaningful movement as they search for food, elude predators, attract a mate, build nesting places, nests, or dams, all on behalf of their everyday lives and survival. Cultural traditions are built on just such synergies of meaningful movement. Moreover, these cultural traditions may be grounded in ecological differences as well as in social learning. In other words, geographical resources of one area may motivate the cultural tradition of practices specific to those resources. Evolutionary biologists Kevin Laland and Vincent Janik, following Richard Wrangham, point out that this approach is “commonly known as the ‘ethnographic method’” and that it “has now become the standard means for detecting animal culture” (Laland and Janik 2006: 542). They point out drawbacks to this standard as well as drawbacks to focusing wholly on genetic variation. Their conclusion is enlightening as well as straightforward:

“Clearly, behavioural differences can simultaneously result from genetic, ecological and cultural variation. Sponging, ant-dipping and nut cracking are not genetic, learned or cultural traits, they are (probably) all three. Researchers studying animal culture would be better advised to think in terms of partitioning variance to alternative sources, rather than allocating behaviour to categories. The prime issue in the animal cultures debate is not whether a given behaviour is learned socially or asocially, but rather how much of the variance in the behaviour can be attributed to social learning. We anticipate that this change in focus would reveal significant interactions between genes, ecology and learning, including the interesting question of how cultural behaviour affects evolutionary processes.” (Laland and Janik 2006: 545)

Social learning is anchored in attention, in the motivation to attend and to watch closely. That form of attention is anchored in movement, in the visual-kinetic phenomenon of movement and in the kinesthetic repertoire of the attentive individual. Social learning is, in effect, a biologically rooted phenomenon. Animals that are not driven to attend to the movement of others in relation to their own movement abilities, whether those abilities are developmental or present at birth, are not capable of social learning. Those who can learn from others may even be able to initiate or change a behavior of their social group by themselves initiating new hunting strategies, for example, changing ways of foraging or of initiating play, and so on. Japanese monkeys’ – *Macaca fuscata* – practice of washing sweet potatoes is an example, a practice initiated by an 18-month-old female named Imo. The practice was taken

up by her mother and subsequently spread to the group, in effect, becoming a cultural practice (Kesey 2017 [1984]). It is relevant also to note a thought-provoking example of a potential cultural addition. Primatologists Michael Tomasello and Josep Call detail the common practice of initiating play and then describe an individual's creative take on the common practice:

“The initiation of play often takes place in chimpanzees by one juvenile raising its arm above its head and then descending on another, play-hitting in the process. This then becomes ritualized ontogenetically into an ‘arm-raise’ gesture in which the initiator simply raises its arm and, rather than actually following through with the hitting, stays back and waits for the other to initiate the play, monitoring its response all the while [...]. If the desired response is not forthcoming, sometimes the gesture will be repeated, but quite often another gesture will be used. In other situations, a juvenile was observed to actually alternate its gaze between the recipient of the gestural signal and one of its own body parts; for example, one individual learned to initiate play by presenting a limp leg to another individual as it passed by (an invitation to grab it and so initiate a game of chase), looking back and forth between the recipient and its leg in the process.” (Tomasello and Call 1997: 244)

What the evolutionary truth of the centrality of movement and examples of same document is the foundational animate reality of thinking in movement. In precisely this context, an individual's awareness of if/then relationships becomes apparent and is recognized as fundamental: if I do this, then this will happen. Thus, if I dip a dirt-ridden sweet potato in water, then the potato will be duly rinsed and clean to eat; if I raise a limp leg and look back and forth between a passer-by and my leg, then the passer-by will know that I am inviting him/her to a chase. Movement can and does make things happen: it has consequences. Husserl recognizes and writes at length about the basic experiential significance of if/then relationships – e.g.,

“... *if* the eye turns in a certain way, *then* so does the ‘image’; if it turns differently in some definite fashion, then so does the image alter differently in correspondence. We constantly find here this two-fold articulation: kinesthetic sensations on the one side, the motivating; and the sensations of features on the other, the motivated.” (Husserl 1989: 63, italics in original; see also Husserl 1970: 106, 161–162, 217)

Infant psychiatrist and clinical psychologist Daniel N. Stern highlights if/then relationships when he describes consequential relationships and gives basic human examples, namely, an infant's awareness that “when your eyes close, the world goes dark. When your head turns and eyes move, the visual sights change. And so on [...]” (Stern 1985: 80). Infant psychologist Lois Bloom describes such relationships from the viewpoint of prelinguistic learning:

“The foundation for the semantic structure of language [...] is in the theories of objects, movement, and location that begin to be formed in the first year of life.” (Bloom 1993: 37)

She describes these theories as “relational concepts”: “Certain movements the child makes produce specific effects, such as rolling over, splashing, eating, and throwing” (Bloom 1993: 50). Examples of same might include an awareness that slapping bath water causes a splash and closing one's mouth and turning one's head away impedes the insertion of food into it. In short, thinking in movement and the awareness that movement has consequences do not depend on social learning nor are such thinking and awareness arrived at through cultural practices: as indicated, they are foundational evolutionary realities of animate forms of life that are grounded in real-life, real-time experiences, beginning in ontogeny.

Zdravko Radman's purpose in editing this volume is to document the fact that "the cultural goes all the way down to the most elementary levels of corporeality" (addressed in personal communication). The most elementary level of "the most elementary levels of corporeality" is in fact movement. What is deemed or recognized as cultural is rooted in the animate evolutionary realities of life across species. Nervous systems, muscles, digestive tracts, elimination, and of primordial significance, breathing – all and more are kinetic aspects of life across the Kingdom Animalia. Indeed, action potentials, peristalsis, contractions, extensions, propulsion, absorption, inhalation, exhalation – all are kinetic; all testify to *the fundamental and essential kinetic dynamics of animate life*. However corporeally formed, i.e., whatever a creature's particular morphology, animate life is clearly a matter of animation, of movement. "Corporeality" is thus not basically some kind of positional being, that is, a being that is now in this position, now in that position, but an animate being – an "animate organism" as Husserl consistently terms such forms of life. For example, after imagining the following, "let us imagine that [...] the whole of Nature [...] is 'annihilated'", that is, let us imagine that our experiences of the world do not add up harmoniously and are in fact totally refractory to harmonization, Husserl points out, "then there would be no more animate organisms and therefore no more human beings. I should no longer exist as a human being; and, a fortiori, no fellow human beings would exist for me" (Husserl 1983: 127; see also Husserl 1980: 4–9, 94–98, 101, 103–112). The theme of "position" as the defining feature of "the body" within what are considered phenomenological writings warrants critical recognition for it clearly undermines veridical phenomenological realities of animate life. Moreover, it in turn obfuscates the fact that whatever the cultural differences among humans – and for that matter, whatever the cultural differences among nonhuman animal societies – more basic, evolutionarily given realities unite them in a common heritage, realities grounded in phenomenologically documented experience. Further still, a "positioned body" is linked to other descriptive accounts of animate life that, as will be documented below, are equally wayward of phenomenological realities of animate organisms.

