Jung and the Posthumans

By
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> The technologist has something of the same problem as the factory worker. Since he has to do mainly with mechanical factors, there is a danger of his other mental capacities atrophying. Just as an unbalanced diet is injurious to the body, any psychic imbalances have injurious effects in the long run and need compensating.
>
> —C. G. Jung, Letter to *Zurcher Student*, September 1949.[2]

According to C. G. Jung human nature tends towards a holistic state of awareness. Fostering this disposition, he observed, is associated with wellbeing and purpose; thwarting it leads to neurosis and strife. Most pointedly, to be fully human stems from the capacity to weave the organic basis of existence together with the demands and discipline of civilized life. Attempts to deny or dismiss the instinctive, animal ground of being lead to imbalance and compensatory expression. Such dynamics, which Jungian psychology holds as intrinsic to the psyche, seem particularly pertinent when considering the quest to deliberately

merge human and artificial intelligence in order to transcend the organic basis of existence and adapt life for a digitalized reality. Such a quest, which was once the province of a small circle of futurists, is now, according to one recent reviewer of cultural discourse, quite central to "the worldview that is ascendant" in American culture, typically referred to as *posthumanism*.[3]

Rising high above the instinctual ground of our nature, riding the wave of Enlightenment ratiocination into the modern era, science and its technological offspring early on created a chasm of human experience that occasioned a depth psychological response. At the dawn of last century, in Europe and America, newly mechanized lives, Victorian strictures, the "death of God" and overconfidence in the rational mind promoted dissociation between the upper and lower portions of the psyche, initiating a trail of neurotic symptoms. Freud addressed sexual repression and Jung described what he termed a "loss of instinct,"[4] commencing a hundred years of soul-searching and existential questioning. Beneath social and political dynamics also lay various states of psychic fragmentation, particularly between humanitarian ideals and the drives for power and greed. Collective neuroses arose in the form of extremist ideologies and religious fundamentalisms, employing totalitarian schemes to compensate for the fragmentation, often leaving a trail of destruction. None of these conditions would yield to conscious will and reason, which could not sway deeper emotions and spiritual longings. In all of these ways the twentieth century punctured post-Enlightenment expectations and showed that directed thinking and egocentric conceptions of self are not enough to contain or regulate the psyche as a whole.

Today a holistic perspective has grown out of a number of critical fields—physics, biology, ecology, neuroscience and some quarters of medicine—at least in part as a response to the mechanistic excesses of science and the exploitative tendencies of industry. The prospect of nuclear destruction and environmental damage has also necessitated a more circumspect approach to technology—at least in terms of the outer world. However, for the most part, our approach to human nature and its *interior* landscape has resisted this perspective, and instead of overcoming the psychic divisions of the last century we're finding more

elaborate ways to fabricate around them, doubling down on the idea that computational modes of intelligence might direct human endeavors. We may well refer to this as an *ecological crisis of mind*.

Having the world at our fingertips and automation all around cannot assuage the creeping sense that something about this approach is unsustainable. Unlimited information and worldwide connection evoke images of expansive knowledge and broader understanding, at the same time streams of factoids and sound bites obscure deep or complex comprehension. "The distinction between knowledge and information is a thing of the past, and there is no greater disgrace than to be a thing of the past."[5] Connectivity and social media tease us with a sense of boundless community, yet they are promoting new forms of interpersonal isolation. Virtuality is everywhere eclipsing actuality. Plugged into the endless flow of online media we've become distracted from ourselves; depression and anxiety treated with the latest psychotropic medications has become commonplace. Immersion in technology has produced arrays of momentary satisfactions but left a hunger for more relational, communal and creative accomplishment. Works such as *Artificial Happiness*[6] and *Alone Together*[7] explore the evident shadow of such trends, respectively arguing that overmedicating psychological discomfort short circuits the endurance of unhappiness and renewal involved in human maturation, and that online environments like Facebook and Second Life are eroding emotional and relational capacities. The modern mechanized citizen has thus turned into the postmodern digital one, reiterating a now familiar overconfidence in engineering our way through life, this time via the silicon chip. The world has come to our fingertips, but it's also slipping from our grasp. We may have lifted the lid on many of the repressive attitudes of a century ago, but a lingering loss of soul has followed us right into the third millennium. In what may turn out to be a second act of psychological awakening, we're coming to see that neither our emotional ties, nor our sense of place, nor the life of the flesh can be fully lived in a cyber-based existence.

