

**GROUP COGNITION IN PRAGMATISM,
DEVELOPMENTAL PSYCHOLOGY AND AESTHETICS**

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ABSTRACT: From embodied pragmatic and phenomenological standpoints, the body is a system that falls into synchrony by coordinating around worldly contours. This engenders sensorimotor organization that constitutes perception, a view also defended by enactivists. I examine how similar coordinations occur in group contexts. I begin with a Deweyan account of perception. I then consider group action, locating Colwyn Trevarthen's developmental research in a Deweyan framework, later linking it to Dewey's aesthetics, which helps explain how perceptual and cognitive coherence emerge. I connect all this to the notion of "social affordances" with the aim of expanding on Dewey's idea of experience as culture. I conclude that our psychological landscape begins as overwhelmingly social and remains so throughout life. By asserting this, I do not deny that physical movement is at play from day one, but suggest that it is intertwined with social life and social affordances all along, rather than the latter being built upon the former.

I. Introduction

From the standpoint of John Dewey, along with phenomenologists such as Maurice Merleau-Ponty, the body is not a collection of adjacent organs, but a synergistic system that falls into synchrony by coordinating around worldly contours. From embodied pragmatic and phenomenological standpoints, moreover, not to mention that of enactivists such as Kevin O'Regan, Alva Noë, Daniel Hutto and Eric Myin, this brings about sensorimotor organization that constitutes perception, as when fingers—which could in principle move this way and that—cohere around explorations of a bottle, integrating movement and sensation into perception.

In what follows, I examine how comparable coordinations occur in group or social contexts and have similar integrative outcomes in our experiential landscape. However, I also look at differences between the two cases. I start by considering some of what Dewey and like-minded thinkers say about perception. I then discuss group action, attending especially to the

developmental research of Colwyn Trevarthen, who in fact cites influences in embodied philosophical traditions (see Trevarthen 2015a, 403). I later connect this to Dewey's aesthetics, which helps explain how perceptual and cognitive coherence develop. After this, I consider research on aesthetic and social affordances—all of this in order to fill in and expand upon Dewey's idea of experience as culture. A little against certain recent accounts insinuating that, on a Deweyan account, physical movement is primary in experience (see Crippen 2014, 2016a, 2017), I conclude that our psychological landscape begins as overwhelmingly social and remains so throughout life. By asserting this, I do not deny that physical movement is at play from day one, but suggest that it is intertwined with social life all along, rather than the latter being built upon the former. I also argue that the social world affords and constrains actions and therewith experiences in ways similar to the primarily physical world, and, at the same time, that social affordances introduce something new insofar as many are not present in the immediate brute world. Taken together, this emphasizes that the notion of experience as culture is more than a standard sensorimotor account, even while intimately related to it. This is the main point I hope to establish, along with the continued fruitfulness of Dewey's ideas in contemporary work on mind.

II. The Body as Synergistic Activity

We reach out for things and press into them, giving into and receiving their form. When handling a round, lacquered table leg, our fingertips glide over a surface that somewhat pulls but does not bite flesh, so that grainy, slightly oily smoothness is undergone in the course of the interaction. So too is the roundness of the leg as our fingers wrap around it and receive its form. As Dewey (1934) accordingly argued in a mix of language that accepts some of what both rationalists and empiricists say, perception is "an act of the going-out ... in order to receive" (53), and the qualities experienced are consequences of our explorations and

manipulations. This idea has roots in many places, including ancient philosophy, C. S. Peirce's pragmatic maxim and psychological theories emphasizing the motor-body that were in vogue in the late 19th and early 20th century (see Crippen 2016a, 2017). It continues in the work of Merleau-Ponty (1945), who emphasized that things handled utilize "the time occupied by our tactile exploration[s]" and "modulates the movement of our hand" (315), thereby patterning perceptual experiences. The idea remains a cornerstone in enactive theory, with Noë (2004, 73) and Erik Myin and Jan Degenaar (2014, 91) offering examples nearly identical to Merleau-Ponty's.

What applies to tactile experience pertains broadly to perception, which is generally an effect of bodily coordinations with sensory phenomena. That it involves bodily coordinations means it is also a product of changes introduced to the world. On a trivial level, the cornea bends light reflected from the lacquered wood, with the lens adjusting and modifying it further to bring it into focus. This involves a bodily coordination and a change to the world, namely, the bent light. On a less trivial level, our gaze is exploratory, and consequently involves more than the eye. When looking at the surface of a wooden table, to use Dewey's (1934) words, "[i]t is not just the visual apparatus" that becomes active, "but the whole organism" (122). Though we tend to isolate "the optical apparatus ... in anatomical dissection" and philosophical discussion, "it never *functions* in isolation. It operates in connection with the hand in reaching for things and in exploring their surface, in guiding manipulation of things, in directing locomotion" (100). At a Christmas party, the sight of a table overflowing with food and drink invites outstretched arms, grasping, clinking, inhaling aroma, opening of mouths, chewing, gulping and more, not to mention gathering and chattering. All of this together characterizes the experience. Notice, moreover, that although we sometimes look without grabbing and so forth, we in fact spend most of our waking life handling and ambulating. This means coordinating actions around

contours of environments and things in them, and introducing changes. Consequently we come to see the world in terms of possibilities of action, even when not moving, a view prominently expressed not only by pragmatists, but also in Merleau-Ponty's phenomenology, J. J. Gibson's (1979) theory of affordances and enactive theory.

For such reasons enactivists, along with earlier commentators such as Dewey and Merleau-Ponty, suggest visual experience, like the example of tactile perception, is constituted through action. Noë (2004) explains:

Like touch, vision is *active*. ... You and your eyes move around the scene the way you move your hands around the bottle. As in touch, the content of visual experience is not given all at once. We gain content by looking around just as we gain tactile content by moving our hands. You enact your perceptual content, through the activity of skillful looking (73).