II

To begin with, Merleau-Ponty claims that "the normal subject has his body not only as a system of present positions, but besides, and thereby, as an open system of an infinite number of equivalent positions directed to other ends" (Merleau-Ponty 1962: 141). Gallagher and Zahavi reiterate that claim when they state, "I have a proprioceptive sense of whether I am sitting or standing, stretching or contracting my muscles" and claim that "these postural and positional senses of where and how the body is [...] are what phenomenologists call a 'pre-reflective sense of myself as embodied'" (Gallagher and Zahavi 2012: 155). Reading such a claim, one might be tempted to exclaim, "Wow! How great to sense – and in effect, or at least assumably, How great to know! – that I am sitting or that I am contracting my muscles and, in effect, that I am *embodied!*" Among other inequities, an adultist stance prevails in such claims, a stance that readily accommodates a positional anchorage of the body that bypasses movement and that is actually all the more distant from real-time, real-life experience in claiming to have a sense of "stretching or contracting my muscles" – a sense that is in truth a thoroughly objective, experientially

distant “sense” since I do not have a direct experience of stretching and contracting muscles, but an experience of extended or constricted movement or an experience of bodily lengthening or tightening – and further, specifying that sense as proprioceptive. As noted elsewhere, in bypassing movement, an adultist stance “bypasses the sensory modality of kinesthesia, the learning of one’s body and learning to move oneself, the consequent development of a kinesthetic repertoire, and an elucidation of kinesthetic memory” (Sheets-Johnstone 2019: 152; see also Sheets-Johnstone 2014).

Gallagher and Zahavi in fact go on to claim specifically that “Proprioception is the innate and intrinsic position sense that I have with respect to my limbs and overall posture. It is the ‘sixth sense’ that allows me to know whether my legs are crossed, or not, without looking at them” (Gallagher and Zahavi 2012: 162). Dorothée Legrand repeats this very claim when she writes:

“Like other perceptual modalities, proprioception is phenomenological since a distinct qualitative feeling is normally associated with the perceived properties: there is something it feels like to experience that one’s legs are crossed.” (Legrand 2006: 106)

Insofar as there is no vertebrate neurophysiological system that grounds or has been shown to ground vertebrate proprioception, “a distinct qualitative feeling” can hardly be attributed to proprioception. In fact, no sensory basis exists for Gallagher and Zahavi’s and Legrand’s claim since proprioception is an invertebrate, not a vertebrate sensory system (see further below on this topic). Moreover, there is not “something it feels like”, but a distinctively felt kinesthetic experience in crossing one’s legs and in experiencing crossed legs, a felt kinesthetic experience that can be directly described in terms of tension, direction, pressure, and more, thus an experience that is definitely not phenomenologically describable as “something it feels like”, but precisely as a directly felt kinesthetic experience. Legrand in fact errs further when she elsewhere writes that “at the level of action, the body relates to the world in a meaningful, motor and nonintellectual way” (Legrand 2010: 170). She is in fact describing an unnatural body, a body that could and would hardly survive: a body that is wholly “motorized” and unintelligent, thus utterly mechanical and cognitively deficient, hence stupid, could hardly act “in a meaningful way”. Lacking kinesthesia – or in invertebrate terms, lacking proprioception – means a lack of awareness of self-movement and of self-world relationships. Furthermore, lacking such awarenesses, whether instinctive, developmental, or both, means lacking awareness of if/then relationships. In effect, such bodies could hardly develop synergies of meaningful movement on behalf of survival.

Similar deficiencies and inadequacies are apparent in Alva Noë’s rendition of movement, specifically, his avoidance of movement and reliance on “action”. Noë mentions kinesthesia but three times in his rendition of “perception and action” (Noë 2004). He relies not on proprioception but on “sensorimotor skills” in his exposition of perception, claiming that perceiving is a kind of skillful bodily activity” (Noë 2004: 2) for which we possess “a battery of sensorimotor skills” (Noë 2004: 87). His thesis is that “A neuroscience of perceptual consciousness must be an enactive neuroscience – that is, a neuroscience of embodied activity, rather than a neuroscience of brain activity” (Noë 2004: 227). “Sensorimotor skill” is in fact conceptually and linguistically oxymoronic. As pointed out elsewhere (Sheets-Johnstone 2011: 474), “sensorimotor skill” is “a conceptual-linguistic marriage of two incompatible bed-fellows, the one motorological, the other experiential. We do not experience our skills

motorically but kinesthetically”; that is, we experience “skills” by way of movement and movement competencies and indeed learn skills “to begin with in hands-on [or more truthfully, ‘full-body-on’] first-person experience, any and all references to something ‘motor’ being patently a reference to non-experienced brain areas” (Sheets-Johnstone 2011: 474).

A description of experience in terms of “what it is like” is a consistent description in Dan Zahavi’s writings (Zahavi 1999, 2000, 2005, 2014, 2017, 2019; Zahavi and Gallagher 2012; see further below on “what it is like”) and in Legrand’s derivative writings in terms of “something it feels like”. “What it is like” elides phenomenological methodology and analysis. It does not begin with bracketing – putting opinions, beliefs, and so on aside – and in turn describing what is actually there, sensuously present in experience. In eliding phenomenological methodology and analysis, “what it is like” (or “something it feels like”) offers no more than a vague affirmation that something is present and experienced, but gives not a clue as to what that something is in real-life, real-time experiential terms. A prime reason for this evasive phenomenology and the fact that nothing is offered in the way of detailed experiential descriptions is in part a seemingly unthinking, automatic use of, and reliance on “proprioception” to describe bodily experience. As documented above, proprioception has no neurological basis in humans or vertebrates generally. Gallagher and Zahavi claim proprioception is a “sixth sense”, but it is a “sixth sense” that has no human anatomical-physiological basis: it is not part of the human sensory neuromuscular system. Their claim coincides precisely with Sherrington’s introduction of the term “proprioception” in reference to humans, specifically his references to human bodily positions (Sherrington 1953) that bypass scientific research and literature on proprioception as an evolutionary fact of invertebrate life, research and literature of which he is seemingly unaware. What Sherrington writes of proprioception and the context in which he writes of proprioception are thus of notable concern and warrant specification.

In his attempt to unify mind and body in his chapter titled “Two Ways of One Mind”, and in his earlier chapter titled “A Whole Presupposed of Its Parts”, Sherrington unfortunately misleads readers in his appropriation of proprioception to signify the position of the limbs of the human body and its posture: “The important thing is my proprioceptive perception of where the limb is, experience which because it is provided by the limb itself is called ‘proprioceptive’” (Sherrington 1953: 249). Though Sherrington includes movement at times within the span of “proprioceptive experience”, proprioception is mainly identified as a “where” experience – a locational or postural experience – not a movement experience. For example, after noting that “the main sensual basis of the awareness of the limb and its posture rests, as disease and experiments show, on the sensory nerves of the motor structures in the limb”, and in turn, how “nerve-fibers [...] collectively register the tension at thousands of points they sample in the muscles, tendons, and ligaments of the limb”, Sherrington states:

“In my awareness of the limb and its posture, and similarly in my awareness of its movement when it moves, I perceive no trace of all this. In ‘experiencing’ the limb I find no hint of this multiplex origin of the percept, no additive character in it, no tale of tensions within the limb, or of its possessing muscles or tendons. I am simply aware of where the limb is, and when it moves – or is moved, for my moving it myself hardly helps my perception of it further. The percept is a not very vivid one.” (Sherrington 1953: 248)

What Sherrington is focused on is precisely “two ways of one mind”, one of those two ways being identified with what he describes as “the motor individual”:

“What arises in the mind concurs with what is provoked from the motor individual.” (Sherrington 1953: 158)

