

---

Original Article

# Embodied minds or mindful bodies? A question of fundamental, inherently inter-related aspects of animation

**Maxine Sheets-Johnstone**

Department of Philosophy, University of Oregon, Eugene,  
Oregon 97403-1295, USA.  
E-mail: [msj@uoregon.edu](mailto:msj@uoregon.edu)

**Abstract** This article spells out the key concept that embraces all aspects of life and thereby constitutes a key to understanding how all aspects are inherently interrelated. That key concept – animation – is spelled out concretely in terms of evolutionary biology and phenomenology. It begins with Darwin's classic statement that 'mind is function of body' and shows how a phenomenological analysis of movement supports Darwin's claim. It furthermore shows how common understandings of movement distort its dynamic realities, how in normal, everyday life a dynamic congruency obtains between emotions and movement, and thus, how 'an absence of the body below the neck' in scientific research on emotions deflects attention from the synergies of meaningful movement that anchor human life. In the end it shows clearly that minds are not embodied; bodies are mindful.

*Subjectivity* (2011) 4, 451–466. doi:10.1057/sub.2011.21

**Keywords:** synergies of meaningful movement; evolutionary considerations; qualitative structure of movement; received ignorance about movement; dynamic congruency of emotions and movement; mind/body relationship

---

## Introduction

Given the current academic practice of applying lexical band-aids in an attempt to marry mind and body, subject and world, third-person and first-person accounts of subjectivity, time, and other complex aspects of life – lexical band-aids on the order of embodied minds, not to mention embodied action, embodied simulation, sensorimotor subjectivity, embedded cognition, enactive emotions, and so on – my aim here is to recognize and address the need for a concept that embraces all aspects of life and thereby

constitutes a key to understanding how all aspects of life – movement, emotion, cognition, intersubjectivity, communication, language, and more – are inherently interrelated. That key concept is *animation*: we are essentially and fundamentally animate beings. In more specifically dynamic terms, we are animate forms who are alive to and in the world, and who, in being alive to and in the world, make sense of it. We do so most fundamentally through movement, unfolding a kinetic aliveness that is in play throughout the course of our everyday lives from the time we are born to the time we die. Our kinetic aliveness and sense-making are apparent in our initial explorations of the world and in our curiosity about it to begin with. They are apparent, in other words, in the dynamic congruency of emotion and movement (Sheets-Johnstone, 1999a, 2009b, Chapter VIII): we move in ways coincident with our feelings, which is to say that our bodily attitudes and dispositions are affectively as well as kinetically resonant. Our dual bodily resonance and sense-makings are singularly and centrally apparent not only in relation to our surrounding world, but in our initial and ongoing attunements and disattunements with those about us and in the progressive attunements and disattunements we forge throughout our lives – with parents, caregivers, playmates, teachers, friends, lovers, spouses, neighbors, colleagues, employers, and more.

We make sense of ourselves as well. Again, we do so most fundamentally through movement, through tactile-kinesthetic awarenesses and their invariants as realized in basic if/then relationships we spontaneously discover in infancy. For example: if I close my eyes, it will be dark; if I release my grip, the toy will drop; if I close my mouth and turn my head away, no one can insert a spoon filled with food into my mouth. Consciousness is thus a central aspect of animation, a tactile-kinesthetic built-in of life, a dimension of Nature through and through. Nature is indeed ‘a principle of movement and change’, as Aristotle lucidly and succinctly observed. Moreover as he just as lucidly and succinctly observed, ‘We must therefore see that we understand what motion is; for if it were unknown, nature too would be unknown’ (Aristotle *Physics* 200b12–14).

Aristotle’s observations validate the fact that animate creatures grow and move about in the world: they navigate with respect to their particular world, nourishing themselves, avoiding what is noxious, and so on. Science fiction scenarios and philosophical conceivability tales might incline one to think that animate life could exist without self- and world-consciousness, but the point is that here on earth, that is, here in the real-life, real-time realities of earthly life, animate forms are by nature cognizant of themselves and the world about them (Sheets-Johnstone, 1999b, expanded 2nd edn, 2011). Proprioception and affectivity attest emphatically to this reality. Consciousness is thus not something apart from Nature any more than cognition is something apart from Nature. Both are through and through aspects of animation and hence of animate life (for a thoroughgoing empirical vindication of this claim, see Sheets-Johnstone, 1998, 1999b/expanded 2nd edn, 2011, especially Chapters 1, 2, 8 and 12; see also Sheets-Johnstone, 1990).

In what follows, I will spell out these fundamental and inherently interrelated realities of animation more closely on the basis of evolutionary biology and phenomenology.

