

## Julian Voss-Andreae, *Angel of the West*

*Jonathan Schorsch*



Fig.1 *Angel of the West* in situ at Scripps Research Institute's second campus in Jupiter, Florida

*Angel of the West* (2008), by Julian Voss-Andreae, is a sculpture at the Scripps Research Institute's second campus in Jupiter, Florida (Fig. 1). Appropriately enough for an organization devoted to medical bioscience and technology development, the "12-foot-high sculpture features an enormous ring surrounding a fully realized model of a human antibody, an immune molecule that recognizes and helps fight off the body's foreign invaders, such as bacteria or viruses."<sup>1</sup> The German-born Voss-Andreae turned to sculpture after leaving his profession as a physicist. Many of his works dramatically

juxtapose the human form with high-tech materials, meditating on the relationship between nature, science, and technology. The stainless steel sculpture *Angel of the West*, one of the works in what Voss-Andreae calls his Protein Series, presents the microorganism-angel's body, a jumbled mass of jagged, wiry, almost intestinal strands, from which emanate sleek, shiny round spokes reaching downward and outward to the enclosing ring. The spokes imitate rays of light while providing structural support to the thin ribbons of steel and the wheel that encloses them. The sculptor based his design specifically on a lengthy 1994 analysis of the antibody's chemical-physical properties and structure published by the biophysicist Eduardo A. Padlan, producing a well-machined and glossy version of an ordinarily messy natural entity invisible to the naked eye.<sup>2</sup> These essential biochemical elements, bits of organic intelligence within the human body, evoke for Voss-Andreae the idea of angels.

Voss-Andreae makes explicit the providential function of his microscopic subject: "Like tiny guardian angels, legions of antibodies constantly protect us from ill and disease."<sup>3</sup> Switching between the register of angelology/demonology and epidemiology comprises an age-old tactic, two modalities for explaining hidden transmission of invisible entities, a code-switching that advances in medical science have not suppressed. From the ancient world to the nineteenth century, disease and health were often construed as moral, metaphysical and theological conditions. Many individuals and religious systems concluded, for instance, that the action of demons caused sickness while the intervention of angels and/or god brought healing. As materialistic analysis advanced, it became clear to some that the two codes, angelology/demonology and epidemiology, though often interchanged, depict the world rather differently. Still, even into our own century, people see the relationship between the two codes variously, depending on their stances regarding a host of religious, scientific, and political issues, as I will show with just a few relevant examples.

One of the great medieval thinkers, Maimonides, a physician himself, and Jewish philosopher, complained about the inability of most people to appreciate the confluence of the spiritual and naturalistic modalities:

If you told a man who is one of those who deem themselves *the Sages of Israel* that the deity sends an angel, who enters the womb of a woman and forms the fetus there, he would be pleased with this assertion [...] and would regard it as a manifestation of greatness and power on the part of the deity, and also of His wisdom [...] But if you tell him that God has placed in the sperm a formative force shaping the limbs and giving them their configuration and that this force is the *angel*, or that all the forms drive from the act of the Active Intellect and that the latter is the *angel* and the *prince of the world* constantly mentioned by the *Sages*, the man would shrink from this opinion.<sup>4</sup>

Maimonides, a student of Islamic philosophy and a major influence on Aquinas, Eckhart

and other Christian thinkers, here represents the wrestling pervasive in medieval philosophic thought between mythological language and the philosophical rationalism of scientific naturalism. Seeking to demythologize biblical theology and Judaism with more advanced and sophisticated rationalist theology, he insists that the actual workings of bodies and material entities is the way the immaterial divine miraculously works in or with the physical world. The term “angel” does not refer to superhuman beings flitting about between heaven and earth, as held even by many of Maimonides’s contemporaries, philosophers who integrated religious angelology with an Aristotelian/neo-Platonic system of intellects. The term merely metaphorizes forces of nature. Angels exist, only not the way believers want to imagine. Even learned believers, Maimonides chides, resist such perceived naturalistic erasure of the miraculous, preferring to think that divine acts must be beyond or contrary to nature.