In brief, the “motor individual” is neurological and “what is provoked from the motor individual” is not a direct experience of muscles, tendons, and joints, but “simply” an awareness of “where the limb is, and when it moves”. Given the research history of “the muscle sense” that began in the nineteenth century (Engel [1802] 1844), Sherrington’s evasion or ignorance of kinesthesia is remarkable. As pointed out elsewhere (Sheets-Johnstone 2020: 4):

“It is indeed startling that kinesthesia is totally bypassed, especially given the history of the discovery and naming of ‘the muscle sense’ (Engel [1802] 1844), and of various further research validations of the ‘muscle sense’ (Bastian 1890, Sir Charles Bell 1844, Maine de Biran [1807] 1963, Condillac [1754] 1982; see Scheerer 1987 for an excellent historical account).”¹

Even the experience of “the limb” in a particular posture, i.e., the limb at rest, is a *kinesthetic* experience. We kinesthetically experience an arm as it rests bent at the elbow or outstretched at the elbow, for example, just as we kinesthetically experience legs bent at hips, knees, and ankles in sitting or extended at hips and knees and bent at ankles in standing. Well-known neurophysiologist Marc Jeannerod’s research conclusion following extensive experiments on moving subjects is of central moment here. Jeannerod’s conclusion: “There are no reliable methods for suppressing kinesthetic information arising during the execution of a movement” (Jeannerod 2006: 56). There are no reliable methods either for “suppressing kinesthetic information” with respect to posture. Kinesthesia does not turn on with movement and off with posture. If that were true, one would have no awareness of the beginning or end of any movement. Indeed, one would have no idea where any “limb” was to begin with, much less where it was at the end, or even how, when, and where to begin or end, thus making the accomplishment of any task impossible. In short, and as shown elsewhere, Jeannerod’s declarative finding speaks reams about the foundational ongoing reality and significance of kinesthesia (see Sheets-Johnstone 2011: 520).

Of import too in this context (see original in Sheets-Johnstone 2011: 75; Sheets-Johnstone 2020: 24, note #1), is the fact that invertebrate biologist Hans W. Lissman criticizes Sherrington’s original 1906 coinage and definition of the term “proprioceptors” as “sensory organs” stimulated by “actions of the body itself” (Lissman 1950: 35). Lissman points out that Sherrington’s definition “does not appear quite adequate because, clearly, there are few types of sense organs which cannot be stimulated by actions of the body itself” (Lissman 1950: 35; for a further discussion of the issue, see Sheets-Johnstone 2014; Sheets-Johnstone 2016, chap. 3).

An evolutionary perspective discloses important facts about proprioception and its descent with modification, namely, with how a sensory monitoring system of external movement detectors was modified over time to internally structured movement detectors (Laverack 1976, Lissman 1950, Mill 1976). In particular, proprioceptively-endowed creatures are *tactilely oriented to move*. They are always in touch with something outside themselves and tactilely compress or deform themselves in relation to what they tactilely feel, much as a pill bug rolls into a ball to protect itself from what it senses as possible harm

and much as a fan worm reacts to the outside world. For example, and with respect to fan worms, invertebrate zoologist Martin Wells observes, “Touch them, or pass a shadow across [their] filtering crown, and they vanish [i.e., ‘duck very quickly’] down their tubes, emerging, with great caution and very slowly, after a matter of several minutes” (Wells 1968: 80; for detailed studies and further enlightenment regarding proprioception, see Mill 1976). Put in evolutionary perspective, what began as *surface recognition sensitivity* – sensitivity to the movement of water and of air, for example, in currents, breezes, and so on, and sensitivity to bumps, stones, and holes in the earth, for example – evolved into a continuous sensitivity to movement by way of internal, kinesthetically structured neuromuscular systems.

However far Sherrington is from acknowledging this evolutionary relationship of proprioception to kinesthesia, remarkably enough, he pointedly and clearly underscores the evolutionary relationship of humans to other forms of animate life, other forms that are not “another order of being, but our kith and kin” (Sherrington 1953: 177). He in fact goes on to affirm:

“Their nature and ours are one. They are each and all impelled as are we by the same ‘urge-to-live’. We and they are all comrades in one same great adventure – life. They and we are striving toward the same goal. All of us were launched and are steered by one same ‘urge to live’.” (Sherrington 1953: 177)

Though he does not mention Darwin in this context, Sherrington is in accord with Darwin’s evolutionary, and indeed, revolutionary, account of the historical nature and interconnected realities of natural selection in *The Origin of Species* (1968 [1859]) and in books that followed (Darwin 1981 [1871], 1965 [1872]), 1876, 1880, 1976 [1881]).

A further prime reason for an evasive phenomenology is, as indicated above, a reliance on “what it is like” and “something it feels like”. Critical concerns have been raised elsewhere regarding Zahavi’s penchant for describing first-person experience in terms of “what it is like” and its connection to Nagel’s article “What Is It Like To Be a Bat?” (see Sheets-Johnstone 2020). Equal critical concerns, however, and an equally significant connection exist between Zahavi’s and others’ penchant for proprioception and their putative “experiential” descriptions in terms of “what it is like”. In a chapter titled “The Lived Body” in his book *Self-Awareness and Alterity* (Zahavi 1999),

1

It is notable that, though consistently referencing kinesthesia in relation to perception, Husserl in at least one instance specifically mentions “the muscle sense”. He does so in the context of describing how movement is integral to touch. He points out that it is not “by pure and simple touch that pressure, pull, and resistance are to be perceived. One has to ‘exert the muscles’, ‘brace oneself against’, etc.” (Husserl 1989: 42). In this context he mentions that in seeing one body press on another one sees that it can have an impact on that body, “pushing it aside”, and that the motion of that body, “owing to an impact, is accelerating or decelerating, accordingly”. Most significantly, he goes on to observe “something similar” to that seeing: “I grasp something similar, even if it is not so easy, by

means of touch and the muscle sense” (Husserl 1989: 42). That Husserl uses the term “the muscle sense” is exceptional, but it is relevant too in this context to call attention to Husserlian scholar Robert Sokolowski’s observations on the intimate relationship of touch and movement. His observation of the relationship begins as follows: “The process of touching, furthermore, is a spatial motion, as one part of the body moves to another, and thus kinesthesia and touch are essentially related.” He ends his observation of the relationship by pointing out that “the lived body is an identity within complex manifolds, tactile and kinesthetic, actualized and potential; it is the field where sensations, moods and feelings take place” (Sokolowski 1974: 94–95).