This questionable state of mind is the launchpad for technophiles to redirect the path of human evolution and alter the very basis upon which we perceive and engage the world. The goals and values fuel-

ing the push towards human-machine hybridization in particular, present an unprecedented drive to redesign the fabric of being. Artificial intelligence (AI), robotics and nanotechnology are three fields that undergird this movement. These fields are now engaged in potentially irreversible transformations of humanity, with posthumanists envisioning the creation of a new species, known to us through science fiction as the *cyborg*. Part human, part robot this figure has stepped off the page and screen and become a focal point in even the most sober assessments of technological advance. Computer-based intelligence and replacement body parts form the two primary strands of this envisioned human makeover. Both present extremely slippery slopes, involving a submission of psychological function and physical form to the drive for innovation and willful re-engineering of existence. Awareness of how the psyche and its holistic bearing are implicated in redesigning ourselves has hardly entered the picture, and the process of individuation, which Jung situated at the heart of psychological development, appears to be incompatible with these trends. Given posthumanism is essentially a programmed end to our species, these points of collision take on a certain significance.

Constructing the Posthuman

Present day innovations and the psychological attitudes that surround them are laying the foundations for this posthuman future. Gadgets such as Google Glass eyewear, which stream a constant flow of Internet information into the visual field, reflect what has come to be called "ubiquitous computing," a state in which cyberspace constantly enters and alters ordinary everyday experience. Adapting to such a state invites more direct neural-cyber connections. Intel is already at work on a computer chip brain implant that would allow direct operation of computers and other devices.[8] And whereas artificial limbs and organs may restore functionality, *enhancement* as opposed to therapeutic application raises major questions about the psychosocial implications of altered physicality and increased longevity. In the background of these developments stand both the rather unpredictable trajectory of AI and the gradual inversion of actual and virtual reality. One commentator has declared we are already "fyborgs"—functional

cyborgs.[9] In effectively allowing technology to define us through its constant presence and expectation for instant access we're creating the conditions for actualizing a hybrid version of ourselves. As Culkin described the worldview of Marshall McLuhan: "We shape our tools. And then our tools shape us."[10] A literal realization of this insight is probably not what McLuhan had in mind.

While posthumanists perceive a utopia built upon what has been called "technological solutionism,"[11] already evident problems and more catastrophic ones on the horizon are either rationalized away or seen as inevitable risks of expanding innovation. The gravity of their interest rests with the pursuit of more computational intelligence, often articulated with an inevitability that rationalizes prospective disasters. For example, many AI specialists foresee the danger of autonomous computer-based "intelligences" exponentially infiltrating worldwide networks and overpowering human control. Think tanks now exist to work on the problem of "unfriendly" AI. And with the US military being a major funder of these new technologies and building more robotic weapons systems—even some that take the decision to kill out of human control—the idea of computers waging war on human civilization has become a matter of serious concern. As many posthumanists and wary commentators predict, AI may well become what one writer recently called *Our Final Invention*.[12] In such writings we find a disconcerting view of human ingenuity beginning to situate itself in subservience to the evolution of artificial intelligence, as if we've already entered a track of research and development that imagines humanity as an "evolutionary precursor" or a "biological way station"[13] for a silicon-based form of sentient life.