Fig. 2 Emma Stebbins, *Angel of the Waters*, Bethesda Terrace, Central Park, 1861-1868

Maimonides was attempting to convince Jews to understand their traditional god in a way that did not require “silly” or “irrational” beliefs, such as that god had a strong right arm or that heavenly creatures looking like hybrid humans fluttered about the cosmos. Yet he believed in an invisible god who communicated with humans and intervened in the world, the traditional god of the major monotheisms. Maimonides likely would not have appreciated the sixteenth-century cybernetic vital materialism of the Italian miller Mennochio, who was tried for heresy for holding that God did not create the world, but rather was an emergent by-product of the world. In the beginning, according to Mennochio, “all was chaos, that is, earth, air, water, and fire were mixed together; and out of that bulk a mass formed—just as cheese is made out of milk—and worms appeared in it, and these were the angels [...] among that number of angels, there was also God, he too having been created out of that mass at the same time.”<sup>5</sup> As for Maimonides, for Mennochio angels, God himself, comprise the material functionaries, agents, and catalysts of the micro and macrospheres. Unlike the prominent medieval physician-philosopher, however, the miller Mennochio did not believe that these metaphysical entities existed over, above, and separate from material nature.

Another, more traditional example of angelic epidemiology can be found in nineteenth-century New York (Fig. 2). The well known Bethesda Angel or Angel of the Waters in New York City’s Central Park (made famous again by Tony Kushner’s 1993 epic play *Angels in America*) is intriguing from several perspectives. Unveiled in 1873, the sculpture was designed and built between 1861 and 1868 by Emma Stebbins, the first woman to be commissioned to produce a work of public art in New York City. The sculpture, the only one called for in the original design of the park, takes its theme and name from the Gospel of St. John (5:2-4), which describes how the Bethesda pool in Jerusalem was blessed by an angel to have the power to heal any who drink from its waters. Stebbins’s angel blesses the waters of the fountain with one hand, while beneath her stand four cherubs representing Temperance, Purity, Health, and Peace. The Beaux-Arts notion—functionalist, aesthetic and idealistic—of offering relaxation, escape, and recuperation for the city’s laborers entailed one component of Central Park’s conceptualization.<sup>6</sup> More significantly, the sculpture itself was conceived as a celebration of the completion of the Croton Aqueduct in 1842, which delivered desperately needed fresh water from Westchester to New York City. Stebbins’s work of public commemoration declared the engineering and technological feat of building a fresh water system for a large municipality a sacred act of improving lives, an advance of Christian science in line with the widespread American conflation at the time of science/technology and religion, a kind of technocratic Manifest Destiny.

Kushner’s *Angels in America: A Gay Fantasia on National Themes*, a groundbreaking exploration of the impact of homosexuality and the HIV/AIDS epidemic on gay and straight America, ends with a disquisition on Stebbins’s angel. The New York fixture held a symbolic centrality for the play’s main character, who witnesses the HIV/AIDS epidemic’s destruction of the lives of many of those closest to him. It had been the favorite place in the city of his lover, who dies of HIV/AIDS toward the end of the play. The healing angel of stone and her textual significance resonated for Kushner’s

somewhat shlemiel anti-hero. For the playwright himself as well she stands as a foil for the bumbling healing angel he constructs in the play, who heals despite her palpable imperfections.