Enactivists consequently maintain that visual experience and indeed all perception "is constituted by the exercise of a range of sensorimotor skills" (Noë 2004, 90). Numerous experiments testify to this. One is Paul Bach-y-Rita's (e.g., 1983, 1984; and Kerckel, 2002) work on tactile-vision substitution devices where a head-mounted camera delivers stimulation via vibrations on skin or electrical current on the tongue. After actively exploring their environment for a time, users are able to identify positions and numbers of objects, to grasp them and acquire an analogue to vision. The point, again, is that perception is a matter of how sensation coordinates with bodily action directed at the world. This suggests not only that seeing is constituted through action, but that it is also "an affair of readiness on the part of motor equipment" (Dewey 1934, 98). Thus when we encounter doorknobs or sidewalks, we perceive things we can grab and pathways for walking, even if we chose not to reach or move.

According to Dewey and more recent commentators (e.g., Varela, Thompson and Rosch 1991, Ch. 8; Kühle 2017), we in fact learn to see by virtue of how our bodily actions and sensations have synchronized with the world; and when we act, as already emphasized, it is never with just one capacity. Eating popcorn, for example, mobilizes many modalities, including seeing, hearing, tasting, smelling, reaching, chewing, swallowing and much more, not to mention socially integrative emotions when it is shared in movie theaters. All of this joins to become “members of a single act” (Dewey 1934, 256), so that “[m]otor and sensory structure form a single apparatus and effect a single function” (Dewey 1934, 255), and perception occurs insofar these capacities and sensitivities, along with emotional and intellectual ones (Dewey 1934, 22, 53), “work in relation with one another” (Dewey 1934, 175). They do this insofar as they synchronize and “intercommunicate by opening on to the structure of the thing,” as Merleau-Ponty put it (1945, 229). It is for reasons like this that he said that “the body is not a collection of adjacent organs, but a synergic system, all the functions of which are exercised and linked together in the general action of being in the world” (1945, 234).

III. Group Activity and Nascent Social Life

Anthony Chemero (2016), who is influenced by both pragmatism and phenomenology, notes that “a bicycle responds to your action, while simultaneously constraining it” (148). The responding and constraining form what Dewey understands to be perception of the world, in this case a predominately kinematic one. The oft-cited situation with a blind person tapping and perceiving with a cane is similar, only in this case its point becomes “an area of sensitivity, extending the scope and active radius of touch, and providing a parallel to sight” (Merleau-Ponty 1945, 143). Introducing two or more organisms into the interaction changes things, but with similarities also preserved. Two dancers “engage in constant push and pull so that they form a unit”

(Chemero 2016, 148), much as the blind individual, cane and world do. As with individual bodies, multi-organism activity can thus form synergic systems that coordinate around environmental contours. An illustrative example is beetles falling into coordinated activity around balls of dung, gravitational forces and so forth to roll dung rapidly over significant distances. A more impressive example is the Portuguese man o’ war (see below). Although it resembles a jellyfish, complete with venomous tentacles, it is not in fact a single organism, but a colony of them that form a synergic unity to the point that the group appears as one animal. This shows that what goes on with individual bodies also occurs in group settings. There are numerable examples of group activity in the human world, whether in sports, raising glasses at a Paris dinner or in back-and-forth banter, and they are not unlike coordinations that are the bases of our perception with the world.

Group coordination can become more complex still. John Steinbeck (1939) provides a nice example and one reminiscent of Martin Heidegger, not to mention Dewey. In *The Grapes of Wrath*, he described Great Depression migrants flocking to California:

The cars of the migrant people crawled out of the side roads onto the great cross-country highway, and they took the migrant way to the West. In the daylight they scuttled like bugs to the westward; and as the dark caught them, they clustered like bugs near to shelter and to water. ... [T]hey huddled together; they talked together; they shared their lives, their food, and the things they hoped for in the new country. Thus it might be that one family camped near a spring, and another camped for the spring and for company, and a third because two families had pioneered the place and found it good. And when the sun went down, perhaps twenty families and twenty cars were there.

In the evening a strange thing happened: the twenty families became one family, the children were the children of all. [...] In the evening, sitting about the fires, the twenty were one. They grew to be units of the camps, units of the evenings and the nights. A guitar unwrapped from a blanket and tuned—and the songs, which were all of the people, were sung in the nights. Men sang the words, and women hummed the tunes.

Every night a world created, complete with furniture—friends made and enemies established; a world complete with braggarts and with cowards, with quiet men, with humble men, with kindly men. Every night relationships that make a world, established (264-265).

Steinbeck added that “[a] certain physical pattern is needed for the building of a world” (266). This might include “water, a river bank, a stream, a spring, or even a faucet unguarded. And there is needed enough flat land to pitch the tents, a little brush or wood to build the fires” (266-267).

Chemero and his research team have developed fairly cogent laboratory demonstrations of group synergy, albeit nothing of course approaching the Steinbeck or Portuguese man o’ war example. As Chemero (2016) explains:

In our collective problem solving research, pairs of individuals engage in a joint sheep herding task. They control ‘sheep dogs’ that work to corral sheep into the centre of an arena over the course of a series of 60-second trials. In a successful trial, the pairs keep all of the sheep (three, five, or seven of them, depending on the trial) in the inner circle of the arena in for 70% of the last 45 seconds of a trial. If any sheep touches the edge of the arena or if all of them are outside the outer circle for any portion of the trial, the trial is halted. The pairs were not allowed to speak with each other. Nearly all of the pairs managed to succeed at the task, and nearly all of them had the same progression of strategies. In early trials, pairs engaged in what we call search and rescue, in which each player tries to round up the sheep on their side that is furthest from the centre. This strategy does not work. After several failed trials at this strategy, many of which include participants bumping into one another while trying rescue sheep, successful pairs switch to a strategy in which they coordinate with one another in an oscillatory pattern, either in phase or antiphase (145).¹

A central point for Chemero is that activity rapidly becomes joint, so that two people become one synergy, or, in a way, an organism since the root of the word

“organism” is organization (see Abate 1999, 698). Insofar as these activities are sensorimotor coordinations, there are grounds for positing that experience to can become joint.