The posthuman movement's most prominent proponent, Ray Kurzweil, is an inventor and successful entrepreneur, well placed as Google's chief engineer to exert significance influence. Kurzweil books predict what he conceives as the inevitable moment when artificial intelligence surpasses human intelligence and, expanding exponentially, leaves any unenhanced human in the dust. In the lead-up to this moment, which he and now multitudes of technologists and commentators refer to as the *singularity*, we will seek increasing merger with silicon-based intelligence and remake our physical form via GNR

innovations (genetics, nanotechnology and robotics).[14] Although critics have forced Kurzweil to consider what he calls the "promise *and peril*" of such developments, he is taking extreme measures to prolong his life so he may take advantage of this moment.[15] Basing much of his thought on the continual doubling of computation power every two years known as "Moore's Law," as well as Von Neumann's "essential equivalence (of the) computer and the brain,"[16] many of his predications have so far proven accurate. Kurzweil is no cultural outlier; Google also funds Singularity University, a Silicon Valley institute devoted to his ideas. In his latest book, *How to Create a Mind*, Kurzweil begins his first chapter quoting B. F. Skinner, mainstream psychology's favorite son.[17] Whereas his concept of the human mind attempts to embrace the latest findings in neuroscience, it remains mechanistic and behaviorist, with little sense of deeper psychic realities that would maintain a place for character, calling, ancestry or archetypal patterns of thought and perception. Little we would associate with a sense of soul can be found in his view of the mind, nor that of the posthumanists in general. But the neglected soul has a way of returning.

Psychological Ghosts in the Machine

The dovetailed history of psychology and technology was initiated in full by shifts in lifestyle that began with the industrialization of Europe in the 19th century. Neurosis captured the imagination of Freud's immediate predecessors at the same time railways expanded across the continent and factories blew their smoke across cities and towns. Reflections on this era, then and now, suggest that industrialization and the resultant displacement of natural rhythms of everyday life and ties to the land played a greater role in psychological disturbance than did oft-cited Victorian values;[18] the "animal-machine" was already one term being applied to the factory worker of the late nineteenth century.[19] Meanwhile hysteria was exposing the fault-lines of the rationalistic mindset, simultaneously underscoring the fusion of psyche and soma. Jung's "loss of instinct," which he thought was "largely responsible for the pathological condition of our contemporary world,"[20] linked his psychology with the eroding human connection with nature. By the middle of the twentieth century humanistic and existential writers

were focused upon the widespread feelings of alienation and anxiety within urban existence and the failed promise of 'time-saving' devices. At that time Rollo May wrote, "the chief problem of people in the middle decade of the twentieth century is emptiness."[21] He then notes, "our relation to nature tends to be destroyed not only by our emptiness, but also by our anxiety."[22]

The technologist's vision of the body as machine and the mind as computer has been a primary vehicle for this state of affairs, leaving little room for any conception of the psyche in the first place. In this hobbling together of a mindless body and a disembodied mind, the witting or unwitting social engineers of our time are blind to the Cartesian and Promethean excess of their vision, pushing to the point of caricature an increasing tendency toward materialism on the one hand and conscious agency and willfulness on the other. In many respects modernity fell into the gap of comprehension left by this division, with postmodernity and its deconstructive, poststructuralism attempting to endure this gap without overcoming it. Depth psychology, particularly that of Jung, directly counters this reductive polarization of being, by recovering the soul as the in-between realm of Platonic *metaxy*, the past as the realm of Augustinian *memoria* and the unconscious as a source of subterranean wisdom. But mainstream psychology, psychiatry and much of neuroscience have largely maintained the reductive position, which enables a comprehension of existence that serves the strident redesigning of bodies and minds. Such fields are supplying posthumanists with their bread and butter; when conceptions of human nature align with this soulless and fragmented mentality, living and working "with the machine without becoming a machine"[23] becomes difficult. If the psyche can be reduced to the brain, and the brain to a computer, wiring our minds with silicon chips seems a shorter step away. In this way the collision of humanism and posthumanism runs parallel with the collision between a depth psychology of the soul and a cognitive-behavioral neuropsychology of the brain.