Concerned with perceptions of health and normalcy,—who are the angels in America, those who bring about healing or those innocent gays who suffer a devastating disease deemed to be a divine punishment?—Kushner likely never read Puritan thinker and leader Cotton Mather's tract on disease and healing, *The Angel of Bethesda: An Essay upon the Common Maladies of Mankind*, originally written in 1724, but first published only in 1972. In the text Mather, in good Christian fashion, attributes individuals' diseases to their own behavior and spiritual attitude, an attitude Kushner vehemently sought to reverse when it came to HIV/AIDS, though Mather was forward-thinking enough as a leader to support the introduction of the smallpox vaccine when the illness raged through Boston in the 1710s. For Mather, the human ingenuity capable of discovering an inoculation against a terrible illness is ultimately of divine origin. For Kushner and activists fighting the stigmatizing of those with HIV/AIDS as a deserved consequence of their own moral-sexual transgressions, this dismissal and the consequent denial of political attention and desperately needed biomedical attention reflected a backward Christian theopolitics. Here the conflation of epidemiology and angelology appeared reactionary and mean-spirited, its consequences literally fatal. Regarding the divine human capacity to heal, Kushner unwittingly meets Mather, though they disagree on much else.

Even more recently, working in a far less scholastic register than Maimonides, English professor and spiritual seeker turned sheep farmer Mary Rose O'Reilley recalled in her spiritual memoir how some particularly visceral ovine-related chores inspired a conversation with a co-worker about cross-species infections such as Ebola. This led O'Reilley to mentally “evoke rolling hills and farms, villages, and little cities of viruses all living on the head of a pin. Rolling around in an intricate dance. Choirs of microscopic seraphim.”<sup>7</sup> O'Reilley's image revives Maimonides's naturalism from the other direction. Desperate to understand the bio-chemical, a realm murky to the raw human intellect, O'Reilley, like so many spiritually-inclined moderns, re-metaphorizes the natural by means of the religious discourse of the miraculous. Seeking personal enlightenment through Christianity, Zen, and the two together, desiring harmonious community among humans and healthy, beneficial coexistence between humans and their natural environment, O'Reilley's melding of the two codes resists understanding biochemical, organic aberrations as something malevolent and intentionally destructive, instead reading them as unfathomable but systemically necessary re-adjustments. Microbial, bacterial angels serve as agents of homeostasis for living ecosystems small and large.

Voss-Andreae does something similar with his sculpture. On the surface he has eschewed Stebbins's, Kushner's, and O'Reilley's humanistic, and anthropocentric, characterization of the angelic as human-like. His antibody-angel posits the angelic as an alien, molecular structure. Yet he places the molecular structure of the antibody in a ring that invokes and evokes Leonardo da Vinci's famous *Vitruvian Man* drawing, alluding, as does his reference, to the divine proportions of the human. His webpage

