

## The Self Beyond Itself: Further Reflection on Spinoza's Systems Theory of Ethics

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### ABSTRACT

I offer here a new theory of moral agency –why people are ethical, why they are not, and how to get them to be more ethical. I look broadly at evidence from the new brain sciences, systems theory, and Spinoza's philosophy to address the question. Spinoza's vision of the infinitely expansive boundaries of the self as we progressively take in and embrace the world, and also extrude ourselves into the universe, forms the basis for rethinking moral agency and moral psychology. His vision opens up a broader swathe of the evidence coming out of both the theory of complex adaptive systems and also out of the new brain sciences than is usually thought of as relevant to exploring and understanding what makes us moral beings. It points us toward the pertinence of understanding moral agency in terms of nested complex adaptive systems.

Keywords: Spinoza, moral agency, complex adaptive systems, affective neuroscience

### Introduction

I argue here that it is a sense of self as spanning mind-body and world that is the origin and nature of our moral investment and agency in the world. We locate our basic biological sense of self-preservation and self-furthering in a self distributed beyond our skin into our environments, natural and human. This is why we care about the world and why it is the arena of our moral concern and of our ideals.<sup>1</sup> In this paper I review some of the mounting evidence that the scope of the self as moral agent, of who is performing a given moral action, can be *extended* into the environment as extensions of self and also *distributed* beyond the individual to groups, and even encompass at times whole contexts. The scope of the self as actor, its agency, can in certain circumstances be laid at the feet of social-cultural-historical systems, spanning time and place and even generations.

The self is permeable and relational (as well as self-promoting, self-protecting, and self-furthering) –rather than closed and discrete and playing out its own internal program upon the world stage. Neurological body maps literally *extend* the 'me' to include the hammer I use when I nail the picture on

the wall or the car when I'm driving. Research reveals that the feeling I have that Tessie, my metallic light blue Acura, is an *extension* of my body when I drive in fact reflects the neural reality. For my body maps are extended to include its proportions and motions as within the bounds of my self that I feel and control. They are mapped within the 'body mandala', so to speak. There is a 'tool-body unification' or *extension*. There is also a certain amount of space surrounding our body, 'peripersonal space', that is like a bubble around us that is included in our neural self-maps.<sup>2</sup> The expansion to include tools and other objects that we use to do things and carry out our aims, as well as all kinds of biographical and cultural and familial information, is now referred to in neuroscience as the Extended Self.

The philosopher Andy Clark, in his 2008 book, *Supersizing the Mind*, has written about how the mind spills over into the world.<sup>3</sup> When he argues in this book that the mind is 'extended' he means that "at least some aspects of human cognition ... [are] realized by the ongoing work of the body and/or the extraorganismic environment," so that the "physical mechanisms of the mind ... are not all in the head" and in our central nervous system.<sup>4</sup> When we use a computer or a pad of paper, a calculator or our address book, our mind has both distributed memory and even operations outside itself.

This view of the matter radically complicates and reconfigures the nature of the relationship between mind and world, the neurophilosopher David Chalmers.<sup>5</sup> Andy Clark says that we have "a fundamentally misconceived vision ... that depicts us as 'locked-in' agents –as beings whose minds and physical abilities are fixed quantities apt (at best) for mere support and scaffolding by their best tools and technologies." He proposes instead that our "minds and bodies are essentially open to episodes of deep and transformative restructuring in which new equipment (both physical and 'mental') can become quite literally incorporated into the thinking and acting systems that we identify as our minds and bodies."<sup>6</sup> As an example Clark mentions a robot arm, an arm that extends one's reach and gets mapped into self-maps whose scope now includes its reach.

Clark's analysis supports what Antonio Damasio proposed about the incorporation of the extended biographical and cultural aspects of the self in a third level of self-mapping: becoming and being a self, on the one hand, and responding to and incorporating multifaceted contexts are one and the same ongoing process. Yet there is more. For we not only discover the world within us but *we also discover ourselves in the world, identifying ourselves with parts of it*. The psychoanalysts call this Projective Identification. Philosophers since Spinoza have referred to the Group Mind. Psychologists have studied Mass Psychology. And neuro-philosophers have begun to explore the phenomenon of *Distributed Agency*, a subject of action that is larger than the individual. The Distributed Self leaks out of its boundaries of the skin, and can even feel itself somewhere else entirely outside the body. We can call this: *The I that is We*.

