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The Hero Organism: Advancing the Embodiment of Heroism Thesis in the Twenty-First Century

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Advancing the Embodiment of Heroism Thesis in the Twenty-First Century

Olivia Efthimiou

Contrary to the idea of the heroic elect … most people are capable of heroism with the right mindset and under certain conditions that call for heroic action … The banality of heroism argument … asks the question, “what if the capability to act heroically is also fundamentally ordinary and available to all of us?”

(Franco, Blau & Zimbardo, 2011, p. 100; emphasis added)

Heroic accounts have captured the human imagination throughout history. In postmodern times the academic community has witnessed a resurgence in the intellectual and empirical pursuit of the concept of heroism—the advent of the multiple disciplinary field of heroism science signals the end of the monopoly of myth, fiction and popular culture on the study of heroism, offering a multi-perspective lens for the active and rigorous observation of this enduring phenomenon. Research efforts to date, however, have largely focused on its psychosocial aspects, without addressing the interaction with and relationship to the body in sufficient depth. This chapter aims to contribute to growing heroism research by considering the sidelined role of the body, and embodiment more broadly in the heroic process and experience.

First, I will contextualize this agenda in broader significant intellectual shifts. Second, the joint reading of contemporary and traditional phenomenological embodiment schools of thought, in particular Merleau-Ponty’s (1962, 1964) address of contemporary heroism and his legacy, together with Allison and Goethals’ (2014) heroic leadership dynamic, is used to form an “embodiment of heroism thesis”—heroism is defined as a distinct state of embodied consciousness accessible to all human agents in everyday lived experience. The idea of heroism as embodied skill acquisition is used as an example. This thesis rests on the notion of the body as compatible with, but distinct from traditional biological conceptualizations. In the third section, the application of Johnson’s (2008) outline of the five facets of a body to heroism results in two transdisciplinary conceptual frameworks: the heroic body (as biological organism; the ecological; the social; the cultural; and the phenomenological), and the hero organism. In the fourth and final section, I map the epistemological and methodological contours of the “dynamical hero organism self-system.” This is a preliminary investigation of organisms against cutting-edge theories that demonstrate peak states, agency and embodiment—physical intelligence and flow—resulting in the definition of the heart of heroism as biopsychosocial resilience and transformation. As Allison and Goethals (2014) surmise, we are all wired for heroism—to uncover this we must develop an intimate understanding of the processes, functions and consequences of the “heroic embodied mind.”
The Dissolution of Disciplinary Boundaries, the Return of the Body and the Rise of Heroism Science

Heroism science seeks to reconceptualize heroism and reinvigorate its relevance in the twenty-first century, by using a broad range of epistemological and methodological tools to promote widespread holistic well-being. The timing of its emergence is not coincidental—it is representative of a broader shift in intellectual thought towards greater “multiple disciplinarity” (Choi & Pak, 2006, p. 358). The opening up of the study of heroism beyond the humanities to increasingly “integrative” disciplines such as psychology (Bandura, 2001, p. 12) is in many ways revolutionary. It reflects the breakdown of “disastrous” (Johnson, 2010) dualisms in which our history is deeply, but thankfully not irreversibly, steeped. Most prevalent is the mind-body dichotomy, or the long-held view that the mind and body are to be looked at separately, with the brain’s development remaining fixed following our formative years (Johnson, 2010). Kinsella (2012, p. 85) highlights the sweeping “physical, psychological, and social benefits provided by heroes.” Researchers (Kafashan, Sparks, Rotella, & Barclay, Chapter 2, this volume; Preston, Chapter 4, this volume; Rusch, Leunissen & van Vught, 2015; Smirnov, Arrow, Kennett & Orbell, 2007) are just beginning to embark on important work that investigates the biological and evolutionary aspects of heroism, with the physical aspects only having been addressed peripherally in the literature (e.g. physical attributes, physical strength, gender).

This renewed interest in the centrality of the body has been gaining considerable ground by a new generation of scholars since the mid-twentieth century. Tremendous advances in the cognitive sciences spanning a vast array of disciplines from “genetics” to “linguistics” (Johnson, 2008, p. 160) are now making it possible for us to begin to construct novel conceptualizations of human behaviors. Heroism is no exception—Gray (2010), for example, is in the early stages of demonstrating the remarkable links between the heroic mindset and its impact on our bodies. In what is perhaps the most fascinating unfolding story of “genomics meets heroism,” The Resilience Project led by Dr Stephen Friend at Sage Bionetworks and Dr Eric Shadt at the Icahn School of Medicine at Mount Sinai is a groundbreaking global study looking for “genetic heroes” who have demonstrated unusual immunity to debilitating diseases and “genetic mutations” (Giller, 2014). This is prime evidence that the way we are looking at disease, well-being and the human condition is shifting ground at the nexus of science and culture.

This increasing momentum stands to have far-reaching impacts not only for the study of heroism, but research overall. Bandura (2001, p. 12) highlights the “changing face of psychology,” the primary field presently engaged in the rigorous analysis of heroism. Chemero (2013, p. 145) notes that “there have been two ways to do psychology” from its inception: the mainstream “Structuralist,” and the nascent “Functionalist” approach. The functionalist view of the “whole is greater than the sum of its parts” was born out of a dissident tradition of scholars seeking a deeper understanding of how individuals function in their broader environment, and how this in turn affects them at the deepest sensorial and embodied level of consciousness. The emerging field of “Radical embodied cognitive science is an interdisciplinary approach to psychology that combines ideas from the phenomenological tradition with ecological psychology and dynamical systems modeling” (Chemero, 2013, p. 145). The timeless, intricate and deeply enduring nature of heroism figures as a prime candidate for this multi-spectrum framework. Heroism science therefore has the potential to radicalize the face of psychology, cognitive sciences and beyond, re-shaping and challenging fundamental notions of what it means to be human in the process.

The mind–body connection and the vital role of the body, however, still remain largely absent from emerging perspectives on heroism, despite the significant strides that have occurred in only a decade. The embodiment of heroism thesis presented here aligns with radical embodied cognitive science’s agenda in a number of ways. At its very core, it aims to supplant “the current trend of supplementing standard cognitive psychology with occasional references to the body”
The Hero Embodied Mind: Heroism as an Embodied State of Consciousness

What precisely is a “body”? This is perhaps the most poignant question any embodiment theorist can ask, and an enterprise that is far from simple given the intricate layers with which our corporeality is intimately interwoven—from the cultural, to the biological, the spiritual, the psychological and so forth. Addressing this question becomes an inevitable focal point on our journey to developing a deep appreciation of the heroic experience. Smyth (2010) and Moya (2014) provide illuminating interpretations of some of the core theories set out by the “father” of embodiment, French phenomenological philosopher Maurice Merleau-Ponty. In particular, Smyth’s (2010) elucidation of Merleau-Ponty’s (1964) essay “Man, the Hero” (originally published in 1948) serves as a critical insight into the vital contribution embodiment theory can make to contemporary understandings of heroism.

Merleau-Ponty (1964 and 2012, cited in Moya, 2014, p. 1) argued that “there is no hard separation between bodily conduct and intelligent conduct; rather, there is a unity of behavior that expresses the intentionality and hence the meaning of this conduct.” This is a non-reductionist view of the brain and body; this idea of an “embodied mind” (emphasis added) or a “minded body” (Gallagher & Zahavi, 2008, p. 153) integrates and “transcends the physiological and psychological” (Merleau-Ponty, 1964 and 2012, as cited in Moya, 2014, p. 1) dismantling the mind-body dichotomy. Accordingly, the concept of a “body” in the embodiment of heroism thesis is not confined to traditional biological interpretations. Rather, it is a transdisciplinary understanding that embraces biology and evolution, but transcends it to consider the critical inter-relationship with the mind, broader environment, and metaphysical experiences beyond these. As will be discussed, the physical, mental, social and spiritual modes of experience are co-present in, dynamic and integral to the embodiment of heroism and the heroic body.

In this integrative conceptual framework the body appropriates “itself a form of embodied consciousness” (emphasis added)” (Merleau-Ponty, 1964 and 2012, as cited in Moya, 2014, p. 1). The foundation of this embodied state of consciousness that gives expression to the intentionality and meaning of embodied action, according to Merleau-Ponty (2012, as cited in Moya, 2014, p. 2), is habit:

the situated character of the person explains that there is, at the same time, a “general” existence as well as an existence that is linked with the effectiveness of action, and which we can call “personal.” Being anchored in the world makes the person renounce a part of his or her protagonism because he or she already possesses a series of habitualities.