## Evolutionary Considerations

Morphology in the broad evolutionary sense of species-specific and species-overlapping kinetic/tactile-kinesthetic invariants provides precisely the stable foundation that Darwin specified as necessary to a veridical understanding of mind. Darwin wrote, 'Experience shows the problem of the mind cannot be solved by attacking the citadel itself. – the mind is function of body. – we must bring some *stable* foundation to argue from' (Darwin, 1987 [1838–1839], Notebook N, p. 564; italics in original). Bodies are indeed the ground floor of animate life. Their kinetic/tactile-kinesthetic invariants – and proprioceptive corollaries thereof, for example, the slit sensilla of spiders, the campaniform sensilla of insects – undergird the distinctive everyday kinetic dispositions and capacities of each species of animate form. Kinetic/tactile-kinesthetic invariants are, in other words, the foundation of *synergies of meaningful movement*. The primate invariants of presenting and mounting, for example, are definitive of two interanimate kinetic relationships that are differentially meaningful, and moreover differentially meaningful according to their agonistic or sexual context. In agonistic contexts, presenting by males as well as females is a movement pattern of submission or appeasement with respect to another individual; in sexual contexts, presenting by females is a movement pattern inviting contact with a male. The invariants of the *Tanzsprache* – the honey bee dance – are similarly meaningful and differentially so according not to social context but to variables within the dance, that is, to distinct qualitative variables inherent in movement that communicate to others the distance, direction and richness of a nectar source: distance by the spatio-kinetic contours of the dance; direction by the spatial orientation of the dance with respect to the sun and to gravity; and richness of the food source by the vigorousness of the dance (von Frisch, 1964, 1967). In short, synergies of meaningful movement are a built-in of animate life. They provide the stable foundation from which to show that mind is function of body.

Evolutionary biologist Stuart Altmann's concept of *comsigns* attests at an objective, that is, behavioral, level to the presence of kinetic/tactile-kinesthetic invariants and their related synergies of meaningful movement. Comsigns – common signs or signs held in common – are in essence kinetic ways of relating to others that virtually all in the species are capable of both performing themselves and understanding in the performance of others (Altmann, 1967). They are thus species-specific synergies of meaningful movement. Without such commonly understood synergies – in the common but less exacting terms of

animal biologists, without such ‘displays’ – there would be no basic coherence or order among conspecifics. Indeed, there would be no social animals to begin with since interanimate capacities and understandings would lack all foundation. An absence of conspecifics would in fact be a sizable hazard to individual survival within any putative social group since not only would a threatening gesture or movement go unrecognized as would any appeasing gesture or movement, for example, but so also would any courtship and mating gestures or movements.

Species-specific synergies of meaningful movement are patterns of movement, feeling, thought, and awarenesses of oneself and the world that are qualitatively perturbable, thus malleable invariants. The speed of one’s walk, for example, and its amplitude may vary according to intensities of feeling, train of thought, changing climatic conditions, encroaching or receding others, the surrounding world generally, and so on. The kinetic/tactile-kinesthetic invariants that constitute walking remain basically the same, but the dynamic patterning that constitutes the actual synergy of walking at any particular time or place is qualitatively variable. For example, if I want to avoid someone, I might quicken my step and move along an erratic path; if I am eager to join others at a meeting, I might similarly quicken my step, but move now in the straightest of straight line paths; if I am pondering how to resolve a problem, I might amble soberly and slowly down the street. In effect, *a semantically congruent relationship is evident between movement and meaning*. The semantically congruent relationship is moreover evident in if/then or consequential relationships: if I want to examine something more closely or get within better hearing range, for example, then I move in ways concordant with that desire. Whatever my particular bodily-kinetic dynamic might be, it is meaningfully motivated and my movement articulates that meaning.

It is important to recognize that while motivations are fundamentally and essentially affective in nature, they are commonly conditioned by cognitional awarenesses, precisely as in the above examples of the semantic congruency of movement and meaning. In this context, it is of moment to underscore the difference between *experientially* anchored descriptions of the relationship between movement and meaning, as in the above examples, and *behavioral* accounts of action and purpose. A preoccupation with purpose is at cross-purposes with fine-grained understandings of the experiential realities of animation; a verbal fixation on action is likewise. *Purpose* and *action* are preeminently third-person, objective translations of first-person experience that fall short of elucidating the affective-kinetic-cognitional complexities and richness of animate experience. In the course of everyday life, we – like other forms of animate life – ordinarily think not in terms of purpose or action but kinetically, that is, in terms of movement: stopping short at the sound of an unfamiliar noise and perhaps looking up or turning around; opening our arms on seeing a friend; steering our car along a road or highway; picking up a fork,

loading it with food, and putting the loaded fork into our mouth. Classified and spoken of as *acts*, the qualitative dynamics of these movements go by the boards; the dynamics are swallowed up, packaged under a convenient label as something performed, executed or enacted. As for *purpose*, it too is a third-person way of understanding animate movement, a way that commonly fastens on the need to *explain* or even *justify* what one is doing. It is epitomized in one human querying another: ‘what is the point of your doing *that*?’ – that is, ‘what is your purpose?’ In short, to speak of movement in terms of purpose or action puts us at a distance from the very affective-cognitional-kinetic dynamics that are at the heart of animate life, and, in effect, from the meaning that motivates the dynamics and from the semantically congruent relationship of meaning and movement.