The implications of these mainstream approaches to psychology are widespread. Today's robotic conceptions of human nature are conveyed to us within the pages of every magazine with the image of the depressed or anxious mind resulting from a "chemical imbalance"—a

veritable grooming of the popular mindset for the posthuman ethos. Our emotional lives are being effectively reduced to a mechanism inside a machine in need of reprogramming. Psychological symptoms no longer point to anything meaningful; the soul's pathologizing complexity has disappeared into the synaptic gap. Whereas neuroscience has brought marvelous medical applications and an affirmation of some psychodynamic understandings, it has also instigated a mode of comprehending the human condition that one neuroscientist refers to as "neuromania."[24] The focus on neurology as the basis of thought tends to remove the mind from the phenomenology of being, as if everything that makes us essentially human may be found in the cerebral cortex. The idea that our humanity comes down to a brain-in-a-vat stands behind current endeavors in large-scale computer facilities to "reverse engineer" the brain on the pretext of creating an artificial human mind. But the differences between psyche and mind, mind and brain, and even neurons and transistors, raises the specter that whatever form of intelligence results from these pursuits won't be remotely human.

Other operations of neuropsychological reduction accompany the brain-as-complex-machine trope. Posthuman notions of the mind are based almost exclusively on left-brain modalities and higher cortical functions, pushing aside right-brain function and the more instinctive reptilian brain and limbic system. This literally half-brained notion of the mind, in which neither the body-world-psyche continuum nor the maintenance of psychological patterns generated in the evolutionary process play a significant role, constitutes the mentality reshaping our sense of self. Google founder Sergey Brin is quoted as saying, "we want to make Google the third half of your brain."[25] Removing right brain functions and exchanging virtuality for actuality may just allow this to happen.

Much of posthumanist discourse assumes a basis in science and an objective reading of the course of technology, but posthumanist conceptions of the mind and how to reshape it betray egocentrism and a disregard for emotion, imagination and the phenomenal world. Indeed, much of the thought generated by posthumanists reflects a propensity to elevate intellectual endeavors far above other pursuits, and it's tempting to suspect that many hardcore advocates formed an

early sense of identity around being a "geek" or a "brain." When life also revolves around gaming, online avatars and status in the world of computation, it isn't difficult to see the appeal of exchanging an organic mind for a computerized one, or swapping flesh for a robotic shell or, eventually, an angelic presence in cyberspace. Most of us may not be there yet, but ominous signs of the slippery slope of the Digital Age are omnipresent: compulsive checking of online communications and social media; preference for texting over interacting; an insatiable need for distraction from the persons and experiences immediately at hand. I recently stood in front of Van Gogh's "Starry Night" at the MoMA in New York City and watched smart phones readily displace perception and memory. Many people walked away without beholding the painting at all; the experience had been effectively stored in the phone—digitized. This normative embrace of fabrication and facsimile was spotted over thirty years ago by Baudrillard in his famous treatise *Simulacra and Simulation*, where he argued representations have taken on a "hyperreal" value and originality has become meaningless.[26] Posthumanism is, in essence, an introjection of this hyperreality, a simulation of self that mirrors a simulated world. This would complete the detachment from nature that began with the Industrial Revolution, but it would also fully detach the controlling ego from the instinctual basis of being, as well as anything remotely resembling a phenomenal sense of self in relation to place and world.

From the psychological standpoint, this egocentric embrace of a fabricated self has all signs of a defensive withdrawal from the totality of being—a neurotic response to the unresolved existential crisis of the modern era. The questions of meaning and purpose, which Jung placed at the core of his psychological explorations, are thus still driving the bus of history, with the posthumanist riding in the very backseat. The posthuman fantasy is a reaction formation, an attempt to first perfect what is inherently imperfect and then transcend the conundrums of a fully human life. Promoted as a futurist vision that has been extrapolated from objective scientific understandings, this movement turns out to be deeply haunted, vibrating with the shades of the past—an unconscious backstory in need of analysis.