Although lacking this kind of experimental verification, Dewey of course recognized the relevance of group activity in experience. He did so by explicitly equating the two, and also by drawing from Greek thinking that understood experience as custom and cultural habit. In drawing on ancient ideas, Dewey emphasized that having experience meant being experienced and hence skilled, an observation reinforced by etymology. Since skills are overwhelmingly acquired in social contexts, for example, apprenticeships, whether formal or informal, this again highlights the potentially cultural and thus group nature of experience.

The cultural side of experience is a point that enactivists of a Noëian vein came to late and have elaborated on too little given that the outlook explicitly equates perception to sensorimotor skill. A reason that the cultural side has historically been understated may relate to an obstacle Dewey faced in advancing his concept of experience, namely, that Modern era thinkers had overwhelmingly reduced it to impressions hitting passive sense organs. This understanding excludes the role of active bodies and group activity, and makes experience an essentially internal phenomenon, an idea Dewey of course challenged. Dewey thus lamented that his concept had been misunderstood, which is why, late in life, he famously declared that he would, were he to rewrite *Experience and Nature*, be more explicit, and give it the title “Culture and Nature” (see Dewey c. 1951, 361). While sounding a little odd to Modern ears, everyday language sometimes equates experience to culture and also worlds, as when we speak about the French experience, world or culture, or the world, culture or experience of student life; and Dewey in fact suggested that our first experiences and those that follow are overwhelmingly social.

¹ To see get compelling sense of this phenomenon, see videos at: <http://www.emadynamics.org/bi-agent-sheep-herding-game/>.

In *Human Nature and Conduct* (1922), he noted that “each person begins a helpless, dependent creature” (62), and added in *Reconstruction in Philosophy* (1920) that “the contacts of the little child with nature are mediated by other persons. Mother and nurse, father and older children, determine what experiences the child shall have” (92). Then, summing up, he wrote: “[t]here is doubtless a great mystery as to why any such thing as being conscious should exist at all.” However, “there is no mystery in its being connected with what it is connected with. By this, Dewey meant “both that it will be shared by those who are implicated in the associative custom, or more or less alike in them all, and that it will be felt or thought to concern others as well as one’s self (1922, 62). Dewey accordingly maintained that our behavioral and psychological landscape is intertwined with that of others from the very beginning and that this continues through life.

Trevarthen has advanced a highly detailed version Dewey’s insight, illustrating the emphatically sensorimotor nature of connections between infants and caregivers, and showing the two are coupled units, defining one another’s behavioral and psychological terrain. His research and that of likeminded scholars shows that neonates coordinate the rhythms of their movements and gaze with those of caregivers, responding to purposeful activity and emotional expressions, while also engaging in behaviors that are “seductive” insofar as they provoke caregivers into particular interactions (e.g., Trevarthen 2011, 2015a). He cites evidence that sympathetic adjustments of heart rates even occur during interactions. Together this suggests that infants are finely attuned to their environment, which at early stages centers on caregivers, and that for interactions to proceed, caregiver and infant must be attuned to one another. Consequently infants become avoidant and distressed when “the mother’s behavior, however friendly and expressive, is inappropriate in timing and unreactive to what the baby is doing” (Trevarthen 2015a, 405). Caregivers, likewise, are sensitive to noncongruent expressions from their infants. The conjunction of all this indicates that infants undergo

actions in response to—as opposed to mere imitation of—caregivers, from whom they also elicit reactions.

In these intersubjective situations, expressions occur in a sensorimotor loop within which, for example, the infant makes eye contact, the mother smiles, the baby coos, the mother vocalizes in response, then the infant, and so it goes back and forth with the cycle continuing. In Deweyan language, parent and child engage in mutually provoking and receptive expressive behavior, and undergo affectively charged actions of doing and undergoing as coupled units. Adopting this theoretical framework and backed by years of observation, Trevarthen accordingly insists on the following, obvious in pragmatic circles, but apparently less so in his: that infants are not passive receptivities of stimuli and are not wholly governed by the actions of others since they are also elicitors of behaviors in the dyad.

This points to something else obvious, but nonetheless important: that organisms change their environments. As Dewey (1920) remarked:

Even a clam acts upon the environment and modifies it to some extent. It selects materials for food and for the shell that protects it. It does something to the environment as well as has something done to itself. There is no such thing in a living creature as mere conformity to conditions, though parasitic forms may approach this limit. In the interests of the maintenance of life there is transformation of some elements in the surrounding medium. The higher the form of life, the more important is the active reconstruction of the medium (84-85).

Explicitly advancing such a notion of world-making, Trevarthen (2011) quotes Alfred North Whitehead, who offered a position very similar to Dewey and numerous others when he observed that:

There are two sides to the machinery involved in the development of nature. On the one side there is a given environment with organisms adapting themselves to it. The other side of the evolutionary machinery, the neglected side, is expressed by the word creativeness. The organisms can create their own environment (Whitehead 1926/1953, 140).

Whitehead added that creativity nearly always demands joint activity because single organisms are almost helpless. The adequate forces needed to fruitfully change environments require cooperating groups.