<sup>1</sup> See my articles: H. Ravven, "Spinoza's Anticipation of Contemporary Affective Neuroscience" in *Consciousness and Emotion*, an interdisciplinary science and philosophy journal ed. by Ralph Ellis and Natika Newton, (Volume 4 Number 2, 2003) and, "Spinoza and the Education of Desire," *Neuro-Psychoanalysis*, vol. 5, issue 2, 2003, pp. 218 - 229. My (invited) review essay is part of an extended exchange among neuroscientists and philosophers, the neuroscientists Jaak Panksepp, Douglas Watt, and Antonio Damasio and myself on Antonio Damasio's recent book, *Looking for Spinoza: Joy, Sorrow, and the Feeling Brain*. Antonio Damasio's response to my review essay appears just after it as does his response to the review essay of Panksepp and Watt

<sup>2</sup> Blakeslee and Blakeslee, *The Body Has a Mind of Its Own* (Random House, 2008): pp. 142-143 and 117-118

<sup>3</sup> Andy Clark, *Supersizing the Mind: Embodiment, Action, and Cognitive Extension* (Oxford, New York, Auckland, Cape Town, Dar es Salaam, Hong Kong, Karachi, Kuala Lumpur, Madrid, Melbourne, Mexico City, Nairobi, New Delhi, Shanghai, Taipei, Toronto: Oxford University Press, 2008)

<sup>4</sup> *Supersizing the Mind*, p. 82

<sup>5</sup> *Supersizing the Mind*, p. xvi

<sup>6</sup> *Supersizing the Mind*, pp. 30-31

## 'The I that Is We'

"Humans are collective thinkers, who rarely solve problems without input from the distributed cognitive systems of culture."<sup>7</sup>

-Merlin Donald

"Where do you stop, and where does the rest of the world begin? There is no reason to suppose that the critical boundary is found in our brains or our skin."<sup>8</sup>

-Alva Noë

I approach the discovery of the self beyond itself and in the world from a number of angles. The evidence is building for the *extension* of our selves into our tools and computers and pencils, into robot arms and cell phones and, of course, our cars; and for the *distribution* of our sense of self into shared environments and contexts, from culture and family to nation, to school and neighborhood, to generation and church. Here we find the source of a sense of *distributed agency*, that it can be the group, rather than the individual, who is performing an action or making a decision. There is growing evidence of a distributed self from widely different quarters: from psychological studies of infants in their development of 'co-consciousness', a shared world and a self co-constructed by self and environment; from studies of our unconscious thinking and feeling, which reveal that each of us has a number of implicit working self-concepts rooted in two-person repertoires that arise from self-with-significant other (mother, father, siblings, and the like) relational patterns ingrained in early childhood and triggered ever anew by the environment; from the surprising neurobiology of out-of-body experiences that reveal that we can discover our feeling of self outside of our bodies and lodged in parts of the environment; from the neurochemistry of the self-other boundary, a boundary that breaks down and enables the other to feel like self in empathy and love but also in shared anger and fear; from the discovery of mirror neurons, brain cells in others when they act, which directly cause homologous brain cells to fire in mere observers of the action, creating a shared experience of actor and observer *from the inside*; and from the sociological analysis and meta-analysis of success and intelligence, whose findings identify the major causes of outstanding individual achievement as environmental, social and cultural, rather than individual or genetic.

Taken together the amassing evidence ought to begin to change where we look when we're searching for ethics. We should begin to look not inside the individual, as we have assumed, but rather outside, in the environment. Some philosophers and other theorists have begun to do just that.

There is a growing movement to rethink thinking, and the mind more generally, as embodied and embedded in its environments. So the mind is not a brain in a vat. The days

when thinking is likened to a computer program are coming to an end. As the UC Berkeley philosopher Alva Noë puts it in his book, *Out of Our Heads: Why You Are Not Your Brain, and Other Lessons from the Biology of Consciousness*, the standard view, not only in philosophy but in neuroscience, has been that "we are brains in vats on life support. Our skulls are the vats and our bodies the life-support system."<sup>9</sup> But that standard view is turning out to be wrong.