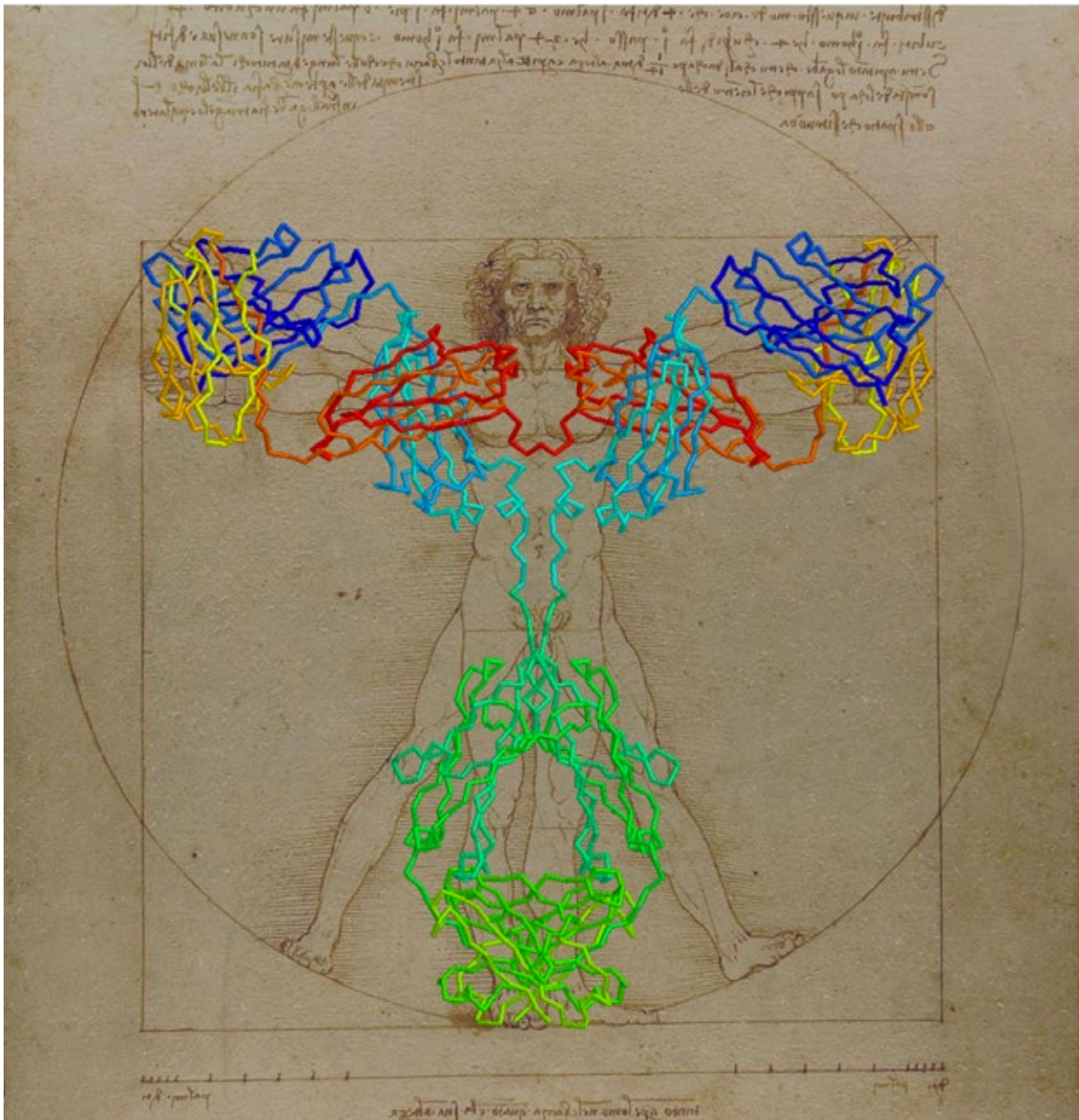


Fig. 3 Julian Voss-Andreae, Padlan's Antibody superimposed on Vitruvian Man, Computer sketch of the idea for Angel of the West, 2005

devoted to *Angel of the West* features a 2005 computer sketch of Padlan's antibody superimposed on *Vitruvian Man*, calling this superimposition the idea for the sculpture (Fig. 3).<sup>8</sup> Hence Voss-Andreae conveys to the viewer who knows the art-historical reference that the strange, visually incoherent jumble of the microscopic antibody reiterates the perfect and intentionally designed human body. Da Vinci's image in turn may well have derived from medieval manuscripts depicting Adam Kadmon, the primordial humunculous known to kabbalistic tradition, which comprises both the form of the macrocosmos (the universe) and the embodied microcosmos (the human being) (Fig. 4). In turn, medieval images of Adam Kadmon and those of Christ become inextricably intertwined in certain mystical and heterological discourses. Da Vinci's



Fig. 4 Hildegard of Bingen's *Liber divinorum operum*, Second Vision, 13th Century

man, bold and empowered, shares yet subverts the shape of Christ on the cross.