The Return of the Repressed

Until the posthuman movement succeeds in creating a mode of being that is fully detached from existence as we've come to know it, we are still subject to the compensatory nature of psychological life, wherein that which is avoided or dismissed returns in surreptitious ways. In this vein, notions of redesigning human existence contain unconscious religious and spiritual aims that are rarely acknowledged or comprehended, of which examples have been discussed by David Noble in his book *The Religion of Technology*.[27] Assuming the role of Creator, pursuing immortality, shedding the flesh for a more angelic life in cyberspace, not to mention projecting ultimate meaning and purpose onto technology itself, all indicate a displacement of the religious function, which is an archetypal pattern of the unconscious. Noble cites one software engineer saying that in cyberspace "floats the image of a Heavenly City, the New Jerusalem of the Book of Revelation . . . a place where we might enter God's graces . . . laid out like a beautiful equation."[28] The archetype of wholeness and totality that Jung aligns with this religious function reappears in the images of unlimited access to information, boundless computational intelligence and endless permeations of what remains of our physical form, as if the individual merger with these digital realities would be the fulfillment of existence. Citing his current day reliance on the computing "cloud," Kurzweil says he "feel(s) less than complete if . . . cut off from these brain extenders."[29] The feeling of completion is now already to be found in our access to digitalized information, where the three pseudo-divinities of our time—science, technology and economics—come together, in cyberspace.

This technological religion, promising release from our flawed and limited form and deliverance into a state of perfection, appears to share much in common with what Jung called the rise of "isms"—secular, collective attempts to meaningfully explain and systematize life in the way traditional religion and myth once did. However, there is one distinct difference. Whereas the ideologies and cults of the twentieth century could not eventually escape the mirror of human integrity and the presence of archetypal needs, scientism and technologism, which together background posthumanism, threaten to erode the presence of

that very faculty, altering the ground of being to the point most existential questions of consequence will not *make sense*. In other words, we'll no longer be playing with a full deck. As Jung wrote, the individual who has "allegiance to any kind of –ism, loses touch with the dark, maternal, earthy ground of his being."[30] The mutual reinforcement of mechanization and detachment from a deeper integrity thereby becomes the stage upon which we will leave ourselves behind.

The problem with isms is that they leave us with a psychological hangover, a stalking sense that meaning has not been found and a lingering instinctive dissatisfaction. These are the unmet archetypal needs, referred to above. The psychic bridge between the upper and lower realms of experience, between the cultural and the instinctual, occurs via archetypal forms, which maintain a sense of the past at work within us and satisfy what is deep and essential. As "the hidden foundations of the conscious mind," Jung described the archetypes as "the most effective means conceivable of instinctive adaptation . . . the chthonic portion of the psyche . . . that portion through which the psyche is attached to nature."[31] The more absent these mediating archetypal experiences become, the more we find attempts to satisfy primary instinctual needs through secondary technological means—a vicious cycle in which superficial and fabricated ways of life leave lingering dissatisfactions and distracting enticements that are in turn redirected back to technology. Describing this process in terms of a "techno-addiction," ecopsychologist Glendinning counts nourishing food, strong community, meaningful work and the spiritual connection to the world among the areas now subject to this cycle.[32] With fast eroding means to directly satisfy these primary needs, artificial substitutions are readily accepted, and any lingering dissatisfaction or anxiety is repressed or denied. But anxieties return as compulsions, manias and distractibility, which have become such widespread modes of living as to be normative. This is the collapsing ecology of mind within which the fantasy of a new kind of human takes form.