These observations apply emphatically to infants, only here the primary environment is social in that it centers on other people. In addition to exhibiting self-synchrony, so that their body and hand motions, facial expressions and vocalizations coordinate together, neonates display “inter-synchrony.” That is, they show sympathetic alignment “with the movements of looking and speaking of an adult” (Trevarthen 2011, 128). As discussed, however, infants do not merely align with caregivers, but act to elicit behaviors from them, indeed, within hours of birth. Hence, almost from the beginning, they show a propensity to change their environments. Soon after they “can draw a sympathetic adult[s] into synchronized negotiations [...], which can develop in coming weeks and months into a mastery of the rituals and symbols of a germinal culture, long before any words are learned” (Trevarthen 2011, 121). From almost the time they are born, accordingly, infants begin enacting and developing sensorimotor skills geared specifically at provoking, responding to and maintaining interpersonal dialogues. Thus along pragmatic and enactive lines, skill is central to sensorimotor coordinations, even at early stages. On such grounds, Trevarthen concludes that infants spontaneously direct well-formed movements that exhibit selective awareness and affective appraisals; they show coherent, rhythmic and purposeful consciousness.

All of this reinforces the thesis that infants come equipped to actively evoke responses and to form coupled-units with caregivers, and, soon after, other children and therewith communities. A few more passages from Trevarthen are worth quoting at length. He writes that “[c]ultures depend on a ceaseless, highly creative learning process, which does not just come from instructing the young” (2009a, 507). Rather, it is also “motivated by an innate human talent for companionship in experience, which is mediated by an

intersubjective transfer of intentions, interests, and feeling in conversations of rhythmic motor activity” (2009a, 507). Thus, “[b]efore language is learned, the child is already becoming a thinker and actor in cultural ways. The motivation for this learned transformation in activities and experience appears to be a direct outgrowth of the integrated mobility” (2009b, 25-26). Trevarthen goes on to say: “What may be called socio-ceptive regulation of actions, in relationships and communities, leads to development of collective ways of behaving that provide an environment of common understanding: a habitus for cooperative life” (2009b, 33). Though these are Trevarthen’s words, this is precisely the point Dewey made in the opening quotations from *Reconstruction in Philosophy* and *Human Nature and Conduct*, as well as the revised introduction to *Experience and Nature* drafted in his last years. In these and other writings, he repeatedly emphasizes the emphatically shared and cultural nature of experience, which begins at infancy and continues through life.

IV. Social Experience and Nascent Aesthetic Experience

Anything that can be called “experience” in Dewey’s sense of the term has a basic level of integration. Suppose a cross-country skier thrusts her poles and edges her skate-skis into snow. In consequence of this doing, of this combination of actions directed at the environment, her body undergoes motion. It propels forward. She keeps repeating the same actions, each time undergoing forward motion. Her doings and undergoings fall into a rhythmic connection of “means-consequence.” Integrated experience is the result.

While a basic level of sensorimotor integration is a precondition of experience, it is not sufficient for “having an experience,” a phrase Dewey (1934) used to describe an aesthetic experience. He wrote: “we have an experience when material runs its course to fulfillment. Then and then only is it integrated within and demarcated in the general stream of experience from

other experiences." Such an experience "is rounded out so that its close is a consummation and not a cessation." It "is a whole and carries with it its own individualizing quality and self-sufficiency. It is *an* experience" (35).

Imagine, for example, that the aforementioned woman skis on a day when the sun shines; when fresh snow sparkles on pine bows; when birds sing, and squirrels scurry; when the air is refreshingly crisp, but not biting cold; and when the ski conditions are optimal. The trail has interesting twists and turns, ups and downs; sometimes it burrows through snow-laden trees, sometimes through meadows; at one point it crests a steep hill and comes upon a breathtaking view; at another point it wanders alongside a gurgling creek. Some portions of the trail are demanding; others are traveled with ease. Imagine further that the woman is engrossed in the activity of skiing through this varied environment. Her mind does not wander to the office meeting she has tomorrow or to the books she forgot to return to the library yesterday. She "loses herself" in the environment with which she interacts.

A first point to note is that this experience stands out from the general stream of day-to-day experience. It also stands out from the woman's general experience of skiing in the past. It is an enduring memorial to what skiing can be. A second point to note is that the woman is especially integrated with her environment. Under normal circumstances, her bodily movements coordinate around her interactions with the trail, but her attention often drifts elsewhere. On this day, her movements, her perceptual faculties, nearly her entire conscious self coordinates and engages with the things she encounters. A third point to note is that her experience has a highly dramatic structure. Shifts between demanding and less demanding portions of the trail introduce rhythms of tension and repose, and variations in scenery introduce mini-climaxes. A particular highlight is the view she discovers after struggling so hard to crest the steep hill. For these reasons, her experience stands out as *an* experience. To re-quote Dewey (1934), it is "demarcated in the general stream of experience from other

experiences" (35). It is highly integrated. It runs "its course to fulfillment" (35), or rather a series of fulfillments, with especial highlights. As with focal points in a painting, these fulfillments and highlights pull the experience into a unified whole that "carries with it its own individualizing quality and self-sufficiency. It is *an* experience" (35).

Trevarthen's account of parent-child coupling in many ways parallels what Dewey says about aesthetic experience, and this is not entirely surprising given the former's early training. His work began in Jerome Bruner's laboratory where he and colleagues investigated whether young infants expect and build trusting social engagements through shared games that develop into story-making and linguistic communication (see Trevarthen 2013, 2015a), in effect, emphasizing the dramatic or narrative-like structure of early behavior. In addition to Bruner, Trevarthen acknowledges a kinship to Edward Tronick (e.g., 1989, 2005; Weinberg and Tronick 1994), among others, who advances a dyadic theory of consciousness, and also a kinship to Lou Sander's (2012) systems theory, which characterizes co-consciousness as mutual regulation of emotions through which caregiver and infant "join their separate conscious brain activities to generate a more highly organized state of awareness" (Trevarthen 2015, 396). Thus Trevarthen also highlights the loss of self into the world—the world, however, primarily being the caregivers interacting with the infant, at least at early stages. His account simultaneously illustrates how a grasp of self and the individuality of others arise from these early interactions—a point to be discussed later.