A further example: Human parents who witness their infant flailing its arms and crying do not wonder what its purpose is, much less what is going on in its brain. Parents see and hear their infant as being *moved to move*, which is to say they see and hear it as being affectively motivated: they do not attach a purpose to its flailings or cry any more than they attend to its flailings or cry as mechanical kinetic phenomena. Indeed, animate beings do not simply move in an epiphenomenal sense: they are *born* to move; they are *moved* to move; they move *meaningfully* on behalf of their survival; and some – notably avians and mammals – move meaningfully on behalf of their progeny as well. That humans do not typically look at other animate forms of life in this way, that is, morphologically and dynamically in the manner of Darwin rather than mechanically as being driven unconsciously and robotically, is not only puzzling but runs against a basic evolutionary fact, notably, ‘descent with modification’, hence against an appreciation of evolutionary continuities. This evolutionary claim was empirically substantiated and discussed in detail in an expanded version of an article titled ‘Thinking In Movement’ in the *Journal of Aesthetics and Art Criticism*, the expanded version appearing later in two books (Sheets-Johnstone, 1999b/expanded 2nd edn, 2011, Chapter 12; 2009b, Chapter II). In brief, a kinetic intelligence, a *kinetic bodily logos*, informs animation – including the animation of what are called ‘lower animals’, for example, paramecia, amoeba, fan worms. Psychologist Max Velmans underscores this very point when he notes in more general terms that ‘continuity in the evolution of consciousness favours continuity in the distribution of consciousness’ (Velmans, 2007, p. 280). Thus, to adjudge the movement of animate beings as merely pragmatically adaptive or mechanical acts is to discredit evolutionary facts of life and, in effect, to deny the built-in dynamically lived realities of animation.

We can actually look at these realities more closely. At the most fundamental level, the natural kinetic/proprioceptive capacities of animate creatures endow them with surface recognition sensitivities in relation to their surrounding world and with an awareness of their own movement in relation to those sensitivities (Sheets-Johnstone, 1998, 1999b/expanded 2nd edn, 2011). Indeed,

animate creatures are not foreigners on this earth but forms of life empowered with all the sensitivities and capacities that their particular animation engenders and implies. Surely when we observe an animal controlling its own bodily movement, as a plover does in arching, dragging and quivering its wings, pretending to be hurt in order to distract a predator from attacking its chick, and when we in turn recognize that it is moving both within its morphological capacities for movement and as it sees fit within its situation, we realize that it is thinking intelligently and effectively in movement and is at the same time kinesthetically and/or proprioceptively, that is, dynamically, attuned to its own movement (Sheets-Johnstone, 1999b/expanded 2nd edn, 2011). We realize, in other words, that it is not simply reacting visually, auditorily or olfactorily in a robotic sense to aspects of its surrounding world, but is quintessentially alive to a world that is in fact never the same from one moment to the next, and in being so alive, is affectively and cognitively attuned to an ever-changing world, and morphologically and dynamically aware of its capacity to move and to move in synergies of meaningful movement in relation to it: in this direction or that, for example, slow or fast, with abandon or cautiously, and so on, and thus notably too, in a normal or feigned manner. In sum, it has a kinetic repertoire of possible movements in a changing world and a kinetic intelligence readily cognizant of that changing world, a kinetic intelligence that motivates and informs its movement (Sheets-Johnstone, 1998, 1999b/expanded 2nd edn, 2011).

We would do well in this context of evolutionary biology to recall Darwin's comment regarding insects in general and ants in particular, a comment based not on theory or ideology, but on experience, the meticulous observational experiences of Darwin himself. Darwin wrote:

It is certain that there may be extraordinary mental activity with an extremely small absolute mass of nervous matter: thus the wonderfully diversified instincts, mental powers, and affections of ants are generally known, yet their cerebral ganglia are not so large as the quarter of a small pin's head ... the brain of an ant is one of the most marvellous atoms of matter in the world, perhaps more marvellous than the brain of man. (Darwin, 1981 [1871], Vol. 1, p. 145)

Darwin's painstaking and extended study of worms and his comments upon them are equally telling. After describing how worms 'swallow an enormous quantity of earth, out of which they extract any digestible matter which it may contain', and how they plow the soil with their burrow excavations and form castings with the earth they eject along with their intestinal secretions, he marvels at their intelligence and industry, at one point noting that their burrows 'are not mere excavations, but may rather be compared to tunnels lined with cement'. He observes that neither chance nor instinct alone can account for their discriminating actions, and that '[i]f worms have the power of acquiring some

notion, however rude, of the shape of an object and of their burrows, ... they deserve to be called intelligent ... for they then act in nearly the same manner as would a man under similar circumstances' (Darwin, 1976 [1881], p. 58).

Clearly, Darwin has a first-hand sense of the animate realities of life and how these realities are interwoven with what he identifies as 'mental powers', 'affections' and 'intelligence'. He has experienced and observed first-hand in ways that contrast with many present-day cognitivists who are so mesmerized by *the brain* – the human one of course – that they completely overlook non-human animal capacities, writing, for example, about lobsters, as philosopher Daniel Dennett does (Dennett, 1991, pp. 427–428), or scallops, as philosopher Owen Flanagan does (Flanagan, 1984, p. 344; 1992, p. 132), when their only encounter with either lobster or scallops has seemingly been on a plate.