The 2013 film *Her* portrays a man in the near future searching for love.[33] A computer-based personal companion appears at first to meet all of his needs. However, the disembodied, abstract and—as he comes to discover—highly generic virtual partner eventually conjures a soul-

less reality. The way this virtual human *almost* satisfies the instinctual need for friendship, love and even sexual gratification strikes the viewer as eerily believable because it's but a short extrapolation from the current day cyber-search for satisfaction. The man, ironically, makes a living writing love letters for those who need to outsource matters of the heart. And in the course of the film, it's as if his eyes are opened to the reality in which he now resides—a world of secondary satisfactions, where actual relationships have difficulty competing with the hyperreal. The film leaves us wondering whether life in that kind of world is sustainable or even worth living.

Anxiety and accompanying forms of dissociation point to neglected dimensions of the psyche, which call our awareness back to the breadth and depth of our humanity. But the return of neglected archetypal patterns can also turn tyrannical and monstrous. The enantiodromic exchange of utopian plans for dystopian outcomes is a recurring motif in science fiction, often in the form of autonomous technology turning on the humans, or rapacious alien life forms appearing alongside the overreach of science and industry.[34] Handing our fate over to computers or robots is another popular plotline, and it usually sets up unforeseen destructive consequences. However, in these stories at least, destruction is followed by insight, often leading to the rediscovery of human values and communal bonds. After the catastrophe comes the reawakening of soul. But can these fictional renderings of new consciousness translate into actual changes in collective awareness?

Posthumanistic Therapy

Standing by Jung's holistic embrace of the human condition and the creation of culture and meaning through dialogue with the archetypal patterns of the psyche exposes the underside of the posthuman vision. The fantasy that human beings are merely complex machines, destined to merge with other machines and then transcend the biological form of existence appears defensive and escapist. It is unconsciously driven by pseudo-spiritual aims, Cartesian flights from body and earth, and unresolved questions of modern life. Posthumanism's aim to adapt our existence to artificial forms of intelligence rather than to evolutionary

inheritance is a grandiose redirection of human experience as a whole towards the particular mindset of the technophile, who surfs the wave of simulation that now surrounds us.

Like a patient in therapy, defenses of dissociation and denial must give way to the call for inner integrity before these neurotic patterns can be discerned. Individual conscience must rise above the hive mind. For this to occur, a point of reference is needed outside of science and technology so that the future of *humanity* can first be considered along *humanistic* lines. As one commentator recently noted, "The processing of information is not the highest aim to which the human spirit can aspire, and neither is competitiveness in a global economy. The character of our society cannot be determined by engineers."[35] The bubble of scientism and technologism that surrounds posthumanism must thus be burst by a more circumspect consideration of the actual human condition, one that makes room for "complexly beating hearts" and a "soulful and sensitive existence."[36] For that is the condition that lies within us, irrespective of what trends and futurist aspirations constitute the spirit of times, and its continued denial can only lead to a more haunted and split form of existence.

A century ago, eyeing the American love of technology, Jung said that the country must "make a choice to master its machines or be devoured by them,"[37] and sometime later, addressing the European, "it is sheer poison to suppress his nature, which is warped enough as it is, and to make out of it a willing robot."[38] Psychologically, we're already inside the belly of the techno-beast, long ago swallowed. And we already imagine our selves as robots, with programmable brains and a growing list of spare parts. But the continued embodiment of these states of mind may begin to place in starker relief the soulless and eventually inhuman reality under construction, so that the reawakening of the fully human occurs before we actualize the cyborg stage of existence. Sometimes the patient has to get worse, to cook for a while in the juices of their one-sidedness, waiting for the other shoe to drop. Somewhere along the path of living so detached from the ground of being, with posthumanism pushing us towards a programmed demise, we might just come to see, with Jung, that "Nature is not matter only, she is also spirit,"[39] and that the instincts are "the age-old forgotten

wisdom stored up in us."[40] These elemental understandings of the human psyche would reverse the reductive operations of posthumanism and restore awareness of an interior ecosystem. The alternate is a kind of managed madness—a patient that never recovers a sense of self but continues to layer on fabricated reality until any spark of humanity is replaced by a blank, robotic stare, haunted by the absent presence of a former way of life.