Connecting findings to what Dewey would have understood as nascent aesthetic experience, Trevarthen (2011) notes that "[d]ialogues with 2-month olds exhibit ... rhythmic steps, affective melodies and narrative envelopes of energy cycles" (129). Proto-conversation occurs early, at about four weeks, and play emerges around three months. After five months, games develop a level of sophistication such that caregivers may tease in captivating manners, and infants reciprocate by

“acting in provocative ‘disobedient’ ways for fun” (Trevarthen 2015b, 137). The development of games and narrative arguably plays a role in integrating experience and increasing coherence of the world. By three months, infants and mother invent game routines, “practiced repetitively and remembered with pleasure,” and by about six months “narrative forms in games and songs” enter the exchanges (2015a, 407). Trevarthen cites Stephen Malloch’s (e.g., Malloch 1999; Malloch and Trevarthen 2009) theory of communicative musicality, which suggests that expressive sounds and movements exchanged between infant and caregiver have a pulse and drama such that proto-conversation forms a melodic story (see Trevarthen 2012, 30). More broadly, Trevarthen suggests that “meaning grows by confirming and ‘cultivating’ innate rhythms and values” and hence dramatic structure “in communication, and it is fabricated with *aesthetic sensibility*” (2009a, 512).

For thinkers such as Dewey, narrative—or more broadly, dramatic structure—is at the basis of experience. Moreover, because experience has narrative structure, it is also reconstructive. Leon de Bruin and Sanneke de Haan (2012) likewise observe that narrative practices are reconstructive, but add that they represent developments that cannot be explained in terms of sensorimotor coupling (see 236-237). However, while an exclusively sensorimotor account is impoverished, basic narrative in experience arguably cannot be explained without it either. Dewey (1920), for example, wrote that:

The organism acts in accordance with its own structure, simple or complex, upon its surroundings. As a consequence the changes produced in the environment react upon the organism and its activities. The living creature undergoes, suffers, the consequences of its own behavior. This close connection between doing and suffering or undergoing forms what we call experience. ... [S]uppose a busy infant puts his finger in the fire; the doing is random, aimless, without intention or reflection. But something happens in consequence. The child undergoes heat, he suffers pain. The doing and undergoing, the reaching and the burn, are connected. One comes to suggest and mean the other. Then there is experience in a vital and significant sense (86-87; also see 1934, 43-45).

Here, also, basic narrative emerges, with a chain of events culminating in a climatic movement that welds them together meaningfully. Moreover, although the experience is not exclusively sensorimotor, it predominately is. The proto-games Trevarthen describes have much the same structure. This is not to deny that more is involved. For example, at points games may entail, at least on the side of the caregiver, a level of abstraction that involves de-coupling. However, this does not undermine the claim that embodied sensorimotor engagements—linguistic and pre-linguistic—are primary from very early stages. Moreover, if de-coupling goes on, ultimately re-coupling also occurs insofar as narratives organize and structure environmental interactions (see de Bruin and de Haan 2012, 238), something also central in Trevarthen’s scheme.

Aesthetic experience is of course more emphatically dramatic than the example with the burn. Hence it is more integrated. A movie, for instance, coheres around climactic movements that pull incidents in it together, so that we see it as *a* movie, that is, a whole (Crippen 2016b; Chudoba 2017). The same principle is at play in paintings. Drama develops in time by virtue of the way the eye roams the canvas and rests on culminating focal points, so that we experience the work as a unified whole (see Dewey 1934, 174). This happens in everyday life as well, as when somebody skis a trail with interesting twists and turns, and comes upon a climactic view after a strenuous climb, and remembers the day as a single episode that held together as *an* experience (see Dewey 1934, Ch. 3). From early stages onwards, it appears that many infant-caregiver interactions satisfy these conditions. At its height, aesthetic experience in the Deweyan sense can involve a dissolving of self into world (see Kestenbaum, 1977, 27), as when we lose ourselves in a movie, painting or day of skiing. Interestingly, this last aspect appears to be the default starting point of human experience. As Noë puts it, echoing Trevarthen seemingly without knowing it, “[c]hildren are not separate; they are not observers;

they are regulated by their mothers' soothing or alerting tones, eye contact, gestures, and touch. A mother is literally one of the structures constituting a child's psychological landscape" (Noë 2009, 31).

At the same time, infants, by six months, come to have a greater sense of themselves as individuals, sometimes "showing off" and exhibiting "a proud performer's personality" (Trevvarthen 2011, 129). They appear to recognize others as agents. For instance, they manifest a grasp of others' intentionality, turning to look at the same object as caregivers, as opposed to merely mimicking their movements (Merleau-Ponty 1964, esp. 34). They show sensitivity to identity and a grasp of manners, exhibiting "teasing happiness in the company of familiar playmates, shyness with intrusive approach of a stranger, and shame when unable to sustain ... a familiar performance with someone who does not play their part" (Trevvarthen 2011, 129). To perhaps overstate the case, they almost seem to encounter themselves and others as *an* experience, a more or less "unified whole that "carries with it its own individualizing quality and self-sufficiency," to re-quote Dewey once again (1934, 35).