One of the things that the old view assumed was that it made no difference whether thinking takes place in an embodied person embedded in its environment or instead in a machine or something else. So a good analogy to the way thinking was supposed to work was a television. You could see a movie in a theatre, on TV, or on your computer and it wouldn't matter much except for the scale and the clarity. But the movie was the movie just different technology bringing it to you. But that's not the way the mind is turning out to work.

Instead, and contrary to decades of the dominance of the standard 'movie' account in cognitive science, the ways that the brain is biologically, neurologically, and ecologically constructed are coming to be appreciated as supremely relevant to the *content* of the mind. The mind is not a computer running a discrete genetic or other kind of internally constructed program that would be the same on any type of hardware. That computer or media metaphor, a metaphor that has driven a great deal of research, is simply misguided when it comes to human thinking. For the body-in-context shapes the mind—and the content of the mind—in crucial respects rather than merely underlying it.

The new conception of the mind is that it is not only embodied but also *embedded* in its environment: in its contexts and situations and histories and communities of all kinds, social and cultural and linguistic and natural. As Alva Noë puts it,

The limitations of the computer model of the mind are the limitations of any approach to mind that restricts itself to the internal states of individuals.<sup>10</sup> ... The content of experience—what we experience—is the world; in the world's absence we are deprived of content.<sup>11</sup>

Finally, in addition to the *embodiment* and *embeddedness* theses, there is the *extendedness* and *distribution* thesis. This is the claim that the mind is not confined to the skull. It means that, "the boundaries of cognition extend beyond the boundaries of individual organisms,"<sup>12</sup> because "the skull is not a magical membrane." Instead, both what's in the mind but also *who's doing the thinking and acting* are "boundary crossing" and "world involving."<sup>13</sup> That's an idea that 'blows your mind', blows it open—literally!

<sup>7</sup> Merlin Donald, "How Culture and Brain Mechanisms Interact in Decision Making," chapter 9 (pp. 191 – 205) in Christoph Engel and Wolf Singer, ed., *Better Than Consciousness? Decision Making, the Human Mind, and Implications for Institutions*. Strung Form Reports, (Cambridge, Massachusetts and London England: MIT Press, 2008), p. 192

<sup>8</sup> Alva Noë, *Out of Our Heads: Why You Are Not Your Brain, and Other Lessons from the Biology of Consciousness* (New York: Hill and Wang, A division of Farrar, Straus and Giroux, 2009): p. 60 My emphasis

<sup>9</sup> *Out of Our Heads*, p. 5

<sup>10</sup> *Out of Our Heads*, p. 169

<sup>11</sup> *Out of Our Heads*, p. 180

<sup>12</sup> Philip Robbins and Murat Aydede, "A Short Primer on Situated Cognition," Chapter 1 in Robbins and Aydede, editors, *The Cambridge Handbook of Situated Cognition* (Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore, São Paulo, Delhi: Cambridge University Press, 2009): p. 3

<sup>13</sup> *Out of Our Heads*, pp. 48-49

Our thinking and our acting are not separated, as we tend to think of them as cognitive reflection on, and an internal picture (representation) of, a world separated from ourselves upon which we take independent action. Instead, perception and cognition depend upon and are crucially constructed by the way we *interact* with the world. Cognition is now being shown to involve the sensory motor brain, that is, “motor capacities, abilities, and habits.”<sup>14</sup> This may occur both ‘online’, so to speak, and ‘offline’. Action and cognition are, in some not yet fully delineated or completely understood ways, bundled together, causally interdependent, rather than discrete and independent processes. Our perception is interdependent with bodily motor relationships—which is to say perception is an *interaction with its environment* and what is perceived *is* the interaction, rather than a self-removed grasp of the external environment *per se*.