### Phenomenology: Methodological Gateway to Analyses of Experience

The 'real-life', 'real-time' (to use dynamic systems language) kinetic dynamics of animation can be analyzed in concrete ways: we can bring the dynamics of movement to self-evidence precisely because the dynamics are experientially evident, in ourselves and in our experience of others as well. To highlight this fact and appreciate its far-reaching significance, consider first neurophysiologists Barbara Gowitzke and Morris Milner's remarks concerning voluntary movement in their chapter 'The Proprioceptors and Their Associated Reflexes', a chapter in the third edition of their book, *Scientific Bases of Human Movement*. After acknowledging that '[v]oluntary movement requires a foundation of automatic responses which assure a proper combination of mobility and stability of body parts', they state: 'The voluntary contribution to movement is almost entirely limited to initiation, regulation of speed, force, range, and direction, and termination of the movement' (Gowitzke and Milner, 1988, p. 256). Granted their focus is on neurophysiology, the seemingly minor role attributed to volition is nonetheless astonishing: 'limitations', – initiation, regulation of speed, force, range, direction and termination of movement – are not only integral to the very nature of voluntary movement but of indisputably sizable import to the mover. A phenomenological analysis of movement implicitly demonstrates the experiential import of the 'voluntary contribution' by setting forth the spatio-temporal-energetic structures that constitute the qualitative dynamics of movement (Sheets-Johnstone, 1966 [1979, 1980], 1999b/expanded 2nd edn, 2011). What will become evident through a summary of that analysis is not just a realization of the complex qualitative structure of movement, but seminal realizations of received ignorance about movement that deflect us from an awareness of its qualitative structure. It should be noted that the charge of received ignorance is meant pejoratively not toward individuals but toward habits of thought that pass for received wisdom. In particular, it is meant to call

attention to the habit of not questioning common understandings of movement and common ways of thinking about movement, understandings and ways that fail to recognize much less capture the dynamics of the phenomenon and that indeed persevere misconceptions about the very foundation of *animate* life. We can indeed admit that movement is difficult to analyze. Who wants to study movement? It won't stay still! But it should not on that account be ignored and attention diverted to solid, packaged things on the order of embodiment, action, purpose, and the like. On the contrary, in spite of the fact that it won't stay still, it is precisely the *stable* foundation on which to show that 'mind is function of body'.

Four primary qualities – tensional, linear, areal and projectional qualities – are apparent in any movement we make (Sheets-Johnstone, 1966 [1979/1980], 1999b/expanded 2nd edn, 2011). These qualities are inherent in any and all movement. They define the spatial, temporal and energetic qualities of movement, none of which exists separately but each of which can be spelled out analytically in finer detail. Their particular character in any movement is created by the movement itself. Suppose, for example, we are trudging up a steep hill: our bodies may be bent forward, our steps may be small, slow, and effortful but at the same time even-paced and smooth. *Tensional quality* defines the intensity of our movement, the effort or force we exert and experience in trudging upward. As with any quality of movement, tensional quality may vary in the course of our moving: we spontaneously move with less effort as the incline decreases, for example. The *linear quality* of our movement has two components: the linear design of our moving bodies and the linear pattern of our movement. As suggested by the trudging character of our walk, the overall linear design of our body is likely inclined diagonally from the hips, thus tilted forward. In terms of the overall bodily direction of our movement, the linear pattern of our walk likely proceeds in a straight line forward, linear pattern specifying the path traced by our movement. We should note, however, that not only do our feet trace out a particular linear pattern, but so also do our arms if we are swinging them forward and back, and further, that if instead of looking continuously down at the ground, we look alternately to one side then the other, or up ahead and then again down, our head traces yet another linear pattern. Again, it is important to note that qualities may and typically do vary. We might, for instance, come up from time to time to a wholly vertical alignment and move sideways to avoid a large boulder, and thus change the linear design of our moving bodies and the linear pattern of our movement.

*Areal quality*, like linear quality, has two components: the areal design of our moving bodies and the areal pattern of our movement. We may be not only tilted forward, for example, but hunched over and barely extend our knees as we trudge forward, but then too, as we come to the top of the hill, we may stretch to the full. In short, the areal design of our moving bodies may be anywhere from contractive to expansive. The areal pattern of our movement

may correlatively be anywhere from intensive to extensive. Small, trudging steps make the areal pattern intensive; large, striding steps make it extensive. Amplitude is clearly a spatial dimension of any movement and areal quality specifies amplitude in terms of both the moving body and movement itself.

*Projectional quality* describes the manner in which effort or force is manifest: basically in an abrupt, sustained, ballistic or collapsing manner. In trudging up a steep hill, we ordinarily move in a sustained manner, plodding upward in an even, smooth gait. But we might also move sharply, for instance, in avoiding an unexpected overhanging branch or we might begin swinging our arms in a ballistic manner, that is, with an initial impulse that carries the movement forward and back through its initially generated momentum. Our movement may indeed be a combination of different projectional qualities, including even a controlled collapse when we reach the top.