Zahavi introduces what might be his first reference to proprioception. In this context, he uses neurologist Oliver Sacks's book *The Man Who Mistook His Wife for a Hat* as a reference, and in particular Sack's reference to Sherrington and to Sherrington's introduction of "proprioception" as a human sense faculty (Zahavi 1999: 101). It is both epistemologically and ontologically notable that Sacks emphasizes *the unconscious nature of proprioception*. He does so in a chapter titled "The Disembodied Lady" in his book *The Man Who Mistook His Wife for a Hat*. At the very beginning of the chapter, i.e., in introducing his analysis of "the disembodied lady", Sacks describes the sense that "Sherrington once called 'our secret sense, our sixth sense'", namely, as "that continuous but unconscious sensory flow from the movable parts of our body (muscles, tendons, joints), by which their position and tone and motion are continually monitored and adjusted, but in a way which is hidden from us because it is automatic and unconscious" (Sacks 1990: 43). In short, the "unconscious" nature of human proprioception and its specification as "our secret sense, our sixth sense" dovetail conceptually with Zahavi's description of experiences of subjectivity as "what it is like" (Zahavi 1999: 111) and with Zahavi's consistent use of single quote marks around the word *feel*, the single quote marks signaling something quite less than real-life, real-time feelings of a living and lived body, an animate organism. Zahavi self-assuredly declares,

"[E]xperiences are essentially characterized by having a subjective 'feel' to them, that is, a certain quality of 'what it is like', or what it 'feels' like to have them. When I am conscious, I 'feel' my experience, i.e., I am aware of what it is like to have it. This way of 'feeling' the experience does not presuppose the intervention or mediation of any sense organ or higher-order intentional act, but is simply a question of a direct and immediate *self-affection*." (Zahavi 1999: 111)

Clearly, given the unconscious nature of proprioception, its being "a secret sixth sense", the most one can do is relate proprioception to vague but putatively corresponding real-life, real-time experiences, hence to "what it is like" and to "a subject 'feel'". To opt for proprioception and to "feel" in this way, however, is to ignore kinesthesia, and in effect, to ignore the sensory faculty of movement, hence not only a directly felt awareness and experience of movement, but the sensory faculty that allows us to learn our bodies and learn to move ourselves effectively and efficiently in the world. The sensory modality of kinesthesia is integral to the entire sequence Husserl describes as 'I move', 'I do', 'I can' (Husserl 1989). As pointed out elsewhere:

"How indeed could there be a progressive learning sequence 'I move,' 'I do,' 'I can' short of kinesthesia, kinesthetic memory, and the qualitative dynamics that constitute a particular created spatio-temporal-energetic flow of movement each time the person 'moves,' 'does,' and 'accomplishes' something. Indeed, one kinesthetically feels oneself moving throughout any phase of the sequence. Such kinesthetic feelings exist along a gradient of awareness, which is to say that, whether low, halfway, or prominent along a continuum of awareness, the qualitative dynamics of one's movement are directly experienced." (Sheets-Johnstone 2020: 6)

That kinesthesia is a sensory faculty that exists along a gradient of awareness is of foundational import, especially in conjunction with Jeannerod's documentation of the fact that "There are no reliable methods for suppressing kinesthetic information arising during the execution of a movement" (Jeannerod 2006: 56). The felt qualitative dynamics of movement constitute distinctively felt patterns. As detailed elsewhere:

"... what is dynamically felt in turning over is distinctively different from what is dynamically felt in reaching, just as what is later dynamically felt in crawling is distinctively different from what is later dynamically felt in walking. Moreover, what is specifically felt qualitatively in

turning over rapidly, perhaps even suddenly, is distinctly different from what is specifically felt qualitatively in turning over slowly, perhaps even languidly stretching in the course of turning over. Such common dynamic patterns of felt movement that come to constitute our everyday repertoire of movement are instilled in kinesthetic memory. They are kinetic themes with variations according to circumstance. At any moment in the course of any phase of the progressive sequence, however, one may shift from experiencing a kinesthetically *felt* qualitative dynamics to experiencing a kinesthetically *perceived* object in motion, in effect no longer *feeling* a particular dynamic flow of movement, but *perceptually monitoring the flow* in some way. In doing so, one perceives reaching or reaching hand, for example, or crawling or crawling leg *objectively*, movement or body becoming an object *in space and in time*, a veritable *object in motion*. In short, the body as object is not the body as lived, the body as subject. As Sartre succinctly observes with respect to the former, ‘What I cause to exist here is the *thing* ‘leg’; it is not the leg as the *possibility which I am* of walking, running, or of playing football’ (Sartre 1956: 304).’ (Sheets-Johnstone 2020: 6–7)²

In light of these real-life, real-time experiential realities, we can query Zahavi and others and ask: What exactly is self-affection? What exactly is the nature of “feeling” as *self-affection*? What indeed is the “direct and immediate” experience of such “feeling”? We can furthermore ask about Zahavi’s summary of Henry’s concluding notion of self-affection as dynamic rather than static, i.e., “self-affection understood as the process of affecting and being affected is not the rigid self-identify of an object, but a subjective *movement*” or in Zahavi’s own words, “the self is nothing but the unchanging movement of affective self-manifestation” (Zahavi 1999: 89). Do these claims actually elucidate “the self-manifestation of subjectivity” and enlighten us as to “feeling”? At the very beginning of his chapter titled “The Lived Body”, Zahavi admits that in his previous expositions of self-awareness, the body has gone unnoticed: “So far, the analysis of self-awareness has not included any reference to the body” (Zahavi 1999: 91). Although Zahavi is at pains to present a phenomenologically accurate analysis of the lived body, he falls short of recognizing, much less elucidating, experienced qualitative dynamics of movement, dynamics that are at the heart of everyday kinesthetic experience, precisely as in nodding vigorously or in a tempered manner (or in some qualitative manner in between), and as in sprinting or sauntering forth (or in some qualitative manner in between).

In light of these real-life, real-time experiential kinesthetic realities, we can furthermore point out that in addition to the fundamental correspondence between something that cannot be directly described experientially – both Zahavi’s “what it is like” and his “subjective ‘feel’” –and the “unconscious” nature of proprioception, a fundamental correspondence exists between Zahavi’s and Gallagher’s emphatic claims of “ownership” of the body, Zahavi in terms of “me” and “mine”. These claims, too, coincide with what Sack writes in his chapter on “The Disembodied Lady”. Sacks explains that Sherrington discovered “our hidden sense” in the 1890s and specifies how he came to name it as he did:

2

Such kinesthetic perceptions may be accompanied by visual or tactile perceptions, but they are no less anchored in kinesthesia. They are as apparent in a surgeon’s learning to perform an abdominal operation as in a musician’s learning to trill effectively or in a child’s learning to jump rope. In brief, the

progression from ‘I move’ to ‘I do’ to ‘I can’ is a sensory-kinetic reality of animal nature rooted in a recognition of the qualitative dynamics of movement and moving body, dynamics that may flow forth or be interrogated, as it were, experienced objectively as happening in space and in time.

“He named it ‘proprioception’, to distinguish it from ‘exteroception’ and ‘interoception’, and additionally, because of its indispensability for our sense of *ourselves*; for it is only by courtesy of proprioception, so to speak, that we feel our bodies as proper to us, as our ‘property’, as our own.” (Sacks 1990: 43)

“The Disembodied Lady” is, in effect, taken by Zahavi and Gallagher and others as a model of “ownership” – a central aspect of what they describe as being “*embodied*”. It should be noted, however, that Sacks’s focal and abiding concern is “neurological disorders”:

“My work, my life, is all with the sick – but the sick and their sickness drives me to thoughts which, perhaps, I might otherwise not have [...]. Constantly my patients drive me to question, and constantly my questions drive me to patients – thus in the stories or studies which follow there is continual movement from one to the other.” (Sacks 1990: vii)