The theory of how perception is shaped by how we interact with things was first put forth in the 1960s by psychologist, James Jerome Gibson of Cornell University. Gibson theorized that we—and animals as well, Gibson proposed—do not perceive objects, or the environment more generally, objectively in terms of the shape and volume of objects. Instead, we perceive the environment and objects in terms of how we envision how we can interact with them; we do not see objects *per se* but rather “affordances that make possible and facilitate certain actions.” The Blakeslees explain what Gibson meant by ‘affordances’ by suggesting that, “handles afford grasping. Stairs afford stepping. Knobs afford turning. Hammers afford smashing.” We perceive the world, according to Gibson, “through an automatic filter of affordances.”<sup>15</sup> As the Blakeslees put it:

Your perception of a scene is not just the sum of its geometry, spatial relations, light, shadow, and color. Perception streams not just through your eyes, ears, nose, and skin, but is automatically processed through your body mandala to render your perceptions in terms of their affordances. That is generally true of primates, whose body mandalas have grown so rich with hand and arm and fine manipulation mapping, and even more so for you, a human animal.<sup>16</sup>

If thinking, and even our basic perceptions of the world around us, are not separate and separable from acting, then moral agency cannot be, as we tend to assume, about understanding and assessing situations from a removed perspective, and then subsequently, rationally and independently, choosing the right action. For on the new model all three are bound together—perhaps in the way that emotions and cognition have been found to be bound together in neural packages and pathways.

And mirror neurons also lend support to the view that we *act out* scenarios as the basis of understanding others’ actions. Motor schemas seem to be far more than about action as the scientific terminology has characterized them. Perception, emotion, action, cognition, empathic understanding

of others, all seem to be integrated together in a context that includes self and environment mutually interacting. We are within systems.

What we believed to be discrete and bounded mental processes that ‘we’ then in some sense preside over from above and bring together, are turning out to be more intimately bound together from the start and all the way up the line. There is no independent ‘we’ or ‘I’ outside of these bundled perceptual, conceptual, affective, and enactive processes and self-world environments; there is no ‘I’ who stands above them as if they belong to someone else or are distant parts of the world, and looks down upon them—the body as if ‘other’ in Cartesian fashion—from the perspective of an inner mental ‘I’ who then decides or feels or chooses or acts. As Alva Noë puts it:

Scientists seem to represent us as if we were strangers in a strange land.<sup>17</sup> ... Our relation to the world is not that of an interpreter. ... Our relation to the world is not that of a creator. The world is bigger than we are; *what we are able to do is to be open to it.*<sup>18</sup>

#### **Openness to the World: Cognitive Externalism and Distributed Agency**

*“It’s not what is inside the head that is important, it’s what the head is inside of.”*

--James Jerome Gibson

*“Human decision making is most commonly a culturally determined process ... When the individual ‘makes’ a decision, that decision has usually been made within a wider framework of **distributed cognition**, and in many instances, it is fair to ask whether the decision was really made by the distributed cognitive cultural system itself, with the individual reduced to a subsidiary role. ... Distributed systems are able to change where in the system each component that influences a certain decision is located.”<sup>19</sup>*

--Merlin Donald

Openness to the world would seem to be our fundamental posture. We are of the world and in it, engaged in and engaging the environment and our many contexts. The misleading but dominant metaphor of ‘seeing’ as our basic relation to the world obscures this reality. Seeing places us too much on the outside looking in. Let’s replace sight with touch. If we think of ourselves as fundamentally touching and being touched, acting and being acted upon, and acting together with others, then we can grasp our fundamental openness. Each of us can come to be aware of ever-larger contexts and environments in which we are embedded, as affecting and being affected. The mere local context we grasp is too narrow to contain or explain the scope of the openness of the self. The self we are and with which we can identify moves ever outward. We discover our thinking, emotion, and action as a product of the group and of ever-wider contexts and environments. We come to know ourselves by discovering ourselves beyond ourselves. The self is *distributed*.