This concordance of the general and personal nature of situated embodiment reminds us of the paradoxical universal and context-specific property of heroism (Franco et al., 2011; Kinsella, 2012). Heroic protagonists’ actions may be theorized as being deeply embedded in a readily accessible habitual apparatus, invoking Allison and Goethals’ (2014, p. 175) proposition that any person is “developmentally equipped” for heroic action, which can be adjusted according to the sociocultural setting.
Crucially, for Merleau-Ponty (1962, as cited in Smyth, 2010, p. 177) “the locus of heroic action is the habitual body.” This notion of habituality provides a fundamental link between embodiment, Carl Jung’s innateness of archetypes theory proposed over 50 years ago, and heroic leadership or action. Merleau-Ponty (2012, as cited in Moya, 2014, p. 2) makes a distinction between “the habitual body—that of general and pre-reflexive existence—from the actual—that of personal and reflexive existence.” The habitual body corresponds with Jung’s conceptualization of archetypes as innate, universal and pre-conscious, which has been the focus of rigorous debate by analytical psychologists (for examples see Goodwyn, 2010; Knox, 2004). This powerful correlation between the habitual body, archetypes and their pre-reflexivity lends credence to the “hypothesis of shared generic dimensions of embodiment,” with archetypes figuring as an explanation for the “bodily grounding of our conceptual systems” and “key concepts in languages and symbol systems around the world” which feature so prominently in hero stories (Johnson, 2008, p. 162). The archetypal habitual heroic body is so firmly embedded in “deep time” (Allison & Goethals, 2014, p. 171) and the pre-conscious that it is impossible to ignore its perpetuity, as is manifested in the endurance of cultural tropes. Its form may change across contexts with the actual heroic body’s conscious domain of lived situated experience, but the universality of its habituality demands due attention.

Situating the heroic body in pre-conscious habitualities and supporting its rootedness in the innateness of the hero archetype could be viewed as an annihilation of our reflexive capacity and free will. How can we possibly be active participants in our life choices and wilful heroic actors if we are driven by pre-programmed archetypal bodily scripts drilled into us by evolution? But speaking of an embodied heroic mind and archetypal locus of heroic action is by no means a static view of the body. Despite the possibility of the existence of such pre-conscious mental and bodily schemas, there is a perpetual “dialog between environment and subject,” and an “understanding that both always co-penetrate each other” (Merleau-Ponty, 2012, as cited in Moya, 2014, p. 2). For Merleau-Ponty (1962, as cited in Smyth, 2010, p. 177) the localization of heroism in the habitual body is not a mindless and tragic thrusting of “one’s body into a lethal situation” signaling some temporal dislocation from our rational faculties. Merleau-Ponty’s (1962, as cited in Smyth, 2010, p. 168) “contemporary hero” always operates in the ever-present dynamic exchange between the habitual pre-reflexive and actual reflexive body. The heroic actor is constantly negotiating meaning between her instinctual patterns and lived environment. This is exemplified in Merleau-Ponty’s (1964 and 2012, as cited in Moya, 2014, p. 1) notion of the “lived or own body and of lived space.” In an embodied reading the heroic actor is seen “as subject, as experiencer, as agent” (Gallagher & Zahavi, 2008, p. 155).

There is a crucial link between this concept of lived heroism, embodiment and emerging notions of everyday heroism. According to Smyth (2010, p. 167), Merleau-Ponty’s (1964) brief essay on heroism aimed “to supply experiential evidence attesting to the latent presence of human universality,” reminiscent of Campbell’s (1949) seminal work on the universality of the “hero’s journey” as a pervasive mythical structure through culture and time. Merleau-Ponty (1964, as cited in Smyth, 2010, p. 170) had a very specific agenda: “to define ‘the existential attitude (as a general phenomenon of our times, and not as a school of thought)’.” The definition of this existential attitude is exemplified in his notion of the contemporary hero. For Merleau-Ponty (1964), like Campbell (1949), the exaltation of heroes is a timeless cultural phenomenon. Merleau-Ponty (1964) notes a poignant shift in the hero in history from the Christian notion of sacrifice and the transcendental, to its grounding in the everyday individual with Hegel. It is in these Hegelian roots that we find the birth of the concept of the “everyday hero”: “living contact with the present as the germinal origins of the future” (Merleau-Ponty, 1964, as cited in Smyth, 2010, p. 174). This central feature of Hegelian heroism can be said to be the core premise of the emerging field of heroism science and the “new heroism” (Zimbardo & Ellsberg, 2013), characteristic of the increased infiltration of
heroism as an “embodied and embedded” (Gallagher & Zahavi, 2008, p. 74) form of core human action and civic engagement.

Allison and Goethals (2014, p. 170) have introduced the heroic leadership dynamic (HLD) to gain a deeper understanding of the universal profoundness of heroism and hero stories through time. The central premise of the HLD is the notion that “hero stories fulfill important cognitive and emotional needs” (Allison & Goethals, 2014, p. 169). The profundity of this need for story has been theorized by Price (1978, p. 3) as vital to the “species Homo sapiens—second in necessity apparently after nourishment and before love and shelter.” The HLD suggests that hero narratives serve two core functions: “epistemic” and “energizing.” The former “refers to the knowledge and wisdom that hero stories impart to us”; the latter “to the ways that hero stories inspire us and promote personal growth” (Allison & Goethals, 2014, p. 170).

Can Allison and Goethals’ (2014) HLD model be expanded to biological needs and situated in an embodied sense of self? The primacy of the attainment of knowledge and wisdom in heroic leadership’s epistemic function takes on a profound significance with the concept of a lived heroic body and its extension to the corporeal. The habitual property of human action suggests a type of “corporeal knowledge” as generator and distributor of bodily meaning (Merleau-Ponty, 1964 and 2012, as cited in Moya, 2014, p. 1). This is the original and truly embodied notion of the gaining of wisdom in the experiential terms and deep altering of consciousness that was implied by the ancient Greeks. It predates the school of thought of Plato and Aristotle in which the roots of contemporary Western culture may be traced, which gave primacy to knowledge acquisition as an exercise that is driven by pure reason and logic (Kingsley, 1999). This potentially profoundly transformative effect of the epistemic function of hero stories which lies in their “transrational” qualities (Allison & Goethals, 2014, p. 170; Rohr, 2011) speaks to the notion of the lived body as “a constitutive or transcendental principle, precisely because it is involved in the very possibility of experience” (Gallagher & Zahavi, 2008, p. 153). This grounds the everyday heroic experience in our bodies and the immediacy of the world around us, in meanings that cannot be reduced to conventional logic.

The energizing function of heroic leadership also takes on a heightened meaning in an embodied reading of everyday heroism. Moya (2014, p. 2) highlights that Gallagher and Zahavi (2008) demonstrate how perception “is not a passive reception of information, but instead implies activity, specifically, the movement of our body.” In this “enactive” approach to embodied cognition (Varela, Thompson & Rosch, 1991, p. xx) we can use embodiment theories to apply the notion of personal growth to the idea of heroic action as skill acquisition. Heroism is being reconceptualized as a behavior that can be trained and instilled in people of all ages, especially the younger generation. Initiatives such as the Heroic Imagination Project (http://heroicimagination.org) and The Hero Construction Company (www.heroconstruction.org) which aim at educating school children on Campbell’s (1949) hero’s journey, and inspiring and energizing heroic behavior to combat bullying, social injustice and promote civic action, evoke this emerging understanding of everyday heroism as a skill that can be acquired. In this spirit, Zimbardo (2015) has made a call for a public commitment to heroic action, and ordinary people to think of themselves as “heroes-in-training.” For embodiment theorists skill acquisition is centered in the “corporealization of habit” (Moya, 2014, p. 3); any skill that was once external and unfamiliar to us penetrates our corporeality when fully grasped, connoting “beginner” through to “expert” stages of heroic embodied skill acquisition (Dreyfus & Dreyfus, 1999, pp. 105, 109). The energizing function of heroism permeates all aspects of our interiority, transcending the mental and psychological arenas—it is a property innate to us all which we can learn to master until it becomes fully embodied and integrated into our corporeality, accentuating our corporeal knowledge.

This embodied contextualization of the contemporary hero questions readings of heroic acts as “spontaneous” (for example, “subway heroes” in New York who save commuters about to be
struck by an oncoming train). One might begin to consider the events that led the individual to commit the heroic act as the product of a trained and astute embodied consciousness, culminating in the perfect unison of innateness and preparedness, or nature and nurture. This is contrary to what others might perceive as virtually seamless, even insane or irrational, reflecting the “junction of madness … and reason” in the contemporary hero (Merleau-Ponty, 1964, p. 324f/183; cf. p. 9/4). According to Smyth (2010, p. 177), for Merleau-Ponty (1962) “heroic action precisely instances the coincidence of” the actual and habitual body; “This is the condition of absolute knowledge, ‘the point at which consciousness finally becomes equal to its spontaneous life and regains its self-possession’.” The interchanging of heroism with this embodied condition of absolute knowledge aligns with the grounding of Allison and Goethals’ (2014) core epistemic function of the HLD in the acquisition of knowledge and wisdom.