More plausibly, however, caregivers form loci around which behaviors and arguably experiences of infants coordinate. Infants do the same for those engaging with them. In the same way that brush strokes tumble and cohere around focal points; in the same way, that the two fuse in relations of means-consequence, so that a focal point is what it is by virtue of the strokes leading to it, whose function is simultaneously defined by where they lead, the integration of doing and undergoing between caregiver and child is tightly bound and united; and it dramatically builds in such a way to bring about aesthetic experience or at least pre-conditions of it. Consequently what might otherwise be isolated fragments of sensation and behavior pull together into episodes that have structure and endure as a whole over time. Insofar as these aesthetic or proto-aesthetic social interactions entail coordinations of sensory and motor capacities, they arguably form bases for sensorimotor perception, and out of this a cognitive grasp on the world emerges.

V. Perception and Group Activity

I will conclude by returning to Dewey's theory of perception, which is in the historical lineage leading to Gibson, and very similar to Merleau-Ponty's, who also influenced Gibson (see Reed 1988; Heft 2001; Chemero and Käufer 2016). Using some observations from husband and wife team, Rachel and Stephen Kaplan, I will elaborate a little on how aesthetic perception falls within the domain of what J. J. Gibson (1979) calls affordances; and applying recent observations from Joel Krueger (2011), I will specifically endeavor to explain how Dewey's sensorimotor account of perception, and therewith those of Merleau-Ponty and more recent figures in the enactive movement, apply on a cultural level.

In a vein loosely reminiscent of Dewey, the Kaplans argue that everyday perception is aesthetic. To consider one of their more prominent examples, they have conducted experiments suggesting that people are particularly tempted by well-lit clearings partly blocked by foliage or trails disappearing around bends (e.g., S. Kaplan, R. Kaplan and Wendt 1972). So as some pieces of art have an enticing quality drawing audiences in, some settings induce people deeper into them. They possess what the Kaplans call "mystery," here defined as an allure that arises from things "partially hidden," which "tempts one to explore further" (R. Kaplan and S. Kaplan 1989, 58). Mystery, in other words, involves the promise of discovery (S. Kaplan 1988, 50). Building on cases such as this, the Kaplans (1989) propose that aesthetic perception reflects "a very rapid (albeit unconscious) assessment of what it is possible to do in the setting" (37), and conclude that it falls within what Gibson called affordances (S. Kaplan 1987; also see Crippen, 2016c). Though the Kaplans focus predominantly on natural environments, what they say applies on a social level as well. Thus, for instance, an infant's seductive smile might possess an aesthetic sense of mystery that draws caregivers into engagements, whose provocative actions and responses might do the same for the child; playfully

disobedient behavior might have similar effects; and, as discussed, infant and caregiver might accordingly coordinate into rhythms of doing and undergoing. In consequence of this joint activity, integrated behavior and arguably coherent if not aesthetic experience results.

Krueger (2011), in defending an extended account of cognition, has argued something along these lines, emphasizing affordances and suggesting that human expression is an interactive form of space management. Some expressive actions—for example, touch, body movements, facial expressions and gestures, all basic to Trevarthen's account—are ways by which we bring about and manipulate what Krueger calls we-space, that is, interpersonal space. This implies that not all cognitive processes are driven by neural scaffolding, a point on which Dewey, Merleau-Ponty and enactivists agree. For a we-space to form, there has to be a co-presence between two or more humans, Krueger argues, and co-presence is not merely about physical proximity; it depends also on subjects becoming accessible to one another. As we have seen, infants' actions are continuously and self-consciously influencing and responding to caregivers, and vice-versa. And while these interactions precede the emergence of the ability to formulate concepts of self and other, Krueger argues that they are nevertheless characteristic of "an early, proto-joint-attentional, perceptual and affective grasp of others as intentional agents" (646). For reasons already discussed and to be elaborated upon, they also bring about great potentiality for aesthetic form in human space.

Such conduct includes tracking and responding to intonation of adult frequencies and co-vocalizing with caregivers, and these behaviors emerge as early as three days, according to researchers Krueger (2011) cites (see Lieberman 1967; Rosenthal 1982). People within this we-space focus on the faces of partners and the complementarity of reciprocal actions, and this cultivates affective intimacy that is a framework for interpersonal communication. So far this adds little to

what Trevarthen has been saying for years, not to mention Dewey and Merleau-Ponty in less developed form, along with numerous psychologists on which Trevarthen and in fact Merleau-Ponty draw. But where I think Krueger adds something important—though others have too insofar as "social affordances" are a hot topic—is in his observation that "gestures actively structure we-space by simplifying choice" (650; also see Solymosi 2013). Specifically, writes Krueger, "gestures and other kinds of bodily expressiveness draw attention to social affordances within we-space that both constrain as well as cue trajectories of available interaction" (650). This is very similar to points Chemero, Dewey and the Kaplans, among others, make, only in this case the constraining factors are social, as opposed to being in the brute physical world.

According to Krueger, interactive, jointly-constituted or co-regulated aspects of social affordances mean that the experience of bodily co-presence of other people is different from that of a piece of equipment or other physical objects. This is because "[t]he latter, as affordances, are ignored or used up according to present interests, whereas the presence of another opens up, whether you like it or not, a world of constraints and possibilities that cannot be ignored in the same way" (Still and Good 1998, 56; quoted in Krueger 2011, 650). Krueger argues, in other words, that social affordances constrict we-space so that people, if attuned, feel that socially available options are less than they were a moment ago. It can be added that options can simultaneously be more, though Krueger does not emphasize this. For example, if someone extends a hand, an option heretofore unavailable for physical contact emerges, but simultaneously it is difficult to forgo this option in most social settings, meaning space is simultaneously constrained. With these simultaneously constrained and expanded options, there also comes a possibility of increased drama insofar as handshakes, welcoming smiles and the like help integrate group activity by joining it into connections of means-consequence, while also forming mini-climaxes that bring about increased unity and further

define interactions as identifiable wholes. In the words of Krueger, who also emphasizes aesthetic dimensions, albeit without emphasizing it, gestures and other types of social body language scaffold “spatial arrangements that simplify choice by constraining or cueing social affordances,” and they “also scaffold spatial arrangements that sculpt the attention of [the] receiver—and thus ease their epistemic burden—by simplifying perception” (Krueger 2011, 652).