The brain interacts with the world in ways that influence our perception itself. Pivotal findings of neuroscience,

<sup>14</sup> Philip Robbins and Murat Aydede, p. 5

<sup>15</sup> Blakeslees, p. 106

<sup>16</sup> Blakeslees, p. 106

<sup>17</sup> *Out of Our Heads*, p. 183

<sup>18</sup> *Out of Our Heads*, p. 184

<sup>19</sup> Merlin Donald, p. 202 My emphasis

particularly those of Jaak Panksepp,<sup>20</sup> about the crucial role of action in perception were anticipated by the philosopher Susan Hurley beginning in the 1990s, and especially in her first great breakthrough work, *Consciousness in Action*.<sup>21</sup> Her insights go a long way to explaining and establishing that the boundary between self and world is not set by our skin. Instead, patterns of interaction are what thinking is all about. In *Consciousness in Action* Hurley argued that action is distributed among mind, body, and world rather than being attributable to the individual alone. And her conjecture has turned out to have a great deal of neurobiological evidence in support of it.

Hurley argues that our standard (and generally unconscious) assumption, that perception and action operate according to an input-output model, is simply incorrect. This means that we do not simply have sensory faculties that bring us (raw) data from the world (input), which we make sense of according to some internal genetic or other program, and then act upon (output). We falsely presume that the mind is bounded in a way that separates it/us from the world, so that input and output are distinct processes.

Alva Noë explains that, “We are not world **representers**. ... Our worlds are not confined to what is inside us, memorized, represented.” Instead, “we live in extended worlds” that are “reachable” rather than “depicted.”<sup>22</sup> By trying to rid us of the presumption that we are ‘representers’, Hurley is banishing our sense of ourselves as observers of the world rather than participants in it. She is banishing the metaphor of ‘seeing’. Another way to put it is that we are not somehow separate from the world, our brains constructing a common intersubjective internal world by imposing standard patterns upon a chaos of disorganized perceptual data that are, thereby, structured in meaningful ways. These subjective and intersubjective constructions, the standard story goes, then play out as films going on in our heads that have a tenuous relation to the actual external world. We are locked in. Hurley sets out to refute this view that the mind is an *internal* program playing out upon a world stage.

Part of the conceptual problem, she says, is that we tend to focus almost exclusively on the input to output direction: how the mind structures incoming percepts. And we tend to ignore the functions from output back to inputs, or, “the way environments, including linguistic environments, transform and reflect outputs from the human organism.” In other words, the world we encounter is not an unstructured arena of chaotic raw data but in fact is (pre-)structured by human practices, linguistic meanings, institutions, histories, cultures, and nature itself. So both directions are just as complex, Hurley remarks; and not only that, they “are causally continuous.” “To understand the mind’s place in the world,” she goes on, “**we should study these complex dynamic processes as a system**, not just the truncated internal portion of them.” Our place in the world is “*a complex dynamic feedback system* [that] includes not just functions from input to output, but also feedback functions from output to input, some internal to the organism [that is, from internal data about the body’s state back to the mind], others passing through the environment before returning.”

<sup>20</sup> Jaak Panksepp (in an unpublished manuscript) calls the complex the ‘Emotion Action Systems’.

<sup>21</sup> Susan Hurley, *Consciousness in Action* (Cambridge, Massachusetts and London, England: Harvard University Press, 1998)

<sup>22</sup> *Out of Our Heads*, pp. 82, 83 My emphasis

Hurley also challenges the notion that the contents of our mind and the structuring of the mind are independent of the world, and the world we take in is independent of the mind. Her book is an extended argument for Externalism, the view that the self is in the world and that self and environment are related in and as interacting open systems. What that means is that there is nothing that is either ‘pure self’ or ‘pure environment’. Hurley says that the Externalism she advocates is a version of Contextualism. Both are always interactively constituted:

The revolution that began with Kant’s arguments about perceptual experience should be carried through to agency. Action is no more pure output than perception is pure input. The whole of the Input-Output picture should be rejected, not just half of it.

When we act, we create a relationship to the environmental context we inhabit, and that relationship both influences what we perceive, on the one hand, and also structures the mind’s way of perceiving.