His book is in fact divided into four sections: “Losses”, “Excesses”, “Transports”, and “The World of the Simple”. “The Disembodied Lady” is the third chapter in “Losses”. If to be “embodied” is to have “postural and positional senses of where and how the body is”, and if just such senses “are what phenomenologists call a ‘pre-reflective sense of myself as embodied’” (Gallagher and Zahavi 2012: 155), then to be *disembodied* is to lack “postural and positional senses of where and how the body is”, hence to lack proprioception, thus to be *unconscious of what is already unconscious*, a double non-conscious accomplishment. On the other hand, however, if to have “postural and positional senses of where and how the body is” to be proprioceptively aware and if to be proprioceptively aware is to have a “secret sixth sense” that is not conscious, then a “pre-reflective sense of myself as embodied” is impossible: proprioception is unconscious. It is notable that Sartre describes a pre-reflective consciousness as a direct, unmediated by reflection, experience. Sartre gives a striking example of a pre-reflective consciousness as a direct, unmediated by reflection, experience when, in exemplifying the body “lived as flesh”, he writes “My shirt rubs against my skin, and I feel it.”, and then points out:

“What is ordinarily for me an object most remote becomes the immediately sensible; the warmth of air, the breath of the wind, the rays of sunshine, etc.; all are present to me in a certain way, as posited upon me without distance and revealing my flesh by means of their flesh.” (Sartre 1956: 392)

In effect, it is the tactile-kinesthetic body that is at the experiential center of pre-reflective consciousness, and at the center from the very beginning: tactility and kinesthesia are the first sensory systems to develop in utero (Robeck 1978, Windle 1971; see also Nilsson *et al.* 1976). They are not secret senses, but senses of living and lived bodies. In fact, if what is named a “sense” has no sensory system, then there is no sense. The “secret, sixth sense” that is named “proprioception” is thus in actuality a secret sixth non-sense.

III

The directly felt experience of movement is anchored in the sensory modality of kinesthesia, a sensory system that, as detailed above, evolved as an internally structured modality of movement from the external proprioceptive modalities of invertebrates (Laverack 1976). Unlike the internal sensory modality of kinesthesia, proprioceptive modalities such as cilia, slit sensilla, and so on, are vulnerable to environmental wear and tear. Moreover, the articulable

skeleton of Arthropods (hard-bodied invertebrates, the largest phylum in the Kingdom Animalia that includes lobsters, spiders, ants, and centipedes, for example, all of which have an external skeletal structure and are highly moving forms of life) and the articulable skeleton of vertebrates provide a continuous sensitivity to movement. In short, a lack of recognition of movement is a lack of recognition of the evolution of animate forms of life, what Husserl over and over refers to as “animate organisms”, creatures that are not just living but moving. Favored stories about the body and bodily experience in terms of position, proprioception, action, motorology, embodiment – “embodied activity”, “a ‘pre-reflective sense of myself as embodied’” – “what it is like” and “something it feels like – “there is something it feels like to experience that one’s legs are crossed” – all as exemplified above – overlook ontogeny as well as phylogeny, starting with the fact that tactility and kinaesthesia are, as noted above, the first sensory systems to develop in utero.

In the Kingdom Animalia, movement and consciousness of movement go hand in hand. Whatever the culture of human animals and whatever the culture of nonhuman animals, movement and consciousness of movement tie them together as animate organisms, animate forms of life. As biologist Helena Curtis points out, “*living organisms are complex and highly organized*” and that complexity and organization are evidenced in a number of facts, among which is the fact that “*living things respond to stimuli*” (Curtis 1976: 27, 28; italics in original). Curtis’s examples of responsivity are both broad and thought-provoking: “Plant seedlings bend toward light; mealworms congregate in dampness; cats pounce on small moving objects; even certain bacteria move toward or away from particular chemicals.” Her conclusion:

“[T]he capacity to respond is a fundamental and almost universal characteristic of life.” (Curtis 1976: 28)

Bending, congregating, pouncing, moving toward and away are indeed capacities not simply within repertoires of typically thought of flora and fauna, but within the movement repertoire of humans, in particular, of what Husserl terms “I cans”: I can bend, congregate, pounce, move toward and away. What Curtis identifies as *responsivity* is in fact akin to what Husserl describes as *receptivity and turning toward*, that is, an openness to the world about us and a consequent movement toward what we find of interest (Husserl 1973, 2001). As pointed out elsewhere:

“[W]hatever the animate form, it lives not in a vacuum but in a world particularized by its being the animate form it is. Precisely because it does not live in a vacuum [...] it is unnecessary to ‘embed’ it [...] in a world, just as it is unnecessary to ‘embody’ its actions, cognitions, experiences, emotions, and so on. Its interest, curiosity, hesitation, fright, and so on, its turning toward or turning away, and its approach or avoidance are emblematic of its affective motivations to move in distinctive ways with respect to the world in which it lives, including the particular social world in which it lives and which it cognizes. Indeed, those animate forms that survive and reproduce [...] have developed synergies of meaningful movement.” (Sheets-Johnstone 2010a: 117–118; see also Sheets-Johnstone 2014, 2015)

It is worth pointing out explicitly that *synergies of meaningful movement* testify not only to a movement-anchored corporeal semiotics, but a semiotics that encompasses bodily felt realities of affectivity. We find just such realities recognized throughout Darwin’s writings, specifically with respect to emotions. Darwin observes, for example:

“Terror acts in the same manner on them [the lower animals] as on us, causing the muscles to tremble, the heart to palpitate, the sphincters to be relaxed, and the hair to stand on end.” (Darwin, 1981 [1871], vol. 1: 39)

His observations extend furthermore to suspicion, a cognitive affect that, he states, is apparent in “most wild animals”, to courage and timidity, which he describes as “variable qualities in [...] individuals of the same species”, and to many more emotions (Darwin, 1981 [1871], vol. 1: 39–40). In short, and even before he examines emotions at length in *The Expression of the Emotions in Man and Animals* (Darwin, 1965 [1872]), Darwin dwells at length on the responsiveness of living creatures, in effect, on the *primal animation* at the heart of life across virtually the whole of the animal kingdom (for more on primal animation, see Sheets-Johnstone 2011; see also Kelso 1995 on “intrinsic dynamics”). Darwin’s extended global studies should not just give us pause for thought but stir us to turn our own attention to movement, to the synergies of meaningful movement that inform animate life and in effect to the movement-anchored corporeal semiotics that informs animate life. We can thereby gain insight into the nature of the bonds that connect us, not only to other humans, but to all forms of life, bonds that lead us to an acknowledgement and appreciation of our common pan-animate evolutionary heritage.

The importance of evolution to understandings of human nature can be ignored only at the peril of ignoring fundamental evolutionary dispositions and behaviors that undergird human dispositions and behaviors across cultures. A particular human disposition and behavior will tellingly exemplify just such a fundamental evolutionary disposition and behavior. The disposition is a socio-political evolutionary reality recognized and described at length across species by Darwin and is cross-culturally evident in humans.