In its form, Voss-Andrae's sculpture picks up on this theological-anthropological discourse. Even for those unaware of the art-historical allusions, Voss-Andrae has produced a physically and aesthetically pleasing balanced angular triangle, its inherent symmetries highlighted by its absolutely proportional placement in the center of a circle, which possesses an endless, whole yet protective, encompassing presence. The outdoor sculpture's steely polished refractiveness creates a natural-technological kaleidoscope. In particular the angled three-dimensional edges of the strands of the antibody-angel, which protrude forward and backward beyond the two-dimensional plane of the circle, catch the sunlight as it gradually but perpetually shifts. The sculpted "hero" becomes a kind of net basking in invisible radiance emanating from the beyond. The spokes emerging from the antibody-angel's arms or wings seemingly transmit this radiance downward and outward, bestowing it on and disseminating it to the world, a visible

cue to the invisible benefits of the alien but selfless antibody-angel. Without resorting to the question of what an antibody “really” looks like, an epistemological question perhaps akin to discussions of how an angel “really” appears, Voss-Andrae eschews the irregularities and idiosyncracies of flesh in favor of geometric regularity. In its quasi-immateriality, in its perfection, the molecular recapitulates the heavenly.

The sculptor’s Renaissance intertext of Vesuvian Man is intentional, however, and significant. Molecular biologists and genetic researchers have long seen their work as having the potential to help humanity transcend its own biological and environmental limitations. Historian David Noble, with biochemist and theologian Arthur Peacocke in mind, understands that the idea, shared by many molecular biologists and geneticists, “of man’s being a co-creator as a consequence of his divine image-likeness (and heavenly destiny) goes back at least to the Christian humanist movement of the Italian Renaissance.”<sup>9</sup> Medical geneticist W. French Anderson was the first to perform an officially sanctioned cell gene-therapy experiment in 1990 at the National Institute of Health and is founder of Genetics Therapy, Inc. He has spoken publicly about his belief in “a supernatural Being” and the reality of the resurrection of the soul. He feels that genetic engineering should cause no alarm. He has written that:

The earth does not need more humans, but perhaps it needs better humans, humans more disease-resistant, genetically superior, more intelligent, sympathetic, moral, and spiritual, better adjusted to and able to cope with their environment. With our rapidly increasing knowledge about the human microsphere and our developing technology, we stand in a position to improve our progeny.<sup>10</sup>

Anderson is a monist, believing that the material and the spiritual are one and the same. But he does not make clear how technologically-superior progress will lead to more evolved consciousness. While Voss-Andrae describes the angel as a natural entity, *Angel of the West* comes also as an angel of technology. The object his sculpture portrays is made knowable by dint of microscopes, surgery, and laboratories, reflective of modern medicine and medical science. Denying the benefits of modern medicine and science in general would be obtuse, idiotic. Yet the dream of techno angels comes amid fantasies for humanity nourished by scientific faith and its fantasies of escaping our own design and construction, fantasies that we have not yet outgrown of attaining or storming heaven. Astronomer and astrochemist Carl Sagan imagined how humans will evolve, enabling our homesteading the galaxies:

By the time we’re ready to settle even the nearest other planetary systems, we will have changed. The simple passage of so many generations will have changed us. The different circumstances we will be living under will have changed us. Prostheses and genetic engineering will have changed us. Necessity will have changed us. We’re an adaptable species.<sup>11</sup>



Likewise, Voss-Andrae, invoking the angelic power and status of a vital microorganism, seems to be glorifying the god-like capacities of humans to improve their own condition. The Scripps Institute researchers, guests and clients who take in this boldly glossy, super-magnified, though ordinarily indiscernible “angel” would not be wrong in understanding the sculpture this way. After all, this “angel” appeared to the human eye unwillingly, captured only by the cleverness and machinations of those intrepid researchers who discovered it and put it to use, an intriguing twist on but actually the historical offspring of medieval magicians’ persistent attempts at adjuring angels and compelling them to do their will.