It is a mistake to confuse the vehicle with the content. The fact that we have *neural architecture* that makes possible a sense of self, does not mean that the *content* of that self is also a product of that architecture alone. Nor are our minds completely passively determined by the. Instead we can understand the internal neural architecture as making possible *openness* to the world and shaping by the world along with our shaping of the world. Person and world are relational, interactional, and also contextual.<sup>23</sup>

The themes of Hurley’s revised approach to the mind—decentralization, self-organizing systems, context dependence, feedback, emergence—have resonance in research programs in connectionism, dynamic systems theory, and artificial life. She remarks that the input-output view in ethics, presupposes and bolsters the claim of free will, for it conceives us human beings as originating sources of causal chains. Hurley gives a deathblow to free will since it envisions human beings, instead, as contextually embedded in natural and social causal networks and webs.<sup>24</sup>

### Complex Adaptive Systems

*Human cognitive processes are inherently social, interactive, personal, biological, and neurological, which is to say that a variety of systems develop and depend on one another in complex ways.*<sup>25</sup>

--William J. Clancey

*“The mind leaks out into the world, and cognitive activity is distributed across individuals and situations. This is not your grandmother’s metaphysics of mind: this is a brave new world. Why should anyone believe it?”*

*“One part of the answer lies in the promise of dynamical systems theory ... as an approach to modeling cognition. ... Insofar as the mind is a dynamical system, it is natural to think of it as extending not just into the body but also into the world. The result is a radical challenge to traditional*

<sup>23</sup> *Consciousness in Action*, pp. 263, 264

<sup>24</sup> *Consciousness in Action*, p. 250

<sup>25</sup> William J. Clancey, “Scientific Antecedents of Situated Cognition,” Chapter 2 in *The Cambridge Handbook of Situated Cognition* (pp. 12-34): p 12

*ways of thinking about the mind, Cartesian internalism in particular.*<sup>26</sup>

--Philip Robbins and Murat Aydede

The insight that a person is an open system in relation to other open systems, natural and cultural, has begun to be rigorously articulated and theoretically worked out in the developing field of Systems Theory. According to theorist William J. Clancey:

An all-encompassing generalization is the perspective of complex systems. From an investigative standpoint, the one essential theoretical move is contextualization (perhaps stated as ‘antilocalization...: we cannot locate meaning in the text, life in the cell, the person in the body, knowledge in the brain, a memory in a neuron. Rather, these are all active, dynamic processes, existing only in interactive behaviors of cultural, social, biological, and physical environment systems.

A self, according to this approach is ‘self-organizing’ and ‘unfolding’ and always contextualized or ‘situated’.<sup>27</sup>

Thinking about human behavior in terms of systems changes dramatically the way we conceive agency, what it means to act and who is doing the acting. That is the conclusion of the computer scientist Merlin Donald of Case Western University. In an article, “How Culture and Brain Mechanisms Interact in Decision Making,” Donald argues that although decision-making “seems to be a very private thing: individualized, personal, and confined to the brain,” when looked at from system theory, we realize that culture is a major factor in how the brain self-organizes during development, both in its patterns of connectivity and in its large-scale functional architecture.<sup>28</sup> So it is the system that makes the decision: “The mechanisms in such decisions must be regarded as hybrid systems in which both brain and culture play a role.” Donald, of course, does not deny that decisions are made in individual brains. Nevertheless, he points out that “human brains ... are closely interconnected with, and embedded in, the distributed networks of culture” that “define the decision-space.”

To discover who is actually acting in a given case, all the facts need to be taken into account and then analyzed from multiple standpoints, from the brain sciences to organizational behavior to culture and history, etc., etc. Only through this multidisciplinary approach can the attribution of agency and responsibility be accurately *distributed* across people and levels of organization and participation and authority.

*“Complex adaptive systems are quite different from most systems that have been studied scientifically. They exhibit coherence under change, via conditional action and anticipation, and they do so without central direction.”<sup>29</sup>*

<sup>26</sup> Robbins and Aydede, p. 9

<sup>27</sup> Clancey, p. 28

<sup>28</sup> Merlin Donald, “How Culture and Brain Mechanisms Interact in Decision Making,” chapter 9 (pp. 191 – 205) in Christoph Engel and Wolf Singer, ed., *Better Than Consciousness? Decision Making, the Human Mind, and Implications for Institutions*. Strung Form Reports, (Cambridge, Massachusetts and London England: MIT Press, 2008): p. 192

<sup>29</sup> *Hidden Order*, pp. 38-39

--John H. Holland

*“Complex adaptive systems [are] those that learn or evolve in the way that living systems do. A child learning a language, bacteria developing resistance to antibiotics, and the human scientific enterprise are all discussed as examples of complex adaptive systems.”<sup>30</sup>*

--Murray Gell-Mann

The human person is not only an open system within others but also *adapts*. Complex adaptive systems are a special kind of system. Adaptive systems are those in which emergence and self-organization hold sway.