To begin with, and as noted elsewhere:

“Darwin devoted 12 chapters to male-male competition in *The Descent of Man and Selection in Relation to Sex*. In particular, he devoted upward of 460 pages to intra-species male morphological and behavioral differences, starting with mollusks and crustaceans and beetles and working his way through fish, amphibians, reptiles, birds (four chapters), mammals (two chapters), then finally and specifically human mammals (two chapters). In these pages, he consistently describes male-male competition as ‘the law of battle.’ The ‘law’ is certainly *not* sanctioned or obeyed by every human male, but given human history, it is an undeniable law all the same. Male-male competition should thus surely be examined, at minimum cease being ignored in the way it is presently ignored, and in biology itself. Buried under the sobriquet of *sperm competition*, it never surfaces. Though sperm competition, an area of study for many years now (e.g., Birkhead and Moller, 1998; Parker, 1998; Birkhead, 2000; Simmons, 2001) keeps the phenomenon of male-male competition indirectly tethered to its original evolutionary context, i.e., competition for females, it puts *real-life* male-male competition as it is culturally elaborated by humans in the practice of war under wraps and out of sight.” (Sheets-Johnstone 2010b: 152–153)

It similarly puts *real-life* male-male competition as it is culturally elaborated by male humans in the pursuit and maintenance of power under wraps and out of sight. Consider the following archetypal description of just such a male:

“There is no mistaking a dominant male macaque. These are superbly muscled monkeys. Their hair is sleek and carefully groomed, their walk calm, assured and majestic. They move in apparent disregard of the lesser monkeys who scatter at their approach. For to obstruct the path of a dominant male or even to venture, when unwelcome, too near to him is an act of defiance, and macaques learn young that such a challenge will draw a heavy punishment.” (Eimerl and DeVore 1965: 106)

Jane Goodall provides further evidence of the close parallelism in her description of a chimpanzee, Mike, and of just how “Mike’s rise to the number one or top-tanking position in the chimpanzee community was both interesting and spectacular”:

“A group of five adult males, including top-ranking Goliath, David Graybeard, and the huge Rodolf, were grooming each other. The session had been going on for some twenty minutes. Mike was sitting about thirty yards apart from them, frequently staring toward the group, occasionally idly grooming himself. All at once Mike calmly walked over to our tent and took hold of an empty kerosene can by the handle. Then he picked up a second can and, walking upright, returned to the place where he had been sitting. Armed with his two cans Mike continued to stare toward the other males. After a few minutes he began to rock from side to side [...]. Gradually he rocked more vigorously, his hair slowly began to stand erect, and then, softly at first, he started a series of pant-hoots. As he called, Mike got to his feet and suddenly he was off, charging toward the group of males, hitting the two cans ahead of him. The cans, together with Mike’s crescendo of hooting, made the most appalling racket: no wonder the erstwhile peaceful males rushed out of the way. Mike and his cans vanished down a track, and after a few moments there was silence. [...] After a short interval that low-pitched hooting began again, followed almost immediately by the appearance of the two rackety cans with Mike close behind them. Straight for the other males he charged, and once more they fled. [...] Rodolf was the first of the males to approach Mike, uttering soft pant-grunts of submission, crouching low and pressing his lips to Mike’s thigh. Next he began to groom Mike, and two other males approached, pant-grunting, and also began to groom him.” (Goodall 1971: 112–113)

In *The Roots of Morality*, I commented on Goodall’s description as follows:

“Though on an infinitesimally smaller scale than the scale of possible human attempts at dominance, Mike’s bid for dominance is readily comparable to human male bids for dominance, and not only individual male bids but national bids, bids in the form of displays that break into otherwise peaceful relations, that utilize immediate attention getting objects, that provoke fear, and by provoking fear, aim to subdue or subjugate others. Piercing through ordinary activities of everyday life, such human displays of power can and do generate unendurable tensions that readily leave vengeful, rancorous figures in their wake as well as cringing, submissive ones.” (Sheets-Johnstone 2008: 106)

The disposition and behavior of human males in the pursuit and maintenance of power is readily exemplified in 21st-century male national leaders: in Vladimir Putin, in Bashar al-Assad, in Kim Jong-un, in Donald Trump, in Jair Bolsonaro, in Benjamin Netanyahu, all of whom are archetypal male macaques. All of them strut their twenty-first-century hours upon the stage in individual ways, all of them coincident in one way and another with a dominant male macaque as described earlier – some, be it noted like Hitler, in far more deadly ways than a dominant male macaque, but all being coincident with the *Ergreifer*. Jung describes the *Ergreifer* as “the god of storm and frenzy,

3

In one competitive form or another – whether straightforward killing, calculated oppression, territorial takeover, corrupt government actions, bigoted intolerance, veiled suppression – the violence of one group of humans against another group of humans aims toward destroying the livelihood if not the extinction of others. Examples are readily apparent: Netanyahu’s annexation of Palestinian West Bank land for Israeli “settlers”; Putin’s takeover of the Crimea; Trump’s executive order banning certain persons from entering the United States, an order euphemistically titled

“Protecting the Nation from Foreign Terrorist Entry”, but known more specifically as the “Muslim ban”; Bolsonaro’s refusal to mandate national lockdowns or any other safety or health-preserving responses to the coronavirus; Trump’s similar refusal to act on behalf of the safety and health of U.S. citizens; and so on, and so on, including the killing in the United States of George Floyd by police, a killing that not incidentally awakened the world globally to violence by whites against blacks and other non-whites.

the unleasher of passions and the lust of battle” (Jung 1970: 182). While all named twenty-first century males are not ‘superbly muscled’ like a dominant male macaque, all are ‘assured’ and ‘majestic’; they control the space about them, taking no back talk or countermoves from anyone.³

When we pay attention to the realities of biological evolution, we enlighten ourselves about our own human nature. We come to understandings that document our interconnectedness to all animate life. We come to appreciate and value the import of biodiversity. We come to realizations about the planet earth and about the evolution of humans themselves on planet earth. We thus open the door to truths that over-adulations of culture ignore and even hide and in so doing, free ourselves to shift from indoctrinated views and actions to questioning the practices and actions of national and socio-political leaders, and to protecting and preserving animate forms of life within the Kingdom Animalia.

References

- Bastian, H. C. (1880): *The Brain as an Organ of the Mind*. London: Kegan Paul.
- Bell, Sir Charles (1844): *The Anatomy and Philosophy of Expression as Connected with the Fine Arts*. London: John Murray.
- Birkhead, T. R. (2000): *Promiscuity. An Evolutionary History of Sperm Competition*. Cambridge, MA: Harvard University Press.
- Birkhead, T. R.; Moller, A. P. (eds., 1998): *Sperm Competition and Sexual Selection*. San Diego, CA: Academic Press.
- Bloom, Lois (1993): *The Transition from Infancy to Language. Acquiring the Power of Expression*. New York: Cambridge University Press.
- Condillac, E. B. de (1982 [1754]): “Traité des sensations”. In: *Philosophical Writings of Etienne Bonnot, Abbé de Condillac*, F. Philip – H. Lane (transl.). Hillsdale, N. J.: Lawrence Erlbaum Associates.
- Curtis, Helena (1975): *Biology* (2nd ed.). New York: Worth Publishers.
- Darwin, Charles (1876): *The Effects of Cross- and Self-Fertilization*. London: John Murray.
- Darwin, Charles (1880): *The Power of Movement in Plants*. London: John Murray.
- Darwin, Charles (1965 [1872]): *The Expression of the Emotions in Man and Animals*. Chicago: University of Chicago Press.
- Darwin, Charles (1968 [1859]): *The Origin of Species*, J. W. Burrow (ed.). New York: Penguin Books.
- Darwin, Charles (1976 [1881]): *Darwin on Earthworms. The Formation of Vegetable Mould Through the Action of Worms with Observations on Their Habits*. Ontario, CA: Bookworm Publishing Co.
- Darwin, Charles (1981 [1871]): *The Descent of Man and Selection in Relation to Sex*. Princeton: Princeton University Press.
- Darwin, Charles (1987): *Charles Darwin’s Notebooks, 1836–1844*, Paul H. Barrett et al. (eds.). Ithaca: Cornell University Press.
- Eimerl, Sarel; DeVore, Irvén (1965): *The Primates*. New York: Times, Inc.
- Engel, J. J. (1844 [1802]): “Über den Ursprung des Begriffs der Kraft”. In: *J. J. Engel’s Schriften*, vol. 10. Berlin: Mylius.
- Nilsson, Class et al. (1976): *A Child Is Born. New Photographs of Life Before Birth and*