This is a remarkably complex view of heroic action which cannot be reduced to any one aspect of existence or reference point. The point at which consciousness joins with its innateness is not a debilitating one that robs us of our self-determinism, according to Merleau-Ponty (1962, as cited in Smyth, 2010). By contrast, it may be the most profoundly liberating experience; Merleau-Ponty (1962 and 1964, as cited in Smyth, 2010, p. 178) states that “the hero is fully invested in the realization of freedom, understood in universal terms,” rendering the contemporary hero an “exemplary vivant, or living person.” This point of unison between the habitual and actual body is where heroic “operant intentionality” (Merleau-Ponty, 2012, as cited in Moya, 2014, p. 1) and sensibility “meets its maker” at its purest, both conscious and preconscious, embodied form. If we speak of heroism as an embodied acquired skill, this reading of Merleau-Ponty’s contemporary hero foreshadows the manifestation of heroism at its peak state.

This embodied engagement with our surroundings implies an active meaning-making process and understanding of the lived heroic body as always “coming to be” (Merleau-Ponty, 2012, as cited in Moya, 2014, p. 1). It is in direct agreement with the “Temporal and Dynamic Components” of Allison and Goethals’ (2014, p. 177) HLD “in which the psychology of heroism unfolds over time.” This can be extended to the lived corporeal experience of heroism—we may thus speak of an embodied hero-in-process or hero-becoming. In the embodiment of heroism thesis heroic action is conceived as a simultaneously universal, yet deeply personal, distinct state of embodied consciousness and intentionality. The lived heroic body is grounded in corporeal knowledge generated both from a pre-reflexive or transrational set of innate habitualities, and conscious dynamic inquiry within lived space. This phenomenologically-informed definition suggests that heroism must assume its rightful place on the stage of consciousness in the cognitive sciences.

What Makes a Heroic Body?

What is the makeup of a lived heroic body? Founded on Johnson’s (2008) five-dimensional framework of a generic body, the embodiment of heroism is staged across the biological, the ecological, the social, the cultural and the phenomenological spheres of experience. Below is a preliminary outline of each of these dimensions.

The Heroic Body as Biological Organism

The concept of a heroic body travels far beyond certain physical characteristics, behavioral or physiological patterns reduced to traditional notions of personality and biology. This is a dynamic view of the heroic actor as a:

functioning biological organism that can perceive, move within, respond to, and transform its environment … It is this whole body, with its various systems working in marvellous coordination, that makes possible the qualities, images, feelings, emotions, and thought
patterns that constitute the ground of our [heroic] meaning and understanding.

(Johnson, 2008, p. 164)

This provides a foundation for the re-conceptualization of human organisms in their behavior, biology and culture, as hero organisms, to employ a transdisciplinary terminology.

The heroic body as biological organism is grounded in the “body schema,” or the “preconscious capacities” and “system of sensory-motor functions’ of the habitual body (Gallagher, 2005, p. 26; Johnson, 2008, p. 164). This is an extension of Allison and Goethals’ (2014, p. 170) description of the epistemic function of hero stories in imparting “wisdom by providing mental models, or scripts” of heroic action, to embodied existence and bodily scripts pre-dating language and the construction of these stories in written or oral form. All action and perception is grounded in the corporeal for embodiment theorists such as Gallagher and Zahavi (2008). The attainment of wisdom in the process of heroic action is therefore no exception. We may ask for example: do heroic actors talk, think, move, perceive, and sense their environments in common patterns? How is this “set of structural patterns” (Johnson, 2008, p. 164), capabilities or scripts dynamically transforming and evolving with their interaction with the environment? Are modern sensory-motor manifestations of heroic action similar to or significantly different from ancient ones? These are just some cursory questions that setting a transdisciplinary framework for the reading of the heroic body can spark further inquiry into.

Johnson (2008, p. 161) states, “It is not surprising to find shared dimensions of bodily experience underlying all aspects of meaning and thought. Indeed, this is exactly what we would expect, given our animal nature and our bodily capacities for perception and action.” Allison and Goethals (2014, p. 171) highlight the significance of the epistemic function of metaphor, especially in the work of thinkers such as James (1878) who centralize it as a vehicle of human meaning: “heroic narratives and their meaningful symbols serve as metaphors for easing our understanding of complex, mysterious phenomena.” The function of metaphor is a central tenet in embodiment literature; one of the main drivers of Johnson’s (2008, p. 160) body of work, for example, has been to demonstrate “how imaginative processes like conceptual metaphor make it possible for us to do all of our most amazing feats of abstract reasoning, from moral deliberation to politics to logic.” Metaphor could therefore be the key to unravelling the shared body schemas of the heroic body, its pre-conscious and evolutionary roots.

Lobel (2014a, 2014b, 2014c) illustrates how the cognitive sciences are beginning to enrich our understanding of the embodied aspects of meaning-making processes. Lobel (2014c) defines embodied cognition as “the idea that the body and the mind work together and that our bodily feelings, our physical sensations influence our thoughts, our decisions, our behaviors, our emotions, and what is more important often without our awareness”—this is an “indissoluble link.” Lobel (2014c) denotes the critical importance of metaphor in establishing associations between physical objects, behaviors and perceptions of others—this is “embodied cognition in language,” and the premise that we use concrete objects to describe abstract concepts. Physical intelligence researchers are demonstrating that metaphors are more than just figures of speech—they are grounded in embodied experience. Indeed, Johnson (2008, p. 161) notes that a number of:

cognitive linguists have argued that it is … shared sensorimotor structures of generic bodies that underlie much of the syntax and semantics of our natural languages and symbolic interactions, including spoken and written languages … art, ritual practice, and many other forms of symbolic expression.

This can extend to myth-making and the creative construction of hero stories.

Lobel (2014b) agrees that some metaphors are universal and cross-cultural, pointing to fertile ground for joint research initiatives between the field of heroism science and physical
intelligence to better understand the connection between story, language, metaphor (to name only a few) and heroism, and their shared embodied knowledges. Two pertinent questions that may drive the joint investigative enterprise between embodied cognition and heroism science, could be how we apply the emerging theory of physical intelligence to: (a) heroic metaphors and understand their origins in embodied experience, and shared sensorimotor archetypal structures (e.g. via the use of Functional Magnetic Resonance scans); and (b) cellular behavior in relation to the hero’s journey to demonstrate the concept of the mind-body journey in heroism as a continuous, indissoluble process.

The Ecological Heroic Body

This dimension is premised on the notion that “The body does not, and cannot, therefore, exist independent of its environment” (Johnson, 2008, p. 164). This is an acknowledgement of the dynamic formation of identity in the intricate web of organismal-environmental systems. Indeed, researchers such as Lerner and Schmid Callina (2014) theorize a “relational developmental systems model” of “character development.” Our senses, bodily sensations and awareness, perceptions, inner thoughts, neurochemistry, non-conscious percepts, cellular behavior, physical expressions, language and so forth are constantly transmuted by this interactive dance. We may therefore speak of the broader ecology of the hero organism and its “ecology of suffering” (to borrow the latter term from Krassnitzky’s 1994 eponymous thesis). Thus, in the embodiment of heroism thesis an “organism” is understood as a transdisciplinary concept, across all spheres of experience. This notion is developed further in the next section.

The Social Heroic Body

This dimension recognizes that the environment or ecology in which the hero organism moves in is not simply biological in nature, and gives primacy to the premise that the “brain and the entire bodily organism are being trained up through deep interpersonal transactions” (Johnson, 2008, p. 165). Zimbardo and Ellsberg (2013) articulate the powerful effect group dynamics and social forces can have on fostering heroism. Franco et al. (2011, p. 101) have developed a multi-level operational definition of heroism “as a social activity.” The function of narrating hero stories as a primary social activity that affects us profoundly through our interaction with others, helps us grow as heroic actors and imparts knowledge, dates back to our earliest ancestors (Allison & Goethals, 2014). In the twenty-first century this process is facilitated now more than ever with the rise of social media, a space in which we can reflect on, debate and be inspired into action by heroic accounts across all spheres of human activity. In many cases the universal character of hero stories provides a lifeline and shared ground for people across cultures, dismantling cultural, racial, language and other barriers.