As the quite summary analysis suggests, the qualitative structure of any movement commonly generates an overall dynamic, a dynamic that has a particular quality in virtue of the constellation of all qualities: it flows forth with a certain kinetic energy that may rise and fall in intensity, waxing and waning, at the same time spatializing and temporalizing itself in ways that contour the dynamic, making it attenuated, expansive, sudden, jagged, restrained, narrowed, and so on, and in any combination thereof. In short, the qualitative nature of any particular dynamic is formally created by the qualities of movement itself. It warrants mention here too in passing that fundamental human concepts derive from the qualitative dynamic structure of movement, concepts of force, distance, direction, size, and more, concepts forged in infancy on the basis of kinesthetic experience. These concepts – corporeal concepts – constitute the ground on which linguistic concepts are formed. Indeed, infants are not prelinguistic; language is post-kinetic (Sheets-Johnstone 1999b/expanded 2nd edn. 2011).

In light of the qualitative dynamic structure of movement as described through phenomenological analysis, it is readily evident that, contrary to the dictionary definition of movement and to popular thought, movement is not ‘a change of position’. To begin with, movement does not have a ‘position’, so it cannot possibly change it. Furthermore, we improperly define ourselves-in-movement as ‘changing position’. We are not objects in motion, moving from point A to point B. As we move about in distinctive and innumerable ways throughout the day in our everyday lives, not to mention in dancing, we are involved not in anonymous happenings taking place between two – or even more – different positions, but in rich and complex qualitative kinetic dynamics. While in sitting down, standing up, opening a door, getting into a car, and so on, we indeed change ‘positions’, we do so only from an objective, that is, an object-in-motion perspective, not from the perspective of movement itself. From the latter perspective, the actual qualitative kinetic dynamics of our everyday lives flow forth effortlessly in the sense that we do not have to concentrate attention on our movement – on sitting down, standing up, opening a door, getting into

a car. Our qualitative dynamics are indeed familiar, so familiar that they are commonly marginalized with respect to whatever might constitute our focal awareness (Sheets-Johnstone, 2003, 2006, 2009a). On the other hand, we readily recognize the qualitative dynamics of others, notably, in their *style* – the way another person walks, laughs and speaks, for example. Though we are not commonly aware of the qualitative character or style of our own dynamics, we all developed our now habitual ways of moving in the course of learning our bodies and learning to move ourselves, ways of moving that are at bottom *coordinated dynamic patterns* (Kelso, 1995; Kelso and Engström, 2006) that run off in consistent ways and that, being familiar and easily carried out, are sidelined in our awareness as we focally attend to other matters (Sheets-Johnstone, 1999b/expanded 2nd edn, 2011, 2009a). Habitual movement patterns can, however, be made focally present: we can become aware of the dynamics of brushing our teeth, for example. In fact, were someone else to brush our teeth, we would immediately recognize that someone else was brushing our teeth, not just because we were not holding the tooth brush, and not only because we could actually see someone in front of us holding and moving our toothbrush, but because *we would feel a totally foreign dynamics inside our mouth*. In short, when we turn attention to habitual movement patterns, to our own *coordinated dynamics*, we recognize *kinesthetic* melodies (Luria, 1966, 1973; see further below); they bear the recognizable stamp of our own familiar qualitatively felt synergies of meaningful movement.

That movement is ‘a change of position’ is only one piece of received ignorance about movement. A further piece concerns space and time, notably, the belief or adage that movement takes place *in* space and *in* time. From a purely objective point of view, there is no quarrel with the claim and thus no difficulty assenting to its truth. But purely objective conceptions of movement belie its experiential realities, which, as even an abbreviated phenomenological analysis shows, constitute a rich and complex qualitative spatio-temporal-energetic dynamic created by movement itself. Interestingly enough, the notion of movement taking place *in* space and *in* time is conceptually tied to the dictionary definition of movement as ‘a change of position’. In fact, given that definition, it is no surprise that movement is conceived as taking place *in* space and *in* time. After all, one can chart *objects in motion*: they go from a certain position or place *here* to a certain position or place *there* over a certain period of time, much as an airplane flies from New York to London. As the phenomenological analysis makes clear, however, movement differs from objects in motion in creating its own time and space and in thereby creating a particular spatio-temporal-energetic qualitative dynamic.

We should note, however, that we can also readily observe objects in motion as having a particular qualitative dynamic, as when we see a plane flying *smoothly* across the sky, or *circling ponderously*, or diving *swiftly down*, our attention being diverted in each instance from an object *changing position* and

moving *in space* and *in time* to inherent qualitative aspects of movement itself. We furthermore have the possibility of paying attention to our own moving body as an object in motion, attending to its dynamics from a third-person viewpoint, as when we are learning a new skill – for example, how to do a *tour jeté*, how to serve in tennis, how to make a surgical abdominal incision, how to articulate words in a foreign language. In regarding our bodies and parts of our bodies as objects in motion, we experience ourselves – and conceive and speak of our moving bodies – in objective terms: we experience ourselves initiating this movement ‘now’ at this moment, our body or parts of our body moving now with this particular speed, range, force and direction, and of terminating this movement ‘now’ at this moment. In short, we readily take up the objective vocabulary of Gowitzke and Miller. When we observe our own movement in this way, we precisely *perceive* our movement, perceive it as *a force or effort* put forth *in time and in space*, a force or effort we are controlling or trying to control every step of the way. We do not *feel* our movement kinesthetically as an unfolding qualitative dynamic, a kinetic form-in-the-making (Sheets-Johnstone, 1966 [1979/1980]); that is, we are not aware of the flowing qualitative spatio-temporal-energetic dynamics of movement itself.