- Up-to-Date Advice for Expectant Parents* (revised ed.). New York: Delacorte Press.
- Gallagher, Shaun; Zahavi, Dan (2012): *The Phenomenological Mind* (2nd ed.). London: Routledge.
- Goodall, Jane (1971): *In the Shadow of Man*. New York: Dell Publishing – Delta Books.
- Husserl, Edmund (1970): *The Crisis of European Sciences and Transcendental Phenomenology*, David Carr (transl.). Evanston, IL: Northwestern University Press.
- Husserl, Edmund (1973): *Experience and Judgment*, Ludwig Landgrebe (ed.), James S. Churchill – Karl Ameriks (transl.). Evanston, IL: Northwestern University Press.
- Husserl, Edmund (1980): *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy, Third Book (Ideas III)*, Ted E. Klein – William E. Pohl (transl.). The Hague: Martinus Nijhoff.
- Husserl, Edmund (1983): *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy, First Book (Ideas I)*, F. Kersten (transl.). The Hague: Martinus Nijhoff.
- Husserl, Edmund (1989): *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy, Second Book (Ideas II)*, R. Rojcewicz – A. Schuwer (transl.). Dordrecht: Kluwer Academic Publishers.
- Husserl, Edmund (2001): *Analyses Concerning Passive and Active Synthesis*, Anthony J. Steinbock (transl.). Dordrecht: Kluwer Academic.
- Jeannerod, Marc (2006): *Motor Cognition. What Actions Tell the Self*. Oxford, UK: Oxford University Press.
- Jung, Carl G. (1970): *Civilization in Transition* (2nd ed). R. F. C. Hull (transl.). *Collected Works*, vol. 10. Princeton: Princeton University Press.
- Kelso, J. A. Scott (1985): *Dynamic Patterns. The Self-Organization of Brain and Behavior*. Cambridge, MA: Bradford Books – MIT Press.
- Kesey, Ken Jr. (2017 [1984]): “The 100th Monkey: A Story of Social Change”, *Wowzone* (2017). Excerpt from: Jr. Ken Kesey, *The Hundredth Monkey* (Vision Books). Available at: <https://www.wowzone.com/monkey.htm> (accessed on 30 April 2025).
- Laland, Kevin N.; Janik, Vincent M. (2006): “The Animal Cultures Debate”. *Trends in Ecology and Evolution* 21 (2006) 10, pp. 542–547. doi: <https://doi.org/10.1016/j.tree.2006.06.005>.
- Laverack, M. S. (1976): “External Proprioceptors”. In: P. J. Mill (ed.). *Structure and Function of Proprioceptors in the Invertebrates*. London: Chapman and Hall, pp. 1–63.
- Lissman, H. W. (1950): “Proprioceptors”. *Physiological Mechanisms in Animal Behavior (Symposia of the Society for Experimental Biology)*, vol. 4. New York: Academic Press, pp. 34–59.
- Legrand, Dorothée (2006): “The Bodily Self: The Sensori-Motor Roots of Pre-Reflective Self-Consciousness”. *Phenomenology and the Cognitive Sciences* 5 (2006), pp. 89–118. doi: <https://doi.org/10.1007/s11097-005-9015-6>.
- Legrand, Dorothée (2010): “Bodily Intention and the Unreasonable Intentional Agent”. In: Franck Grammont, Dorothée Legrand, Pierre Livet (eds.). *Naturalizing Intention in Action*. Cambridge, MA: Bradford Books – MIT Press, pp. 161–180.
- Maine de Biran (1963 [1807]): *De l’aperception immédiate*. Paris: Vrin.
- Merleau-Ponty, Maurice (1962): *Phenomenology of Perception*, Colin Smith (transl.). New York: Routledge & Kegan Paul.
- Mill, P. J. (ed., 1976): *Structure and Function of Proprioceptors in the Invertebrates*. London: Chapman & Hall.

- Noë, Alva (2004): *Action in Perception*. Cambridge, MA: MIT Press.
- Parker, G. (1998): “Sperm Competition and the ‘Evolution of Ejaculates’. Towards a Theory Base”. In: T. R. Birkhead, A. P. Moller (eds.), *Sperm Competition and Sexual Selection*. San Diego: Academic Press.
- Robeck, Mildred C. (1978): *Infants and Children*. New York: McGraw-Hill Book Co.
- Sacks, Oliver (1990): *The Man Who Mistook His Wife for a Hat*. New York: HarperPerennial.
- Sartre, Jean-Paul (1956): *Being and Nothingness*, Hazel E. Barnes (transl.). New York: Philosophical Library.
- Scheerer, Eckart (1987): “Muscle Sense and Innervation Feelings: A Chapter in the History of Perception and Action”. In: H. Heuer, A. F. Sanders (eds.), *Perspectives on Perception and Action*. Hillsdale, N. J.: Lawrence Erlbaum, pp. 171–194.
- Schneirla, T. C. (1959): “An Evolutionary and Developmental Theory of Biphasic Processes Underlying Approach and Withdrawal”. In: M. R. Jones (ed.), *Nebraska Symposium on Motivation* 7. Lincoln: University of Nebraska Press, pp. 1–42.
- Sheets-Johnstone, Maxine (2008): *The Roots of Morality*. University Park, PA: Pennsylvania State University Press.
- Sheets-Johnstone, Maxine (2010a): “Kinesthetic Experience: Understandings Movement Inside and Out”. *Body, Movement and Dance in Psychotherapy* 5 (2010) 2, pp. 111–127. doi: <https://doi.org/10.1080/17432979.2010.496221>.
- Sheets-Johnstone, Maxine (2010b): “The Enemy: A Twenty-first Century Archetypal Study”. *Psychotherapy and Politics International* 8 (2010) 2, pp. 146–161. doi: <https://doi.org/10.1002/ppi.220>.
- Sheets-Johnstone, Maxine (2011): *The Primacy of Movement* (2nd ed.). Amsterdam – Philadelphia: John Benjamins Publishing.
- Sheets-Johnstone, Maxine (2014): “On the Origin, Nature, and Genesis of Habit”. *Phenomenology and Mind* 6 (2014), pp. 96–116. doi: <https://doi.org/10.13128/Phen-Mi-19553>. Included in Sheets-Johnstone 2016, Chapter 3.
- Sheets-Johnstone, Maxine (2015): “Embodiment on Trial: A Phenomenological Investigation”. *Continental Philosophy Review* 48 (2015), pp. 23–39. doi: <https://doi.org/10.1007/s11007-014-9315-z>.
- Sheets-Johnstone, Maxine (2016): *Insides and Outsides. Interdisciplinary Perspectives on Animate Nature*. Exeter, UK: Imprint Academic.
- Sheets-Johnstone, Maxine (2019): “Kinesthesia: An Extended Critical Overview and a Beginning Phenomenology of Learning”. *Continental Philosophy Review* 52 (2019), pp. 143–69. doi: <https://doi.org/10.1007/s11007-018-09460-7>.
- Sheets-Johnstone, Maxine (2020): “The Body Subject: Being True to the Truths of Experience”. *Journal of Speculative Philosophy* 34 (2020) 1, pp. 1–29. doi: <https://doi.org/10.5325/jspecphil.34.1.0001>.
- Sherrington, Sir Charles (1953): *Man on his Nature* (2nd ed.). Garden City, NY: Doubleday Anchor Books.
- Simmons, L. W. (2001): *Sperm Competition and Its Evolutionary Consequences in Insects*. Princeton: Princeton University Press.
- Sokolowski, Robert (1974): *Husserlian Meditations*. Evanston, IL: Northwestern University Press.
- Stern, Daniel N. (1985): *The Interpersonal World of the Infant. A View from Psychoanalysis and Developmental Psychology*. New York: Basic Books.
- Tomasello, Michael; Call, Josep (1997): *Primate Cognition*. New York: Oxford University Press.