The control in a complex adaptive system is decentralized and widely distributed, rather than being under some central control. The patterns of activity arise or emerge from the interactions of the agents rather than from some overall plan. Nevertheless there is dynamic stability, identifiable patterns that are neither utterly chaotic nor substantially fixed. These patterns evolve, changing over time as the system itself changes and evolves. It is the individual ‘agents’ in the system that, from their location and environment, develop adaptive behavior.<sup>31</sup> They exhibit the same patterns of the whole at various scales within the system. Learning is an important feature of complex adaptive systems even though there is no central consciousness involved. And they are highly resilient. Ever increasing diversity is an important feature of Complex Adaptive Systems and crucial to their capacity to adapt and survive.

#### **Diversity in Complex Adaptive Systems**

The hallmark of complex adaptive systems is perpetual novelty, according to John Holland. Diversity arises from how this kind of system recycles its resources. ! The Recycling Effect produces resources available to be used in new environmental niches and these niches are filled by increasingly diverse species. For “each new adaptation opens the possibility for further interactions and new niches.”<sup>32</sup> A complex adaptive system does not settle into locked-in patterns but keeps producing change.

It is the particular niche that defines the kind of diversity that will arise. In evolution, what this results in is convergence. It is necessary for the ongoing evolution of the system.

#### **Conclusion**

How can thinking in terms of complex adaptive systems help us rethink moral agency and come up with ways to make societies and all kinds of groups function more ethically? Crucially, complex adaptive systems theory suggests that to change the person we need to look at the system. Interventions in context and environment rather than in the brain or mind of the person (whether through drugs or the training of the individual will) seem to be the place to start.

Diversity is crucial, too. We need to think about diversity and its role in complex adaptive systems to ensure their ongoing vitality and continuing evolution. In social systems, diversity plays out as the introduction of diverse people, and practices, and points of view that challenge and

<sup>30</sup> Murray Gell-Mann, *The Quark and the Jaguar: Adventures in the Simple and the Complex* (New York: W H. Freeman and Company, 1994): p. x

<sup>31</sup> “Complex Adaptive Systems,” in Wikipedia.org.

<sup>32</sup> *Hidden Order*, p. 29

disrupt the stable social system, sparking a more complex and inclusive reordering and reintegration.

There is a tradeoff between closure to variation and the resulting static internal coherence, on the one hand, and on the other, openness so great that the system cannot accommodate the differences fast enough through internal systemic reintegration.

Spinoza theorized a systems theory of ethics that was perpetually reorganizing at the brink or 'edge' of chaos. He advocated a personal maximal openness to others and to the world while retaining the capacity for dynamic self-organization. Each of us ought to cultivate an openness to others that doesn't overwhelm us but can be integrated into our sense of self and what we care about through both understanding and the increased capacity for empathic identification, standing in the other's shoes, perspective taking, and also openness to critique and self-critique. As a friend puts it, it's not just about tolerating differences but finding in oneself the capacity to enlarge one's empathic acceptance and capacity to learn from others about themselves and *also about one's own self from another's perspective*. So ongoing diversity is necessary to the overcoming of self-deception, dogmatism, and denial—our most ubiquitous and corruptive moral dangers, those of 'selfiness'.

We can now rethink the problem of 'selfiness' from a systems perspective. 'Selfiness' is the attempt to maintain a narrow systematicity and coherence that won't allow in challenging data from others or even from the implicit meanings and intentions of our own actions. Selfiness tends toward the refusal to acknowledge that one is a part of larger systems, cultural, social, and natural. It is the arrogance of the myth of self-creation, of free will. The overcoming of narrow selfiness of this kind in an expansive self-coherence that enlarges the self to include more of the world and others is a lofty ideal for the individual and a noble and difficult path. It is also a rare one, as Spinoza pointed out.<sup>33</sup>