The social dimension of the heroic body comes with the recognition that some of our bodily capabilities are rooted in evolutionary processes such as natural selection. The deep-seated need for hero stories (Allison & Goethals, 2014; Price, 1978), as well as pro-social behaviors that are thought to play at least some part in the development of heroism in our species, are being framed by contemporary authors as evolutionary in nature. The potential evolutionary origins of heroism in connection with ancestral warfare and altruism are now being addressed in scientific literature (Kelly & Dunbar, 2001; Rusch et al., 2015; Smirnov et al., 2007), as well as emerging heroism science research (Kafashan et al., Chapter 2, this volume; Preston, Chapter 4, this volume). These preliminary studies can provide the foundation for building a sociobiological epistemology of heroism.
The Cultural Heroic Body

This dimension considers the cultural constructions of identity such as “gender, race, class (socioeconomic status), aesthetic values, and various modes of bodily posture and movement” (Johnson, 2008, pp. 165–166). We may indeed speak of a universal heroic culture that transcends local nuances (Allison & Goethals, 2014; Campbell, 1949; Kinsella, 2012). However, intricacies in specific cultural constructions of heroism are already beginning to be revealed. Franco et al. (2011) point out this complexity—heroes are both constructed and contested by a specific cultural setting, time and place of the act, usually in its aftermath when viewed as part of a sequence of events, and can be fleeting or enduring, positive or negative. The myth of a hero can take on a life far greater than the original act or achievement. It can be surmised that different historical and cultural periods need and give rise to specific types of heroes, a notion reflected in Allison and Goethals’ (2014, p. 178) concept of the “need-based origin of heroism.”

The complexity of the phenomenon is enhanced by gendered dimensions, addressed by some of the psychological literature (Becker & Eagly, 2004; Eagly & Becker, 2005; Martens, 2005; Rankin & Eagly, 2008). Other surreptitious factors have been highlighted by DeAngelis (2002, p. 1280), who points out that common definitions of heroism have never considered the issues of power and money. A critical analysis of heroism in popular culture must address the sensationalist tendencies of the reporting of events, potentially contributing to the oversaturation of heroic ascriptions, and their impact on our perceptions of the phenomenon. The political nature and discourse often underlying heroism forms a further important cultural aspect. The “new heroism” (Zimbardo & Ellsberg, 2013) is, at its very core, radically and inexorably political in nature. The increasing momentum being witnessed in a campaign to spread heroism into numerous facets of society—from education, to health, business, science, psychology, the arts and so forth—reflects a truly global phenomenon that can be dubbed an emerging twenty-first century heroism movement. The broad sociocultural and political impacts of this movement deserve systematic study.

The Phenomenological Heroic Body

This aspect of embodied heroic experience is vastly incomprehensible by the rational conscious mind. It is grounded in the “pre-reflective, nonconscious structures that make it possible for us to have any bodily awareness” (Johnson, 2008, p. 165). This proposed phenomenological aspect of the heroic body aligns with emerging understandings of heroism—Allison, for example, describes the hero’s journey as “a spiritual journey marked by encounters with transrational phenomena” (S. T. Allison, personal communication, November 7, 2014). Allison and Goethals (2014, p. 170) support the function of hero narratives as “far more than simple scripts prescribing prosocial action,” stating “that effective hero stories feature an abundance of transrational phenomena, which … reveal truths and life patterns that our limited minds have trouble understanding using our best logic or rational thought.” Smyth (2010, p. 187) argues that “Merleau-Ponty’s heroic myth is in effect marginalizes heroism by confining it to a transcendental role.” This is arguably not a failing, but rather an accurate statement of the inherent transrational and energizing property of hero mythologies “which Haidt calls elevation” (Allison & Goethals, 2014, p. 173).

In a 1988 interview Campbell defined a hero as “someone who has given his or her life to something bigger than oneself.” This transformative property and function of heroic action is captured by Wade’s (1998, p. 174) interpretation of Joy’s (1979) conceptualization of transformation as “a metaphysical event. Energy fields not only permeate the physical body, but extend for some distance beyond.” This expansion of consciousness is a deeply regenerating event, felt across the physical and spiritual plane, illustrating a critical connection between heroism and the transfor-
The phenomenological heroic body is marked by transrational phenomena which “beg to be understood but cannot be fully known using conventional tools of human reason. Hero stories help unlock the secrets of the transrational” (Allison & Goethals, 2014, p. 171).

This phenomenological property of the heroic body is critical because it gives us permission to delve beyond the confines of contemporary orientations of heroism towards morality or pro-social behavior, both from a psychosocial (e.g. group dynamics) and evolutionary (e.g. cooperation and altruism) perspective. Although it is important to acknowledge these aspects as part of the broader ecology of a hero organism, they cannot be regarded as definitive of the heroic process—this can be a deeply personal experience that takes place in the darkest, most quiet corners of life, and has little or no impact on other people. Does this make the act any less heroic? A pro-social attribution to heroism implies that the heroic act will be shared, and others will benefit in some form (as is indeed represented in Campbell’s hero’s journey cycle; Campbell, 1949). It arguably necessitates by definition that unsung heroes are sidelined, with their acts going unnoticed, unheard of and unrewarded. The transrational phenomenological lived heroic body is a recognition and validation of these silent heroic acts in real time—these do take place, eliminating the necessity for an audience or the presence of others for these acts to gain meaning. Rather, they carry an inherent meaning of their own, a corporeal knowledge that is bound to the lived experience of the heroic actor and does not require rational validation to assert its significance.

Out of all the dimensions of the heroic body, the phenomenological is perhaps the most problematic. Its transrational properties suggest that the domain of embodied heroic consciousness is never completely communicable, observable or quantifiable, and its ultimate knowledge is preserved only for those who venture beyond the realm of the known. Ultimately, the energizing force of heroism is geared towards one thing—emancipation (Merleau-Ponty, 1962, as cited in Smyth, 2010). The embodiment of heroism thesis asserts that if we are to truly understand the full gamut of this complex phenomenon we must widen its scope and definition. Indeed, not doing so goes against the very premise of the “banality of heroism” (Franco & Zimbardo, 2006). The phenomenological aspect of the heroic body lends support to the premise of the embodiment of heroism thesis to look beyond simple accounts of heroism as pro-social behavior or an exemplar of a moral ideal, and enhance its appreciation as a deeply personal, multi-sensorial and transrational experience.

Similar to Johnson’s (2008, pp. 164, 166) alert to the complexities of the notion of the body, the multi-dimensional schematic of the heroic body sketched out above offers “a cautionary tale” such that we must consider “multiple nonreductive levels of explanation” to fully appreciate the heroic embodied mind and the human condition. Accordingly, as Johnson (2008, p. 166) notes, we must be careful not to fall into the trap of “deconstructivist accounts of the body as a fabric of textuality … The body bleeds, feels, suffers, celebrates, desires, grows, and dies before and beyond texts”; all five interlaced aspects of the heroic body must be taken into account if we are to recognize the significance of the embodied nature of the heroic state. This cannot be reduced to a mere discussion grounded in biology, brain anatomy and genes (as scientistic accounts would offer), nor pure culture and relativism (as postmodern critiques would offer), nor traditional personality psychology with its deep emphasis on the behavioral aspects of an individual divorced from social, physical and spiritual forces. A reading of heroism must be accompanied by a deep interpretative proficiency in a multitude of discourses, as well as in our own and others’ life stories as part of a larger fabric.

A New Epistemological and Methodological Narrative: the Hero Organism

How may we begin to outline the parameters of the hero organism (HO) under an embodiment of heroism thesis as a valid epistemological and methodological narrative? Landau (1984, pp. 267, 268)
asks: “Are narratives testable” and “an appropriate form of scientific hypothesis”? In an attempt to offer a critical rationale for the bridging of the sciences and the humanities Landau (1984, p. 268) asserts that, “Rather than avoid [narratives], scientists might use them as they are used in literature, as a means of discovery and experimentation. Treating scientific theories as fictions may even be a way of arriving at new theories.” The implicit assumption of myth and story as fundamentally inferior to scientific and rational inquiry must be a key consideration in any future multi-level reading of heroism, especially in light of the core roots of heroism in the former.

Allison and Goethals’ (2014) HLD offers a solution to Landau’s question on the testability of narratives as suitable forms of scientific hypothesis. The HLD is a “science of story”—but not one that pushes myth to the corner as a second-order epistemology. It is a framework that preserves the integrity and “life-supporting nature of myths” (Campbell, 1972, p. 12) and function of hero stories, presenting a methodological baseline from which we can begin to dissect, review and expand on the mechanics of heroism, and story at large. Allison and Goethals (2014, p. 177) note that, “The HLD and its temporal component can be viewed as a story itself.”