- Wells, Martin (1968): *Lower Animals*. New York: World University Library – McGraw-Hill Book Company.
- White, L. A. (1959): *The Evolution of Culture. The Development of Civilization to the Fall of Rome*. New York: McGraw-Hill.
- Windle, William F. (1971): *Physiology of the Fetus*. Springfield, IL: Charles C. Thomas.
- Wrangham, Richard W.; de Waal, Frans B. M.; McGrew, W. C. (1994): “The Challenge of Behavioral Diversity”. In: Richard W. Wrangham *et al.* (eds.). *Chimpanzee Cultures*, Cambridge, MA: Harvard University Press.
- Zahavi, Dan (1999): *Self-Awareness and Alterity. A Phenomenological Investigation*. Evanston, IL: Northwestern University Press.
- Zahavi, Dan (2000): “Self and Consciousness”. In: Dan Zahavi (ed.). *Exploring the Self. Philosophical and Psychopathological Perspectives on Self-Experience*. Amsterdam: John Benjamins, pp. 55–74.
- Zahavi, Dan (2005): *Subjectivity and Selfhood. Investigating the First-Person Perspective*. Cambridge, MA: MIT Press.
- Zahavi, Dan (2014): *Self and Other. Exploring Subjectivity, Empathy, and Shame*. Oxford, UK: Oxford University Press.
- Zahavi, Dan (2017): “Thin, Thinner, Thinnest: Defining the Minimal Self”. In: C. Durt, T. Fuchs, C. Tewes (eds.). *Embodiment, Enaction, and Culture. Investigating the Constitution of the Shared World* Cambridge, MA: MIT Press.
- Zahavi, Dan (2019): “Self”. In: Giovanni Stanghellini *et al.* (eds.), *Phenomenological Psychopathology*. Oxford, UK: Oxford University Press, pp. 299–305.

Maxine Sheets-Johnstone

Važnost životinjske prirode

Ljudske kulture i biološka evolucija

Sažetak

Ljudske kulture slične su evolucijskim životinjskim vrstama po tome što pokazuju varijacije u načinu ophođenja i odnošenja prema drugim kulturama. Ta kulturna razlikovanja uključuju varijacije u slobodama, vrijednostima, praksi muške dominacije i percepciji superiornosti ili inferiornosti, čime bitno utječe na kulturne realnosti poput rasizma, siromaštva i zakona. Ljudi, nadalje, kulturno razlikuju sebe od ne-ljudskih živih vrsta, čuvajući svoj status kao jedinstvenog, dragocjenog i najvišeg bića među živim bićima. Međutim, ovo odmicanje otkriva ljudsku ranjivost, smrtnost i borbu za opstojanje kakvu je opisao Darwin. Ljudske ranjivosti dotiče se religija kroz vjeru u Boga i zagrobni život, no religijski odgovori na strance i ne-ljudske životinje razlikuju se, nekada ih pozivajući k sebi, a nekada ih ugnjetavajući. Različiti istaknuti aspekti ljudske kulture imaju korijene u rasponu evolucijskih stvarnosti koje određuju ljudski i ne-ljudski život jednako. Ove stvarnosti trebaju se pognije specificirati u pogledu filogeneze i ontogeneze.

Ključne riječi

čovjek, životinja, kultura, priroda, biologija, evolucija, filogeneza, ontogeneza

Maxine Sheets-Johnstone

Die Bedeutung der tierischen Natur

Menschliche Kulturen und biologische Evolution

Zusammenfassung

Menschliche Kulturen sind vergleichbar mit evolutionären Tierarten, da sie Abweichungen in ihrem Verhalten und ihrer Wechselwirkung mit anderen Kulturen aufweisen. Diese kulturellen Andersartigkeiten umfassen Variationen in Freiheiten, Werten, Praktiken der männlichen Dominanz und Wahrnehmungen von Überlegenheit oder Unterlegenheit, die maßgeblich kulturelle Realitäten wie Rassismus, Armut und Gesetze beeinflussen. Menschen unterscheiden sich kulturell weiter von nichtmenschlichen Spezies, indem sie ihren Status als einzigartig, wertvoll und als höchstes unter den Lebewesen bewahren. Allerdings offenbart diese Abgrenzung die menschliche Verletzlichkeit, Sterblichkeit und den Existenzkampf, den Darwin geschildert hat. Religion begegnet der menschlichen Verletzlichkeit durch den Glauben an Gott und ein Leben nach dem Tod. Doch die religiösen Reaktionen auf Fremde und nichtmenschliche Tiere variieren – manchmal sind sie willkommen, bisweilen werden sie unterdrückt. Die vielfältigen Aspekte der menschlichen Kultur, die oben hervorgehoben wurden, haben ihre Wurzeln in einer Vielzahl evolutionärer Realitäten, die sowohl menschliche als auch nichtmenschliche Lebensformen prägen. Diese Realitäten erfordern eine detaillierte Spezifikation hinsichtlich der Phylogenese und der Ontogenese.

Schlüsselwörter

Mensch, Tier, Kultur, Natur, Biologie, Evolution, Phylogenese, Ontogenese

Maxine Sheets-Johnstone

L'importance de la nature animale

Cultures humaines et évolution biologique

Résumé

Les cultures humaines sont semblables à des espèces animales évolutives en cela qu'elles présentent des variations dans leur comportement et leurs relations envers et avec d'autres cultures. Ces distinctions culturelles comportent des différences en matière de libertés, de valeurs, de pratiques de domination masculine et de perceptions de supériorité ou d'infériorité, influençant de manière significative des réalités culturelles telles que le racisme, la pauvreté et les lois. Les humains se distinguent, en outre, culturellement des espèces non humaines, protégeant ainsi leur statut d'êtres uniques, précieux et supérieurs parmi les êtres vivants. Cependant, cette mise à distance révèle une vulnérabilité humaine, sa mortalité et une lutte pour l'existence, décrite par Darwin. La religion répond à la vulnérabilité humaine par des croyances en Dieu et en une vie après la mort, bien que ses réponses aux étrangers et aux animaux non humains varient : parfois accueillantes, parfois oppressives. Les divers aspects de la culture humaine mentionnés ci-dessus trouvent leurs racines dans un ensemble de réalités évolutives qui influencent à la fois les formes de vie humaines et non humaines. Ces réalités méritent d'être spécifiées en détail en termes de phylogenèse et d'ontogenèse.

Mots-clés

être humain, animal, culture, nature, biologie, évolution, phylogenèse, ontogenèse