The difference between experiencing the dynamics of movement itself and those of an object in motion moving *in space* and *in time* is well exemplified, even epitomized, by an experience most Westerners have had at some time in the course of their lives. When a fully blown balloon is purposefully untied and allowed to splutter about, it creates a particular qualitative kinetic dynamic. While the balloon is clearly an object in motion that is moving *in space* and *in time*, what we experience in attending to what we verbally label ‘spluttering’ is a vigorous, erratic, highly punctuated, wholly capricious flow of movement that ends in a sudden collapsing stillness. What captures our attention and is at the heart of our experience is *movement*, a qualitative kinetic dynamic, not a balloon in motion. In effect, we have a felt sense of the qualitative dynamics of ‘spluttering’.

A third piece of received ignorance about movement lurks within the distinction between movement and objects in motion (for further analysis of the distinction, see Sheets-Johnstone, 1979). That third piece may in fact be already apparent in the distinction drawn between *perceiving* one’s movement as an objective happening and *feeling* one’s movement as a qualitative kinetic dynamic – what famed neuropsychologist Aleksandr Romanovich Luria in his studies of ‘the working brain’ termed ‘integral kinaesthetic structures or kinetic melodies’ and which he described in painstaking detail (Luria, 1973, p. 176). Contrary to the way in which people commonly speak and write of the experience of movement, we do not have *sensations* of movement. We do not experience movement in the way we experience a twitch or an itch, a darting pain, a shove, a flash of light, a chill, or a peppery taste. As I have pointed out elsewhere, sensations are temporally punctual and spatially pointillist phenomena (Sheets-Johnstone, 2003, 2005, 2006). They are discrete bodily-sensed

events, momentary here-now bodily experiences.<sup>1</sup> In light of the experiential nature of sensations, the problem with ‘kinesthetic sensations’ becomes obvious. We do not experience our everyday movement – reaching for a glass, opening our arms to hug a friend, and so on, movements that are indeed *voluntary* – as a series of discrete moment-by-moment, place-by-place sensations. What we experience is dynamically felt: what we feel is precisely an unfolding *qualitative kinetic dynamic*, a kinetic melody. Moreover that unfolding qualitative kinetic dynamic coincides formally with emotions, with feelings in an affective sense: thus the dynamic congruency of emotion and movement in addition to the semantic congruency of meaning and movement. The dynamic congruency may be analyzed phenomenologically, but I outline it briefly here mainly from an evolutionary perspective.

### On Movement and Emotion

A provocative observation aptly captures the commonly muted kinetic character of adult emotion. The observation was made in the course of a panel discussion on ‘Expression’ during a conference titled ‘Emotions Inside Out: 130 Years after Darwin’s *The Expression of the Emotions in Man and Animals*’ (Ekman *et al*, 2003). In the discussion period, an unidentified audience member comments, ‘I’ve been so excited by this whole presentation of this session [on Expression] because everybody is coordinated into one unit, but what has fascinated me is the absence of the body below the neck [laughter]’ (ibid, p. 273). He or she goes on to explain: ‘I was fascinated by hearing the words, by seeing the faces, but I did not see the talking by the fingers, by the hands, by the movement, poise, and pattern of the people that were moving, sitting, or shifting’.

The muted kinetic character of adult emotion was in fact already remarked on by Charles Darwin and nineteenth-century anatomist Sir Charles Bell. In *The Expression of the Emotions in Man and Animals*, when Darwin lays out his approach to movement with respect to emotions, he quotes Bell. He tells the reader, ‘I have found the following means the most serviceable [for understanding emotions]. In the first place, to observe infants; for they exhibit many emotions, as Sir C[harles] Bell remarks, “with extraordinary force”; whereas, in after life, some of our expressions “cease to have the pure and simple source from which they spring in infancy”’ (Darwin, 1965 [1872], p. 13).

The ‘absence of the body below the neck’ might well be characterized as a chronic metaphysics of absence in what psychologist Paul Ekman considers to be proper ‘scientific talk on the body movements of emotion’, and the absence of ‘flow, or quality, of movement’ as a chronic absence of both dynamics and first-person experience in what Ekman considers to be proper ‘scientific talk on the body movements of emotion’ (Ekman *et al*, 2003, pp. 273–274). The absences conceal precisely ‘the pure and simple source’ of emotions that infants

enjoy, a source that is quintessentially defined by animation and that is not only typically lost in the ‘after life’ of adults but typically unrecognized in the qualitatively blinkered life of many a scientist and philosopher if not academic and non-academic people generally. The deficiency of our ‘after life’ and of a qualitatively blinkered science and philosophy notwithstanding, we can nonetheless clearly recognize that the absences constitute an absence of a whole-body qualitative dynamics. Our voices and faces are part and parcel of those dynamics, part of the qualitative affective-cognitive-kinetic dynamics created by otherwise spontaneously whole moving bodies. Animate bodies are indeed ones from which movement *flows*, and in flowing, creates a qualitative dynamic that, as we have seen, can be elucidated in fine phenomenological detail, a detailing that in truth is far more *kinetically* elucidating and exacting than scientific disquisitions on such topics as ‘emblematic gestures’, ‘illustrator movements’, and ‘self-manipulative movement’, topics used by Ekman to show how movement is *scientifically* related to emotion. As both Darwin and Bell demonstrate, however, and graphically as well as descriptively (Bell, 1844; Darwin, 1965 [1872]), emotions ‘spring’ naturally from the body and in their own distinctive qualitative kinetic dynamics. With respect to rage, for example, Darwin observes:

[R]espiration is laboured, the chest heaves, and the dilated nostrils quiver. The whole body often trembles. The voice is affected. The teeth are clenched or ground together, and the muscular system is commonly stimulated to violent, almost frantic action. But the gestures of a man in this state usually differ from the purposeless writhings and struggles of one suffering from an agony of pain; for they represent more or less plainly the act of striking or fighting with an enemy. (Darwin, 1965 [1872], p. 74)

Even as concerns speech, Darwin observes, ‘The movements of expression give vividness and energy to our spoken words. They reveal the thoughts and intentions of others more truly than do words, which may be falsified’ (ibid, p. 364).

Infant psychiatrist and clinical psychologist Daniel Stern aptly terms kinetically charged affective dynamics ‘vitality affects’, describing them as surging, for example, fleeting, fading, explosive, drawn out, and so on (Stern, 1985). Obviously, to appreciate them, we need to regain touch with our primordial animation by affectively and kinetically interrogating our ‘after life’ as adults. We might then come to beginning realizations of the dynamic congruency of emotion and movement. Darwin does just this in his ‘Concluding Remarks and Summary’ in the final chapter of his book on emotions where he emphasizes ‘the intimate relation which exists between almost all the emotions and their outward manifestations’ (Darwin, 1965 [1872], p. 365). Indeed, both implicitly and explicitly throughout his text he has validated the intimate bond.

In sum, animation involves us in the world, leading us to explore, to doubt, to fear, to strike out, to come to know, to wonder, to delight, and so on. Whatever the ‘movements of expression’, they are foundational to one’s being the animate form one is, whether human, beaver, ant, eagle, scallop, or whatever. Contrary to being puppets in a motorology drama, animate beings in their everyday lives create particular cognitively- and affectively-inflected movement dynamics and straightaway know kinesthetically and/or proprioceptively those qualitatively inflected dynamics and their possible variations. Not only a slip of the hammer but a slip of the tongue discloses an unfamiliar dynamic, a lapse in an everyday synergy of meaningful movement, in this instance, a lapse of semantic congruency. Indeed, human tongues are waggable, not in the same way that dogs’ tails are waggable – human tongues are waggable in far more complex ways, including being mis-waggable and disingenuously waggable – but their dynamic patternings, their synergies of meaningful movement, are articulations on par with comsigns in the animate world at large. Life and movement go hand in hand, which is to say that animate forms of life are indeed animate and that cognition and affectivity are inherent dimensions of their foundational animation. When we properly begin our inquiries with animation, with movement, with the quintessential feature of our aliveness, we have no need for lexical band-aids on the order of embodiment. Minds are not embodied. Bodies are mindful. Mind is indeed a function of body throughout Kingdom Animalia, and movement, in the full richness of its qualitative dynamics, is the stable foundation from which not to argue, but to analyze and to demonstrate the truth of Darwin’s insight.

### About the Author

Maxine Sheets-Johnstone is an interdisciplinary scholar affiliated with the Department of Philosophy at the University of Oregon where she taught periodically in the 1990s and where she now holds an ongoing Courtesy Professor appointment. She began her career as a choreographer/dancer, professor of dance/dance scholar. She has published numerous articles in humanities, science and art journals. Her book publications include *The Phenomenology of Dance*; *Illuminating Dance: Philosophical Explorations*; the ‘roots’ trilogy: *The Roots of Thinking*, *The Roots of Power: Animate Form and Gendered Bodies*, and *The Roots of Morality*; *Giving the Body Its Due*; *The Primacy of Movement*; *The Corporeal Turn: An Interdisciplinary Reader*, and the recently published ebook *Putting Movement Into Your Life; A Beyond Fitness Primer*. She was awarded a Distinguished Fellowship at the Institute of Advanced Study at Durham University in the Spring of 2007 for her continuing research on xenophobia, and an Alumni Achievement Award by the School of Education, University of Wisconsin in 2011.

## Note

1 Sensations may, however, in some instances coalesce to form either a kinetic perception or an affective feeling; see Sheets-Johnstone (2006, pp. 366–367).