In a similar fashion, the HO can be approached as a base (life) narrative on which we can apply the central components of the HLD, embodiment theory and other emerging innovative frameworks. We may thus begin to develop a transdisciplinary epistemology and methodology for the theoretical observation and empirical assessment of the core functions, processes and consequences of the HO as a testable narrative (see Table 8.1).

In this integrative framework the heroic embodied mind may be applied across multiple layers of narratives or contexts. Stephens and McCallum (1998, p. 6) define a “metanarrative” as “a global or totalizing cultural narrative schema which orders and explains knowledge and experience.” This is a narrative about a narrative, incorporating other smaller stories forming a whole. The embodiment of heroism thesis considers how seemingly different types of stories can enrich and enhance each other. To achieve this, this section considers traditional, as well cutting-edge theories, in a preliminary attempt to hone in on the contours of heroism as a distinct state of embodied consciousness. It builds on the five-dimensional model of the heroic body, using it as a foundation for embarking on an embodied reading and expansion of Allison and Goethals’ (2014) HLD at greater depth. By doing so, it provides a preliminary outline of the parameters of the HO, offering a narrative mechanism to gain a comprehensive and integrative understanding of heroism in the field of heroism science. A reflection of the fluid, dynamic state of the embodied mind, the HO framework rests on the following four key tenets: heroism as process; crisis as the core activator of heroism with embodied transformation lying at the heart of the heroic process; and the notion of the HO as a dynamical self-system.

The Dynamical Hero Organism Self-System and the Relationship Between the Ecology of Suffering and the Ecology of Heroism

The concept of the heroic actor as a dynamical HO self-system is born out of the notion of the “heroic body as biological organism” which can only be fully comprehended in unison with the broader ecological, cultural, social and phenomenological aspects of the heroic body. Chrisley and Ziemke (2006, p. 1102) argue that:

An understanding of how cognition is realized or instantiated in a physical system, especially a body, may require or be required by an account of a system’s embedding in its environment, its dynamical properties, its (especially phylogenetic) history and (especially biological) function …

To apprehend the dynamical properties and other key parameters of the HO self-system, we turn to our systems-inspired HLD. The energizing function of hero stories in Allison and Goethals’
(2014, p. 173) HLD is broken down into three sub-components; hero narratives achieve this function “by healing our psychic wounds, by inspiring us to action, and by promoting personal growth.” The epistemic function is also premised on a tri-part vehicle that reveals “deep truths,” “paradox” and develops “emotional intelligence,” resulting in “wisdom” gaining as its core impact (Allison & Goethals, 2014, p. 171). The role of each of these in relation to the proposed epistemology of the HO will be considered at further detail.

How is the HO energizing? In an embodied reading, the healing of our psychic wounds takes on a core meaning. For Merleau-Ponty (1964), according to Smyth (2010, p. 179), “normal human existence is constitutively “sick” on account of the schizoidal duality of being-in-itself and being-for-itself to which anthropogenetic reflective self-consciousness leads.” The contemporary hero plays a crucial role in alleviating this state of malaise, revealing the energizing function: “Through his complete internalization of the negativity of death, the hero effectively heals this split by achieving a self-coincidence that amounts to a condition of pathological health” (Merleau-Ponty, 1964, as cited in Smyth, 2010, p. 179). The key component that activates heroism and this crucial opportunity for healing, action and personal growth, is crisis or struggle. It is the premise of the embodiment of heroism thesis that the deeper the suffering and crisis, the deeper the potential for transformation and change. Crisis, as Franco and others theorize and incorporate into holistic community crisis management strategies (for examples see Franco, Hayes, Lancaster & Kisaaack, 2012; Franco, Zumel, Blau & Ayhens-Johnson, 2008; Gheyanchi et al., 2007), serves as a key activator that spins all aspects of heroism into motion.

As Begley (2007) reveals, persistence, intensive focus and hard work in the face of struggle and trauma appear to figure as prominently in neuroplasticity—the emerging cognitive science detailing the astounding capacity of the mind and body to work together in the healing process—as they do in hero stories. These traits can be used to describe heroism. This is reflective of the rehabilitation journey of the most difficult cases of brain damage, such as stroke, where the view of the brain’s hardwiring is most persistent—the stories of these patients who struggle to regain the function of their paralysed limbs can be pinpointed as an example of a heroic day-to-day activity aiding the survival and evolution of the organism. Emerging literature cites the conflation of trauma and personal growth, and how challenges may feature as an essential pathway for building resilience, and the development of a heroic mode of being. Nelson (2011, p. 26) describes how PTSD sufferers can connect with the heroic domain by “creating their own unique meaning that can be brought out of the experience, writing their own ending to the trauma narrative.” The experience of trauma and the demonstration of resilience, which “is generally defined as one’s ability to bounce back after a traumatic experience” (Nelson, 2011, p. 7) is instrumental to this process:

What makes our characters heroic is their perseverance through the trickery and shadows, finding or creating light to guide them through the darkness instead of getting lost in it. Heroes are formed through transformative suffering and immortalized in legends throughout time.

(Nelson, 2011, pp. 26–27)

Likewise, Fosha (2002, p. 2) writes of September 11 survivors: “sometimes trauma awakens extraordinary capacities that otherwise would lie dormant, unknown and untapped … Crisis is opportunity.” Nelson (2011, p. 6) refers to September 11 as an example of “the potential for a national crisis to provide an opportunity for positive growth.” The “huge transformational potential” (Fosha, 2002, p. 4) of trauma is the foundation of the hero’s journey, as it is to the neuroplastic journey.

Monteiro and Mustaro’s (2012) representation of the hero’s journey utilizing bifurcation theory is a prime example of a scientific (in this case mathematical) analysis of the hero’s journey.
and the cross-fertilization of epistemologies. Crucially, a hero figure’s evolution is measured against the “cumulative suffering” experienced throughout the journey as the “control parameter” of the proposed context specific “discrete-time dynamical system,” rendering change inevitable (Monteiro & Mustaro, 2012, pp. 2233). It is notable that Monteiro and Mustaro (2012, p. 2233) state that this suffering is either self-imposed, or imposed by the environment or “unknown world.” This idea that an organism sets itself up for suffering as a conscious or unconscious learning and evolving process merits further investigation, in relation, for example, to its situatedness in the habitual and/or actual heroic body. According to Monteiro and Mustaro (2012, p. 2234) “in the bifurcation diagram, the first critical moment of the hero’s journey coincides with the transition from fixed point to chaos; the second one with the transition from limit cycle to fixed point,” with these “two crucial moments in every hero’s journey” regarded as “unique.”

Merleau-Ponty’s (1964, p. 330/186) contemporary hero is also grounded in chaos and disequilibrium:

Today’s hero is not skeptical, dilettantish, or decadent … it is simply the case that he has experienced chance, disorder, and failure … He has a better experience than anyone has ever had of the contingency of the future and the freedom of man.

This transdisciplinary historical juncture gives rise to the notion of the lived heroic body as a dynamical self-system. Indeed, as Allison and Goethals (2014, p. 169) explicate, “The HLD includes the term dynamic … intentionally”; this denotes “an interactive system [emphasis added] or process that unfolds over time … that is energizing and always in motion,” consistent with Campbell’s (1949) conceptualization of the hero’s journey as a parallel for the stages of human development. The hero or HO is always defined in relation to chaos and crisis, but capable of (by being developmentally wired according to the HLD) organizing herself around it and overcoming it. Thus, the hero’s journey and heroic lived experience is, in essence, a regenerative and restorative cycle.

The grounding of a hero in the critical relationship between suffering and healing, or crisis and order, is clearly not unique to our times. However, for Merleau-Ponty (1964, as cited in Smyth, 2010, p. 177) the contemporary hero is in a distinct position due to the heightened diversity of our historical period—this is a “time neither of faith nor of reason, but rather of a world out of joint. Events exhibit no clear overarching pattern … for there are no absolute reference points for historical action.” In this age of increased uncertainty it is tempting to revert to old beliefs and dogmas, which has been demonstrated by the rise of religious fundamentalism and deep distrust in science. But it is precisely this heightened state of chaos that calls for the development of a deeper faith to facilitate our survival and self-organizing capabilities—one in ourselves, and our inner hero. This is not mindless faith; it is firmly planted in lived experience, in the examples of everyday heroism we can see all around us in their various typologies, settings and intensities. Smyth (2010, p. 180) notes that “For Merleau-Ponty, the hero provides such evidence.” Indeed, in the new heroism and heroism science the potency of the phenomenon is evidence-based, paving the way for the in-depth empirical assessment of heroism for the first time in the history of its study. This realizes Merleau-Ponty’s (1964, as cited in Smyth, 2010, p. 170) existential agenda for heroism “(as a general phenomenon of our times, and not as a school of thought);” validated “positively and on the basis of examples.”