These last points are helpful. While differentiating social affordances from standard perceptual ones, which at the same time can sometimes be identical, they also connect the idea of experience as culture back to basic sensorimotor explanations that Dewey and Merleau-Ponty have advanced, along with enactivists. On Deweyan or Merleau-Pontian accounts—not to mention Gibsonian ones—we perceive things as we do, in large part, because of actions afforded by both the structure of our body and things our bodies encounter, and also because the same structures exclude certain actions. Thus whereas we can roll pencils between our palms, the same action and hence same experience is impossible with cinderblocks. For this reason, among others, we also encounter cinderblocks and pencils as affording very different things, and thus come to perceive and conceptualize them differently.

In this scheme, the structure of the hand and other organs and the form of things encountered become something like transcendentals that limit possibilities of experience by limiting possibilities of action—points Dewey expressly acknowledged (see Dewey 1920, 90-91), despite the common hostility to Kantian frameworks among today’s pragmatists. And insofar as we spend most of our waking life handling and ambulating, it is not surprising that we develop habits of seeing bottles as graspable, walls as obstacles and hallways as traversable. Nor is it surprising that concepts relate back to movement, as thinkers ranging from Merleau-Ponty (1945) to Lakoff and Johnson (1999) have suggested. Solidly built chairs bear our weight. Impenetrably solid fogs impede vision and movement. Unlike liquid or gas, we can handle solid ice, walk on it or risk falling through it. Smell, sound and

other modalities follow a like pattern. Bad smells and grating sounds are offensive, which is to say, repulsive, that is, they repel and push us away.

But while this is so, and while bodily movement remains primary, it is also the case that our first world is overwhelmingly social. As de Bruin and de Haan (2012) observe, “neonates and young infants are perfectly capable of interacting with others in a dyadic way; but primary intersubjectivity alone does not allow them to interact with other agents in a world-involving way” (231). When infants enter “secondary intersubjectivity” embodied practices become triadic. This means “they involve a referential triangle of child, adult, and environment: an outside object or event to which they jointly attend” (231). This shows, on the one hand, that interactions are sensorimotor from the beginning, yet also that our first world is social since the primary entities with which young infants interact with are other human beings. It also shows that experience remains social since human beings remain primary throughout life, only with greater capability of enacting joint intentionality with others towards objects in the world.

So while some commentators are wont to start with examples of handling pencils, balls and whatnot, and build up theories of perception and cognition from there, such movements are not prior to social engagement, but intertwined with it. Moreover, the social world affords and constrains actions and therewith experiences in ways similar to the primarily physical world, as Trevarthen and Krueger’s accounts cogently show. Yet there is also a difference insofar as social affordances introduce constraints not present in the immediate brute world. Thus the notion of experience as culture is more than a standard, basic sensorimotor account, even while intimately related to it. This lends further value and sophistication to Dewey’s notion that experience is equivalent to culture, while also flushing out nuances that result from thoroughly following the point through, therewith expanding in important ways on what Dewey offers.

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References

- Abate, F., Editor-in-Chief 1999. *The Oxford American Dictionary and Language Guide*. New York: Oxford University Press.
- Chemero, A. 2016. "Sensorimotor Empathy". *Journal of Consciousness Studies* 23, 138-152.
- Chemero A. and Käufer, S. 2016. "Pragmatism, Phenomenology, and Extended Cognition." In *Pragmatism and Embodied Cognitive Science: From Bodily Interaction to Symbolic Articulation*, edited by R. Madzia and M. Jung. Berlin: De Gruyter, pp. 55-70.
- Chudoba, E. 2017. "What Controls and What Is Controlled? Deweyan Aesthetic Experience and Shusterman's Somatic Experience." *Contemporary Pragmatism* 14, 76-92.
- Crippen, M. 2014. "Body Phenomenology, Somaesthetics and Nietzschean Themes in Medieval Art," *Pragmatism Today* 5, 40-45.
- Crippen, M. 2016a. "Dewey, Enactivism and Greek Thought." In *Pragmatism and Embodied Cognitive Science: From Bodily Interaction to Symbolic Articulation*, edited by R. Madzia and M. Jung. Berlin: De Gruyter, 229-246.
- Crippen, M. 2016b. "Dewey on Arts, Sciences and Greek Philosophy." In *Visual Learning: Time - Truth - Tradition*, edited by A. Benedek and A. Veszelszki. Frankfurt am Main: Peter Lang Press, pp. 153-159.
- Crippen, M. 2016c. "Intuitive Cities: Pre-Reflective, Aesthetic and Political Aspects of Urban Design." *Journal of Aesthetics and Phenomenology* 3, 125-145.
- Crippen, M. 2017. "Embodied Cognition and Perception: Dewey, Science and Skepticism." *Contemporary Pragmatism* 14, 112-134.
- De Bruin, L. and de Haan S. 2012. "Enactivism and Social Cognition: In Search for the Whole Story." *Journal of Cognitive Semiotics*, 225-250.
- Dewey, J. 1920. *Reconstruction in philosophy*. New York: Henry Holt and Company.
- Dewey, J. 1922. *Human nature and conduct: An introduction to social psychology*. New York: Henry Holt & Company.
- Dewey, J. 1934. *Art as experience*. New York: Minton, Balch and Company.
- Dewey J. c. 1951: Portion of "Unfinished Introduction." In Jo Ann Boydston, ed. (1981). *The Later Works, 1925-1953, Volume 1*. Carbondale and Edwardsville: Southern Illinois University Press, pp. 361-364.
- Gibson, J. J. 1979. *The Ecological Approach to Visual Perception*. Boston: Houghton-Mifflin.
- Heft, H. 2001. *Ecological Psychology in Context: James Gibson, Roger Barker, and the Legacy of William James' Radical Empiricism*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Kaplan, S., Kaplan, R. and Wendt, J. 1972. "Rated Preference and Complexity for Natural and Urban Visual Material." *Perception and Psychophysics* 12, 354-356.
- Kaplan, R. and Kaplan S. 1989. *The Experience of Nature: A Psychological Perspective*. Cambridge: Cambridge University Press.
- Kaplan, S. 1987. "Aesthetics, Affect and Cognition: Environmental Preference from an Evolutionary Perspective." *Environment and Behavior* 1, 4-32.
- Kestenbaum, V. 1977. *The Phenomenological Sense of John Dewey: Habit and Meaning*. Atlantic Highlands, N.J.: Humanities Press.
- Krueger, J. 2011. "Extended Cognition and the Space of Social Interaction." *Consciousness and Cognition* 20, pp. 643-655.
- Kühle, L. 2017. "William James and the Embodied Mind." *Contemporary Pragmatism* 14, 51-75.
- Lakoff, G. and Johnson, M. 1999. *Philosophy in the flesh*. New York: Basic Books.
- Lieberman, P. 1967. *Intonation, Perception, and Language*. Cambridge: MIT Press.
- Malloch, S. 1999. "Mother and Infants and Communicative Musicality." *Musicae Scientiae*, pp. 29-57
- Malloch, S. and Trevarthen, C. 2009. "The Neuroscience of Emotion in Music." In *Communicative Musicality: Exploring the Basis of Human Companionship*, edited by S. Malloch & C. Trevarthen. Oxford, UK: Oxford University Press, pp. 105-146.
- Merleau-Ponty, M. 1945. *Phenomenology of perception*, trans. C. Smith [1962]. New York: Routledge and Kegan Paul.