## References

- Altmann, S.A. (ed.) (1967) The structure of primate social communication. *Social Communication Among Primates*. Chicago, IL: University of Chicago Press, pp. 325–362.
- Aristotle (1984) *Physics*. In: J. Barnes (ed.). *The Complete Works of Aristotle*. Translated by R.P. Hardie and R.K. Gaye. Vol. 1. Princeton, NJ: Princeton University Press.
- Bell, C. (1844) *The Anatomy and Philosophy of Expression*, 3rd edn. London: John Murray.
- Darwin, C. (1965 [1872]) *The Expression of the Emotions in Man and Animals*. Chicago, IL: University of Chicago Press.
- Darwin, C. (1976 [1881]) *Darwin on Earthworms; the Formation of Vegetable Mould Through the Action of Worms with Observations on Their Habits*. Ontario, CA: Bookworm.
- Darwin, C. (1981 [1871]) *The Descent of Man and Selection in Relation to Sex*. Princeton, NJ: Princeton University Press.
- Darwin, C. (1987 [1838–1839]) *Charles Darwin's Notebooks, 1836–1844*. In: P.H. Barrett, P.J. Gautrey, S. Herbert, D. Kohn and S. Smith (eds.) Ithaca, NY: Cornell University Press.
- Dennett, D. (1991) *Consciousness Explained*. Boston, MA: Little, Brown.
- Ekman, P., Campos, J.J., Davidson, R.J. and de Waal, F.B.M. (eds.) (2003) Expression: Panel discussion. In: *Emotions Inside Out: 130 Years after Darwin's The Expression of the Emotions in Man and Animals*, Annals of the New York Academy of Sciences, Vol. 1000. New York: New York Academy of Sciences, pp. 266–278.
- Flanagan, O. (1984) *The Science of the Mind*, 2nd edn. Cambridge, MA: MIT Press.
- Flanagan, O. (1992) *Consciousness Reconsidered*. Cambridge, MA: Bradford Books/MIT Press.
- Gowitzke, B. and Milner, M. (1988) *Scientific Bases of Human Movement*, 3rd edn. Baltimore, MD: Williams and Wilkins.
- Kelso, J.A.S. (1995) *Dynamic Patterns: The Self-Organization of Brain and Behavior*. Cambridge, MA: Bradford Books/MIT Press.
- Kelso, J.A.S. and Engström, D.A. (2006) *The Complementary Nature*. Cambridge, MA: Bradford Books/MIT Press.
- Luria, A.R. (1966) *Human Brain and Psychological Processes*, Translated by B. Haigh. New York: Harper & Row.
- Luria, A.R. (1973) *The Working Brain: An Introduction to Neuropsychology*, Translated by B. Haigh. Harmondsworth, UK: Penguin Books.
- Sheets-Johnstone, M. (1966 [1979|1980]) *The Phenomenology of Dance*. Madison, WI: University of Wisconsin Press, Second editions: 1979, London: Dance Books Ltd; 1980, New York: Arno Press.
- Sheets-Johnstone, M. (1981) Thinking in movement. *Journal of Aesthetics and Art Criticism* 39(3): 399–407, expanded version in Sheets-Johnstone (1999b), Chapter 12; Sheets-Johnstone (2009b), Chapter II.

- Sheets-Johnstone, M. (1990) *The Roots of Thinking*. Philadelphia, PA: Temple University Press.
- Sheets-Johnstone, M. (1998/2009b: Chapter VII) Consciousness: A natural history. *Journal of Consciousness Studies* 5(3): 260–294.
- Sheets-Johnstone, M. (1999a, 2009b: Chapter VIII) Emotions and movement: A beginning empirical-phenomenological analysis of their relationship. *Journal of Consciousness Studies* 6(11–12): 259–277.
- Sheets-Johnstone, M. (1999b/expanded 2nd edn, 2011) *The Primacy of Movement*. Amsterdam, The Netherlands/Philadelphia, PA: John Benjamins Publishing.
- Sheets-Johnstone, M. (2003) Kinesthetic memory. *Theoria et Historia Scientiarum: An International Journal for Interdisciplinary Studies*, special issue on ‘Embodiment and Awareness’. In: S. Gallagher and N. Depraz (ed.) VII(1): 69–92, also in Sheets-Johnstone (2009b), Chapter X.
- Sheets-Johnstone, M. (2005) What are we naming? In: H. De Preester and V. Knockaert (eds.) *Body Image and Body Schema*. Amsterdam, The Netherlands/Philadelphia, PA: John Benjamins Publishing, pp. 211–231, also in Sheets-Johnstone (2009b), Chapter XIII. (This article/chapter was originally presented as the Keynote Address at a conference titled ‘Body Schema and Body Image: (Neuro)phenomenological, (Neuro)psychoanalytical and Neuroscientific Perspectives’, Ghent, Belgium, 2003.).
- Sheets-Johnstone, M. (2006) Essential clarifications of ‘Self-Affection’ and Husserl’s ‘Sphere of Ownness’: First steps toward a pure phenomenology of (human) nature. *Continental Philosophy Review* 39(4): 361–391.
- Sheets-Johnstone, M. (2009a) Animation: The fundamental, essential, and properly descriptive concept. *Continental Philosophy Review* 42(3): 375–400.
- Sheets-Johnstone, M. (2009b) *The Corporeal Turn: An Interdisciplinary Reader*. Exeter, UK: Imprint Academic.
- Stern, D.N. (1985) *The Interpersonal World of the Infant*. New York: Basic Books.
- Velmans, M. (2007) The co-evolution of matter and consciousness. *Synthesis Philosophica* 22(2): 273–282.
- von Frisch, K. (1964) *Bees: Their Vision, Chemical Senses, and Language*. Ithaca, NY: Cornell University Press.
- von Frisch, K. (1967) *The Dance Language and Orientation of Bees*. Cambridge, MA: Harvard University Press.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.