Developing a nuanced understanding of the embeddedness of the HO within its broader ecology of suffering and its dynamic inter-relationship with healing and growth, is critical to an embodied reading of heroism and the advancement of heroism science. Cutting-edge enterprises such as the Flow Genome Project (which will be explored in greater detail) are founded on the notion of “knowing how to suffer” and understanding its mechanics as crucial to well-being and
human greatness. Within the context of a HO self-system suffering may be defined as the degree of disruption of equilibrium (positive or negative) in organisms, whether internally caused, or external/environmental (the “mythical call to adventure”), and the degree of challenge posed to the organism (the “mythical rites of passage”). The immediate spin-off effect is the commencement of some form of transformation (or regeneration in biological terms), complete or incomplete, which may have repercussions for the immediate environment and broader macro social scale. This transformative process is bound to the language of suffering and resilience in the bearing (trauma) or shedding (healing) of an emotional and/or physical wound. It is notable that Campbell's (1949) hero cycle necessitates the passage through trauma in order to achieve healing of a wound (though the end of a cycle might mean the accumulation of new wounds, which require the repetition of the cycle, and so on and so forth). Further, the nature of the journey/cycle implies that there is no guarantee of a positive outcome (the risk factor associated with the hero’s journey).

This dynamic process denotes a scale of degrees of suffering ranging from mild discomfort to extreme life-threatening pain. Therefore, in the embodiment of heroism thesis heroism is understood as transformation through struggle, experienced and expressed in the everyday in varying degrees or forms. Specifically, in this working definition a hero, or hero-becoming, is understood as:

- any person who has the ability, capacity or willingness to accept or endure—and in some cases impose on oneself and self-propagate—varying degrees of struggle throughout one’s lifespan;
- be shaped by this struggle and, under certain conditions, overcome or rise above it;
- resulting in its elimination or reduction at a particular instance of one’s life-cycle, and a deep irreversible transformation.

In short, the above parameters can be conceptualized as biopsychosocial (to borrow the term from Engel’s 1977 biopsychosocial model of illness and well-being) resilience, echoing research trends in the sciences zeroing in on broad-spectrum resilience biomarkers that may enhance well-being overall (Giller, 2014; Lawrence, Phillips & Liu, 2007), as well as contemporary efforts to spread heroism training and foster psychosocial resilience. This is the capability of resilience across multiple spheres—the widespread biopsychosocial impacts of heroism asserted by Kinsella (2012) and the heroic body’s five-dimensional framework suggest the requirement of this type of resilience that is canvassed in the HO’s broader ecology. Heroism is the ultimate journey inwards; the prototypical definition of a hero is arguably the figure that is faced with the deepest and darkest conditions who should, by all accounts, be doomed to fail. Yet, they somehow rise up despite all odds and return (or are “resurrected” in transcendental terms); the very definition of resilience requires (a) adversity and (b) the capacity to return from it, as described by Nelson (2011).

The proposed definition suggests that there are multiple hero journeys within the lifespan of a single organism, with varying degrees of suffering, healing and transformation. The energizing property of the dynamical HO self-system denotes its “operant intentionality” in agreement with Merleau-Ponty’s (2012, as cited in Moya, 2014, p. 1) embodiment thesis. It is the premise of the embodiment of heroism thesis that behind every instance and story of human greatness is a deep hero’s journey founded on these principles of the HO and heroism-as-process, and grounded in a dynamic relationship between suffering and healing. Assessing the role inflammation and stress play on the immune system and how the organism reacts is thus likely to be critical to this enterprise. Medical research centers such as the Center for Inflammation and Regeneration Modeling (CIRM) at the McGowan Institute for Regenerative Medicine (2014) state as their central mission “optimizing the regenerative potential intrinsic to many organ systems … [and]
understand[ing] how we can facilitate the body's ability to heal itself.” Understanding the “pivotal role of inflammation” is cited as central to realizing this goal (CIRM, 2014). Strategies for defining, teaching and fostering heroism in the everyday must therefore be centered on life coping and stress management skills to be effective and resonate with individuals and communities in a post-millennium era, and acknowledge the paramount importance of the complex ecology of suffering for HO self-systems and the realization of their inherent energizing properties.

Physical Intelligence, Embodied Agency and Leadership in the Ecological System of the Hero Organism

An important consequence of the epistemic function of narratives of heroism is the development of “emotional intelligence” (Allison & Goethals, 2014, p. 171). But can we extend this notion to the emerging science of physical intelligence (PI)? First, we must consider the question: why intelligence in relation to heroism? Allison and Goethals (2011, pp. 61–62) propose “the Great Eight” behavioral properties of heroism: “Smart, Strong, and Selfless, Caring and Charismatic, Resilient and Reliable, and finally, Inspiring.” “Smart” is indeed one of the properties directly related to heroism in this research. However, all the above characteristics suggest a degree of intelligence—researchers are increasingly recognizing the presence of multiple types of intelligences (Gardner, 1983).

As discussed earlier, the heroic body as biological organism is housed in the pre-conscious, the habitual body and the body schema. The role of PI therefore takes on a central role in the embodied discussion of heroism and the HO. Lobel (2014c) discusses how our “sensory-motor experiences,” including little considered aspects of our physical world such as color, temperature and surface textures, influence us in unimaginable and unexpected ways. Emergent understandings of these affective aspects and their likely role as determinants of heroism and the heroic body, call for the expansion of the function of hero stories and heroic action from the domain of emotional to physical intelligence. Empirical findings in PI that our everyday physical experiences can “have subtle but profound influences on our thoughts, perceptions, and judgments” (Lobel, 2014a, p. 4) are situated firmly in the history of embodiment literature. This provides a solid foundation on which to begin to appreciate the role of physical intelligence, or how our sensory and embodied reality affects our perception, cognition and so forth, in heroic sensibility and action.

In the embodiment of heroism thesis the conceptualization of heroic physical intelligence is situated in the ecology of organisms—this endeavor is accurately reflected in Turvey and Carello’s (2012) exploration of “Intelligence from First Principles” offering a set of “Guidelines for Inquiry into” PI. Turvey and Carello (2012) have been proponents of a more integrative brand of psychology for over 30 years and are joined by a stream of emerging thinkers. This is a transdisciplinary approach that seeks to unify culture and science in its conceptualization of the term “organism.” It is not a conventional concept of the organism reduced to an analysis of its biological properties (e.g. brain, neurons) as isolated “crude matter,” but rather as part of a larger dynamic eco-system, aptly mirrored in the Johnson (2008) based concept of the ecological body and Engel’s (1977) biopsychosocial model. The foundation of ecological psychology “is the question of how organisms make their way in the world (and not the historically popular question of how a world is made inside of organisms)” (Turvey & Carello, 2012, p. 4), suggesting an “organism’s journey.” Ecological psychology joins embodiment literature in the battle against the mind-body dualist tradition and attempts to ameliorate its damage:

It is clear that for the past 50 years, an alternative paradigm has developed within psychology that does not suppose that the brain is the seat of intelligence … Once James Gibson became disaffected with the dominant paradigm (which really dates to the 1600s …) and
questioned the assumptions on which it rested, a natural-physical approach to perceiving, acting, and knowing proceeded inexorably.

(Turvey & Carello, 2012, p. 25)

This could provide the foundation for the concept of the ecology of hero organisms, linking it to PI as explored preliminarily in Lobel’s (2014a, 2014b, 2014c), as well as Turvey and Carello’s (2012) work.

This highly embodied view of organisms is not limited to the study of the microcosm as applicable to traditional biology—it is one that views this microcosm in the context of the macrocosm it is situated in and how it functions within it. This is the core tenet of the embodiment of heroism thesis, the HO and its ecology. It reflects an “approach to intelligence that is physically grounded” (Turvey & Carello, 2012, p. 3). Significantly, the ecological approach does not suggest that any particular set of organisms is privileged over another, and that there are “laws” underlying the behavior of organisms. Ecological psychology seeks to uncover these laws which “underlie intelligent capabilities” by offering “guidelines for how one might address intelligence not as the special province of the neurally endowed but as physically generic” (Turvey & Carello, 2012, pp. 3, 4). In line with this approach, heroism is proposed to be physically generic or embedded and embodied in the very makeup of organisms operating under baseline parameters, advancing the re-conceptualization of human (and cells overall as the foundational unit of organisms) as hero organisms and dynamical self-systems.