Notes

1 An early draft of this essay was first presented in an online discussion forum of the *International Association of Jungian Studies*, May 2014.

2 In Meredith Sabini (Ed.). (2002). *The Earth has a Soul: The Nature Writings of C. G. Jung.* Berkeley, CA: North Atlantic Press. 153.

3 Leon Wieseltier. "Among the Disrupted." *The New York Times*. January 18, 2015. Book Review. 14. Wieseltier makes a clear distinction between "transhumanism," which would pertain to the goal of moving existence beyond the human form, and "posthumanism," which he maintains is a much broader and more pervasive departure from humanism. In most writings on the topic this distinction is less clear.

4 C. G. Jung (1958). The Undiscovered Self. In *The Collected Works of C. G. Jung*. (Vol. 10). London: Routledge & Kegan Paul. par.562.

5 Wieseltier. "Among the Disrupted," 14.

6 Ronald W. Dworkin (2006). *Artificial Happiness*. New York: Carroll and Graf.

7 Sherry Turkle (2011). *Alone Together.* New York: Basic Books.

8 Sharon Gaudin, "Intel: Chips in brains will control computers by 2020": http://www.computerworld.com/s/article/9141180/Intel_Chips_in_brains_will_control_computers_by_2020

9 Cited in Michael Chorost, *Rebuilt: How Becoming Part Computer Made Me More Human* (New York: Houghton Mifflin, 2005), 42.

10 (1967). "A Schoolman's Guide to Marshall McLuhan." *Saturday Review*, March 18, pp.51-53, 71-72.

11 See Evgeny Morozov (2013). *To Save Everything, Click*. New York: Public Affairs Books.

12 James Barrat (2013). *Our Final Invention: Artificial Intelligence and the End of the Human Era.* New York: St. Martin's Press.

13 Steven Levy. (1992). *Artificial Life*. New York: Vintage. 41.

14 See esp. Kurzweil. *The Age of Spiritual Machines.*

15 Kurzweil. *The Singularity is Near*.

16 Kurzweil. *How to Create a Mind*.

17 Ibid. 13.

18 See George Drinka (1984). *The Birth of Neurosis.* New York: Touchstone.
19 John and Paula Zerzan. "Industrialization and Domestication", 204.
20 Jung. "The Undiscovered Self", para. 1494.
21 Rollo May. *Man's Search for Himself.* (Originally published in 1953). Italics in original.
22 Ibid. 45.
23 May. (1969). *Love and Will*, 32.
24 Raymond Tallis. *Aping Mankind: Neuromania, Darwinitis and the Misrepresentation of Humanity*.
25 Claire Cain Miller, 2010. *Google Unveils Tool to Speed Up Searches:* http://www.nytimes.com/2010/09/09/technology/techspecial/09google.html?dbk&_r=1&
26 Jean Baudrillard, *Simulacra and Simulation*. S. F. Glaser (Trans.). Ann Arbor: University of Michigan Press.
27 David F. Noble (1999). *The Religion of Technology: The Divinity of Man and the Spirit of Invention.* New York: Penguin.
28 Ibid. 160.
29 Kurzweil. *How to Create a Mind*. 279.
30 Jung. *CW* Vol. 10. para. 103.
31 In Sabini, 198-199.
32 Chellis Glendinning. (1995). "Technology, Trauma and the Wild." In T. Roszak (Ed.). *Ecopsychology*. Berkeley, CA: Sierra Club Books.
33 Spike Jonze, (Director/Writer/Producer). (2013). *Her*. Warner Bros. DVD.
34 Glen Slater. (2007). "Aliens and Insects." In Slattery and Slater (Eds.), *Varieties of Mythic Experience: Essays on Religion, Psyche and Culture.* Einsiedeln: Daimon Verlag.
35 Wieseltier. 15.
36 Ibid.
37 In Sabini, 143.
38 Ibid. 124.
39 Ibid. 80.
40 Ibid. 98.

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