- Merleau-Ponty, M. 1964. *Consciousness and the Acquisition of Language*, trans. H. Silverman [1973]. Evanston: Northwestern University Press.
- Myin, E. and Degenaar, J. 2014. "Enactive Vision," in *The Routledge Handbook of Embodied Cognition*, edited by Lawrence Shapiro. New York: Routledge, pp. 90-98.
- Noë, A. 2004. *Action in Perception*. Cambridge, MA: MIT Press.
- Noë, A. 2009. *Out of our heads: Why you are not your brain, and other lessons from the biology of consciousness*. New York: Hill and Wang.
- Reed, E. 1988. *James J. Gibson and the Psychology of Perception*. New Haven: Yale University Press.
- Rosenthal, M. 1982. "Vocal Dialogues in the Neonatal Period." *Developmental Psychology*, 18, 17-21.
- Sander, L. W. 2012. *Living Systems, Evolving Consciousness, and the Emerging Person: A Selection of Papers from the Life Work of Louis Sander*, edited by G. Amadei & Bianchi. Abingdon, UK: Taylor & Francis.
- Steinbeck, John 1939: *The Grapes of Wrath*. New York: Viking Press.
- Solymosi, T. 2013. "Against Representation: A Brief Introduction to Cultural Affordances." *Human Affairs* 23, 594-605.
- Still, A., and Good, J. 1998. "The Ontology of Mutualism." *Ecological Psychology* 10, 39-63.
- Trevarthen, C. 2009a. "The Intersubjective Psychobiology of Human Meaning: Learning of Culture Depends on Interest for Co-Operative Practical Work—and Affection for the Joyful Art of Good Company." *Psychoanalytic Dialogues* 19, 507-518.
- Trevarthen, C. 2009b. "Embodied Human Intersubjectivity: Imaginative Agency, To Share Meaning." *Journal of Cognitive Semiotics*, 4, 6-56.
- Trevarthen, C. 2011. "What Is It Like to Be a Person Who Knows Nothing? Defining the Active Intersubjective Mind of a Newborn Human Being." *Infant and Child Development* 20, 119-135.
- Trevarthen, C. 2013. "In Praise of a Doctor Who Welcomes the Newborn Infant Person." *Journal of Child and Adolescent Psychiatric Nursing* 26, 204-213.
- Trevarthen, C. 2015a. "Awareness of Infants: What Do They, and We, Seek?" *Psychoanalytic Inquiry* 35, 395-416.
- Trevarthen, C. 2015b. "Infant Semiosis: The Psychobiology of Action and Shared Experience from Birth." *Cognitive Development* 36, 130-141
- Tronick, E. Z. 1989. "Emotions and Emotional Communication in Infants." *American Psychologist*, 44, 112-126.
- 2005. "Why is Connection with Others so Critical?" The Formation of Dyadic States of Consciousness: Coherence-Governed Selection and the Co-Creation of Meaning out of Messy Meaning Making". In *Emotional Development: Recent Research Advances*, edited by J. Nadel and D. Muir. Oxford, UK: Oxford University Press, pp. 293-315.
- Varela, F., Thompson, E. and Rosch, E. 1991. *The embodied mind: Cognitive science and human Experience*. Cambridge, Mass.: MIT Press.
- Whitehead, A. N. (1926/1953). *Science and the modern world*. Cambridge: Cambridge University Press.
- Weinberg, M. K., & E. Z. Tronick. (1994), "Beyond the Face: An Empirical Study of Infant Affective Configurations of Facial, Vocal, Gestural, and Regulatory Behaviors." *Child Development* 65, 1495–1507.