Aside from the advancement of deep intelligence across emotional and physical parameters in the heroic embodied mind, the function of the HO is further illuminated by the critical connection between the concept of leadership and the resulting “inspiring … to action” (Allison & Goethals, 2014, p. 173) impact of the energizing function of hero narratives in the HLD, and agency in PI theory. Allison and Goethals’ (2014, p. 169) Dynamic is strategically framed around the notion of “heroic leadership rather than as simply heroism” based on their focal premise expounded in previous works (Allison & Goethals, 2011, 2013; Goethals & Allison, 2012) “that although not all leaders are heroes, all heroes are leaders.” Turvey and Carello (2012, p. 4) highlight that “Agency, scientifically explained, is the goal of ecological psychology: the manifest capability of all organisms to exhibit some degree of autonomy and control in their encounters”—this implies a degree of leadership exhibited in organism behavior, a critical property identified in heroism by Allison and Goethals (2014).

The key elements of agency according to Turvey and Carello (2012, pp. 4–5) are: “(a) variation of means to bring about an end (flexibility), (b) coordinating current control with emerging states of affairs (prospectivity), and (c) coordinating current control with prior states of affairs (retrospectivity).” By implication, we may speak of the flexibility, prospectivity and retrospectivity of the heroic body, and heroic action or agency—an agency which “is likely emergent from spontaneous self-organization” (Turvey & Carello, 2012, p. 5) of the dynamical HO self-system. These three properties roughly correspond with the three-fold working definition of “heroism-as-process” and as biopsychosocial resilience introduced in page 24: (a) any person who has the ability, capacity or willingness to accept or endure varying degrees of struggle throughout one’s lifespan (retrospectivity); (b) be shaped by this struggle and, under certain conditions, overcome or rise above it (prospectivity); (c) resulting in its elimination or reduction at a particular instance of one’s life-cycle (flexibility). This further suggests a high degree of operant intentionality and agency within an ecology of suffering, fostering the self-organizing quality of the heroic embodied mind and HO around disorder and discomfort to eventuate a state of transformation and healing.

Here, the call for a connection between the ecological psychological notion of PI and heroism takes the theory of different types of intelligences in relation to Allison and Goethals’ (2011) Great Eight traits of heroism to another level. All these traits are representative of agency, or the “manifest capability of all [hero] organisms to exhibit some degree of autonomy and
control in their encounters” (Turvey & Carello, 2012, p. 4). This embodied reading of multiple intelligences, the depths of which we are clearly only beginning to comprehend, places the epistemic function of the HLD in the advancement of knowledge center-stage in the HO and the ecological heroic body:

Characterizing knowing as coordinating organism and environment demands the kind of serious treatment of environment that is absent from the prevailing view of knowing as a property of mind. The emphasis on the ecological scale highlights the centrality of perception and action to defining the essence of effective, intelligent behavior. Characterizing knowing as a natural phenomenon is at once acknowledging intelligence as physical while dismissing business-as-usual explanations that are satisfied with borrowing intelligence as a means to explain it.

(Turvey & Carello, 2012, p. 7)

The lived heroic body is grounded in this deeper sense of embodied knowing that coordinates its actions as an organism within its broader ecology, in which knowledge and the epistemic function is physical. This is the lived heroic actor and heroic “body as subject, as experience, as agent” (Gallagher & Zahavi, 2008, p. 155) and, by implication, as leader. The heroic body’s perceptions and actions define effective and intelligent heroic behavior. The epistemic function of hero stories and heroism in the suggested advancement of physical intelligence and knowledge, and the energizing function with its thrusting of the HO into heroic action, agency or leadership, are therefore inexorably linked within an embodiment of heroism thesis.

For Turvey and Carello (2012) the ecological enterprise that seeks to uncover the laws that underlie intelligent capabilities is far-reaching—an approach to intelligence that is physically grounded is applicable not only to humans, but animals, micro-organisms, and even non-sentient beings. This tenet allows us to expand the concept of the HO to other living, and non-living organisms. As Turvey and Carello (2012, pp. 3–4) put it, “The change of focus from inside-the-head to outside-the-head … means that ecological psychology is not human-centric”—this driver of ecological psychology “as a psychology for all organisms” gives us permission to conceptualize hero organisms not only in the human species, but beyond, revealing a vast network of life grounded in heroic properties and evolution. We may thus begin to conceive of a radical notion of cells as physically intelligent entities that demonstrate heroic leadership. In her exposition of the “apparatus of bodily production,” Haraway (1988, pp. 592, 595) advocates that “Situated knowledges require that the object of knowledge be pictured as an actor and agent.” This three-dimensional, interactive and unorthodox view of our own body as an “active entity,” a “witty agent” and “a most engaging being” (Haraway, 1988, pp. 593, 594), can greatly contribute to the (re)telling of scientific stories of regeneration via the lens of heroic embodied intelligences.

Although this chapter does not outline what the specific base laws governing the HO might be, it is clear that ecological psychology and PI are strongly linked to the embodiment of heroism thesis, and can provide a platform on which we may begin to significantly contribute to the advancement of the field of heroism science in its transdisciplinary scope. This section provides a cursory indication of the room for collaborative research and joint inquiry between PI, heroism and heroic leadership; this is likely to culminate in innovative narratives of heroism and heroic embodied intelligence, as for example, a re-reading of the hero’s journey as a “complex, open thermodynamic system” (Turvey & Carello, 2012, p. 25). Given that we are still at the very early stages of heroism science, this allows researchers scope for creativity and flexibility in the frameworks that are yet to be developed. In this sense, the concepts of the HO as a dynamical self-system and the ecological heroic body provide pillars on which heroism science may join ecological psychology in this enterprise of deepening our knowledge of complex intelligent
behaviors and systems—one that is for many “obligatory and serves as an engine of discovery” (Turvey & Carello, 2012, p. 25).

**Flow, Deep Embodiment and the Hero’s Journey—the Conditions and Mindset of Heroism-as-Process**

Merleau-Ponty (1962, as cited in Smyth, 2010, p. 178) suggested, “the hero is someone who ‘lives to the limit … his relation to men and the world’.” Allison and Goethals (2014, p. 167) concur, noting, “The human tendency to bestow a timeless quality to heroic leadership is the culmination of a pervasive narrative about *human greatness* [emphasis added] that people have been driven to construct since the advent of language.” We can thus surmise that *hero stories are stories of peak human performance, activity and agency*. It is interesting that the build-up of momentum in the study of heroic leadership and heroism is coinciding with the burgeoning of emerging advanced narratives in optimal human functioning. Perhaps the most prominent narrative of peak performance pervading both science and culture is the Flow Genome Project (www.flowgenomoproject.co). Co-founder Steven Kotler has reinvigorated a field of research that has had a history of almost 150 years. Drawing on Csikszentmihalyi (1990) and over 10 years of research, Kotler (2014a, 2014b) explores the mechanics of flow in its most heightened manifestations in adventure sports. In particular, Kotler (2014a) investigates how cutting-edge technologies are facilitating an unprecedented understanding of the mechanics of the flow state at the neurochemical level.

This is an innovative enterprise that aims to “hack” the science behind this elusive “quasi-mystical” state and bring it into the everyday (Kotler, 2014b), similar to contemporary efforts centering on the notion of the banality of heroism. Kotler (2014b) notes that traditionally the activation of flow has involved the presence of extreme risk and danger—this provides a critical link between the instrumental presence of danger in hero stories (Allison & Goethals, 2014), risk in contemporary understandings of heroism (Anderson, 1986; Franco et al., 2011; Eagly & Becker, 2005; Stenstrom & Curtis, 2012; Weinstein, 2012), and the mechanics of peak states of human performance. Further, Kotler (2014a, pp. 97–98) notes that “In the world of philanthropy, *helper’s high* is the term for an altruism-triggered flow state, literally brought on by the act of helping another.” Although altruism may not be a definitive aspect of or synonymous with heroism, with recent empirical data indicating that “that there are fundamental perceived differences between heroism and altruism” (Franco et al., 2011, p. 108), there is still debate and significant areas of overlap (e.g. see Shepela et al., 1999). The enduring centering of heroic behavior in relation to a surrender or “service” to an “other” (Campbell, 1988; Franco et al., 2011, p. 101), whether that be a person, a group, an ideal, or something else, spells a critical connection between selfless flow states and heroism. The premise of emerging research is that if the mastery of flow can be realized without the presence of extreme physical risk, this could result in a critical “paradigm shift” on an evolutionary scale, marked by a “whole-body transformation” in the human species (Kotler, 2014a, pp. 24, 74). We can thus begin to reconceptualize heroism and the hero’s journey as peak flow states and key evolutionary processes.