## A Final Word on Spinoza

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<sup>33</sup> See my three papers on Spinoza and Systems Theory: H. Ravven, "What Can Spinoza Teach Us Today About Naturalizing Ethics? Provincializing Philosophical Ethics and Freedom without Free Will" in *Cognitive, Emotive, and Ethical Aspects of Decision Making in Humans and in Artificial Intelligence* Volume III. Edited by Iva Smith and Wendell Wallach, George E. Lasker, Editor-in-Chief. Published by The International Institute for Advanced Studies in Systems Research & Cybernetics, Canada, 2005: pp. 99-104; H. Ravven, "Spinoza's Systems Theory of Ethics" in *Cognitive, Emotive, and Ethical Aspects of Decision Making in Humans and in Artificial Intelligence* Volume III. Edited by Iva Smith and Wendell Wallach, George E. Lasker, Editor-in-Chief. Published by The International Institute for Advanced Studies in Systems Research & Cybernetics, Canada, 2004; H. Ravven, "Notes on Spinoza's Critique of Aristotle's Ethics: From Teleology to Process Theory," *Philosophy and Theology*, Volume IV, #1, Fall 1989, pp. 3-32

<sup>33</sup> "Opinionator: The Stone," *The New York Times*, October 17, 2010

Spinoza anticipated Externalism and Systems Theory<sup>34</sup> and he rethought moral agency in terms of them. He envisioned Nature as a network, a system of causes at all levels from the cultural to that of physics. Each person, animal, or thing was a *location* in the system of networks, a location that defined the point in the open dynamic systems within systems that is the infinite universe. He regarded each person not as a static thing or quasi-genetic program but instead as what he called a 'ratio'. Each is an open system within open systems, and each system at every level strives to maintain its internal homeodynamic organization while being open to the larger systems, environments, which were its constitutive causes and to which it also contributed.

For Spinoza the self strives to become a more internally coherent, self-organizing internalization of its immediate world—Spinoza calls that dynamic well-functioning of self as a coherent system, 'activity'—and then of its more distant environments. The paradox and irony is that to be truly yourself *is* to be your world, and ultimately the universe that created you.

To be this self is to be this point in the universe, and it took the whole universe up till now to produce any given 'me'. So to attain what he regarded as a state of personal autonomy, or 'freedom', as he called it, to achieve the spiritual and moral psychological aim of *The Ethics*, was to come to understand and own as self all that has come to make up this biologically, psychologically, socially, culturally, historically, biographically and of course today we would include cosmologically and quantum mechanically, etc., etc, situated and constructed self.

The world thus is systematically introduced into the self as causes of the self and hence as self—but in the doing the self now flips and sees itself in terms of its world, in terms of those parts of the world that appear now as personally constitutive, and there is no limit to that centrifugal force. We are in principle at home in the universe and our freedom lies in making that real to ourselves. The environment is not foreign but constitutive. So the outcome and irony of autonomy is that its achievement only comes to fruition in the embrace of the environment and of those things within the environment in which one now sees oneself, and progressively more so to infinity. To see aspects of the environment as 'self', rather than only as 'other', is to feel the world not as merely external limit to the self but as constitutive of the self and the self as distributed to and contained within its environment. We have arrived at a familiar place but from a new directions: We have come to love the other as the self—literally.

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<sup>34</sup> I have written on Spinoza's anticipation of systems theory and his rethinking of ethics in terms of it. See my: See my three papers on Spinoza and Systems Theory: H. Ravven, "What Can Spinoza Teach Us Today About Naturalizing Ethics? Provincializing Philosophical Ethics and Freedom without Free Will" in *Cognitive, Emotive, and Ethical Aspects of Decision Making in Humans and in Artificial Intelligence* Volume III. Edited by Iva Smith and Wendell Wallach, George E. Lasker, Editor-in-Chief. Published by The International Institute for Advanced Studies in Systems Research & Cybernetics, Canada, 2005: pp. 99-104; See also the new study by Rainer E. Zimmermann, *New Ethics Proved in Geometrical Order: Spinozist Reflexions on Evolutionary Systems: Exploring Unity Through Diversity* Volume 2, (Litchfield Park, AZ: Emergent Publications, 2010