The notion of heroism as an evolutionary process geared towards achieving a peak state of human performance or “transformations of consciousness of one kind or another” (Campbell, 1988, p. 155) is in direct alignment with the HLD’s energizing function of hero narratives in advancing human evolution and development, as well as increasing agency and PI in the HO as part of the embodiment of heroism thesis. This “common theme of an expanded consciousness” in transformation has been described as “an evolutionary process” for centuries (Wade, 1998, p. 714). The process of personal transformation, like the hero’s journey, “is circular and expanding. Each transformation brings the individual to higher levels of being,” through the confronting of pain, struggle and reordering of identity (Wade, 1998, p. 714). This is a view of every individual
as a hero-in-process or hero-becoming, suggesting heroism’s evolutionary property from a psychosomatic standpoint given the deeply experiential and complex nature of the transformative journey.

How can cutting-edge flow research enhance our understanding of heroism as a deeply embodied, energizing and action-oriented transformative developmental process? Kotler, who went through a radical transformative journey of this type curing himself from a debilitating autoimmune disease, sets out to demonstrate that the reformation and transformation of neural networks lies at the heart of this process. Kotler (2014a, pp. 65–69; 2014b) outlines the specific neurochemicals involved in the flow process, the “Big Five” (“dopamine,” “norepinephrine,” “endorphins,” “anandamide,” and “serotonin”), which can have profound healing properties and enhance the immune system when released on a regular basis. This is a bona fide and very specific state of embodied consciousness with precise parameters and descriptors, which have the capacity to rewire and transform the self and being—this aligns with the conceptualization of the hero’s journey as grounded in the lived heroic body. In an evolutionary sense, it is the hero’s journey from “sub-par” or sub-optimal, to normal, to super-normal or “super-human.” Kotler (2014b) joins emerging understandings of the embodied mind and neuroplastic inspired narratives by stating that “the brain can radically alter consciousness to improve performance.”

Many of our publicized heroes are successful leaders, consistent with Allison and Goethals’ (2014, p. 167) statement that the “timeless quality” attributed to heroic leadership is rooted in “a pervasive narrative about human greatness.”

Kotler (2014b) outlines the intellectual tradition of flow research—the broad consensus is that this “ubiquitous” state can manifest in anyone “provided certain initial conditions are met,” once again mirroring Franco et al.’s (2011) hypothesis of the banality of heroism. Since 1990 neurobiology with advanced imaging of the brain has been brought into the conversation to better understand and “see” this state of consciousness, contributing to the literature of embodied cognition. But perhaps the most crucial connecting rod of flow to heroism is struggle—struggle, pain and suffering in its varying degrees is the primary activator of the transformative flow process and its evolutionary cycle (Wheat, 2013). This is the ultimate state of human performance, when “life and limb is on the line” (Kotler, 2014b); a quality that also appears to be the core instigator of heroism, heroic action and the hero’s journey, and entrenched in the heroic body’s ecology of suffering. In light of the above, it is evident that the renewed interest in flow research, the focus of which is precisely the study of human greatness and its unique properties, stands to offer critical clues to the embodied state of heroism and the heroic embodied mind.

Franco et al. (2011, p. 100) propose that everyone is “capable of heroism with the right mindset and under certain conditions”—what are this mindset and those conditions? The Flow Genome Project is premised on the notion that “flow states have triggers; these are pre-conditions” (Kotler, 2014b). Kotler (2014b) identifies three keys to unlocking this potential: “deep embodiment,” “high consequences” and “rich environments.” Aside from deep embodiment, high consequences and rich environments also lend directly to a critical conflation between heroism and flow in the presence of a degree of risk which is instrumental to heroic action. Rich environments result in heightened risk, awareness and perception. This pre-condition of flow directly correlates with Zimbardo’s (2015) call for the development of “situational awareness” as part of our heroic training and the primacy of “opportunity” (Zimbardo, 2011) for the activation of heroism; notably, situational awareness is also a key property in the state of flow (Kotler, 2014a, p. 72), as is “affordances (J. J. Gibson . . .): organism-specific opportunities for action encountered in the environment” to ecological psychology (Turvey & Carello, 2012, p. 5). Not focusing in these heightened environments can pose a threat to our physical and mental well-being, and at extremes, survival. We can thus infer that rich environments activate the flow embodied state of heroism and facilitate quick response time in
the HO for situations that call for heroic action. Learning to recognize these opportunities and environments ultimately lies in the “natural purposiveness” (Merleau-Ponty, 1964, as cited in Smyth, 2010, p. 179) that is exemplified in the astutely trained habitual heroic body.

These powerful synergies among the hitherto disparate fields of embodiment, heroism and heroic leadership, flow, PI, ecological and mainstream psychology, systems theory, and potentially many more, make a strong case for the possibility of joint research ventures between the Flow Genome Project, The Resilience Project searching for genetic heroes, and a “Heroic Body or Hero Genome Project.” These may help to identify synergies between the Big Five, Great Eight, PI in metaphor, the embodied state of heroism and other mutually beneficial research avenues. The cursory linkages outlined above between flow research, embodiment theory and heroism lead us to consider: can we apply these triggers, and demonstrate their presence and critical importance in specific case studies to support the notion of heroism as a distinct state of embodied consciousness or flow?

These emerging connections directly lead into the idea that we can manipulate the environment to induce the Big Five neurochemicals of flow states, and by implication instill heroic action and heroic consciousness, thereby altering our cellular and genetic profile. This is dynamic heroism-in-process, and the neurobiology and culture of the HO and its ecology. By uncovering the inter-relationship between the pre-conditions of the flow state, and the mindset and conditions of heroism as a peak state, we may begin to expose the laws governing the physical and emotional intelligence of hero organisms and their ecological properties, which are embodied and physically generic to all of us. Decoding and “hacking” heroism alongside flow can provide invaluable insights for the field of heroism science in their emerging role as transdisciplinary sciences of peak states of human performance, and achieve Merleau-Ponty’s (1962, as cited in Smyth, 2010) highest end of lived embodied heroism with the absolute self-realization of humanity and its accession to the universal.

**Heroism: The Final Frontier**

This chapter has attempted to demonstrate heroism as embedded and embodied in the everyday. By positing heroism as a distinct state of embodied consciousness comprising specific parameters we may begin to appreciate and dissect its complex architecture. It is proposed that the ubiquity, and concurrently, elusive nature of the phenomenon lies in that there is never a complete absence of heroism, but rather low, middle or peak expressions—every individual is a “hero-in-waiting” (Zimbardo, 2015) demonstrating various levels of biopsychosocial resilience at any given point, as an organism embedded in a larger ecological structure. This transdisciplinary framework of heroic transformation aims to reconceptualize cognitive and cellular agents (and therefore potentially both human and non-human agents) as hero organisms and dynamical self-systems capable of demonstrating fluidity, leadership and heightened organizational awareness in times of crisis and stress. This is a system in which everyone is biologically, psychologically, socially and spiritually equipped to be a hero. For Franco et al. (2011, p. 112) “the question of what the term “hero” will mean for this generation is yet to be answered.” Zimbardo’s (2006) idea of the banality of heroism, originally presented in the *Edge* in response to the intellectual challenge “What is your dangerous idea?,” is precisely that—a provocative notion which could have wide-reaching and lasting impacts for this generation, and generations to come. If these vibrant emerging research linkages are any indication, the central question posed by the authors (Franco et al., 2011, p. 100) as to whether heroism is “fundamentally ordinary and available to all of us” may well be the holy grail of our species.
### Table 8.1 The Parameters of the Hero Organism, the Heroic Body and their Ecological Landscape

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<tr>
<th>THE 5 PROPERTIES OF THE HEROIC BODY</th>
<th>Biological Organism</th>
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<th>Social</th>
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**ADVANCEMENT OF BIOPSYCHOSOCIAL RESILIENCE = EMBODIED HEROISM**

Sources: a transdisciplinary framework drawing from Allison and Goethals (2014); Engel (1977); Kotler (2014a, 2014b); Merleau-Ponty (1962, 1964); Turvey and Carello (2012)
Note

1 Table 8.1 outlines these preliminary connections and the transdisciplinary parameters of the epistemological concept of the hero organism, as well as the functions, processes and consequences of embodied heroism.

References


The Hero Organism


James, W. M. (1878). Brute and human intellect.


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Olivia Efthimiou