Does all this bio-technical transformation signify becoming less human, escaping our nature, or more human, seizing our destined character? Is ordinary-extraordinary medical-scientific research a form of transhumanism, an effort to improve humans by means of science and technology? Such a program in its modern sense goes back at least to biologist Julian Huxley’s 1957 programmatic essay, “Transhumanism” in which he writes:

Through the new knowledge amassed in the last hundred years -- by psychologists, biologists, and other scientists, by archaeologists, anthropologists, and historians,” humans can, indeed, must “be an agent for the rest of the world in the job of realizing its inherent potentialities as fully as possible. [...] The human species can, if it wishes, transcend itself -- not just sporadically, an individual here in one way, an individual there in another way, but in its entirety, as humanity. We need a name for this new belief. Perhaps transhumanism will serve: man remaining man, but transcending himself, by realizing new possibilities of and for his human nature.<sup>12</sup>

Lacking an explicit theological orientation, Huxley’s vision wavers between the ordinary surface aspirations of the Enlightenment’s notion of progress as improvement and more occult meanings of transcendence as transformation.

Instructive for purposes of visual comparison with *Angel of the West* is transhumanist Aaron Saenz’s re-envisioning of the iconic visual image of Darwinian evolution (Fig. 5). Here the post-human comingles angelic consciousness (alluded to by the final figure’s wings) with octopus consciousness (hence the figure’s tentacles), the latter now understood to be one of the most sophisticated in the non-human natural realm. In accord with transhumanism’s anti-dualism, the post-human creature’s upper and lower registers (angel wings, octopus tentacles) signal movement in atmospheric densities different from the land-based human norm, densities more conducive to fluidity and speed. While Voss-Andrae’s sculpture references a canonical humanist icon, Saenz’s illustration foregrounds notions of evolution. Even if the viewer isn’t familiar with the iconic sequence illustrating evolution from ape to homo sapiens, Saenz’s depiction visually signals species history and movement beyond it. He explicitly renders an



Fig. 5 Aaron Saenz, *Transhumanist Evolution*, 2011

extrapolation from, and explosion of, the traditional hybridity of the angel with a concreteness that equates becoming hybrid with transcendence. In contrast to Saenz's naked agenda, Voss-Andreae's sculpture appears subtle, a marveling rather than a manifesto.<sup>13</sup>

With a BA and MA in physics, from 2009 to 2012 Saenz served as Senior Editor at Singularity Hub, an online group devoted to the futurist worldview of Ray Kurzweil.<sup>14</sup> Kurzweil, a computer whiz, engineer, and missionary of technology, particularly artificial intelligence, pens books promoting a future in which the cosmos's most

exalted species takes command of its own evolution, books such as *The Age of Spiritual Machines: When Computers Exceed Human Intelligence* (1999), and *The Singularity is Near: When Humans Transcend Biology* (2005). He has turned himself into a prophet of human transcendence that will leap off of advances in science and technology.<sup>15</sup> Among other angelic/divine attributes that humans will acquire through advances in genetics, robotics, nanotechnology and artificial intelligence are a kind of omniscience and omnipresence, vastly extended life spans, and even the possibility of taking on different bodies at will. Interviewed for the bio-documentary *Transcendent Man* (2009), Kurzweil poses the rhetorical question of whether he believes god exists. He answers it by saying, pregnantly, “not yet.”<sup>16</sup>

The monism coursing through the above approaches is noteworthy. Science, technology, information, all products of human consciousness and its application, offer redemption from nature. Thought trumps reality. The transhumanist dream comprises an updated materialist version of ancient Gnostic spiritual aspirations. Despite great variety in the schools of thought and movements that scholars refer to by the term “gnosticism,” most shared a faith that knowledge (*gnosis* in Greek) could save. Unlike salvation religions, gnosticism believed that knowledge, not faith, could lead to transcendence of the troubled, limited, and limiting human condition, though historically even the major monotheisms incorporated gnostic approaches and generated gnostic subcultures. The thirteenth treatise in the *Corpus Hermeticum*, a collection of Middle Eastern hellenistic texts dating from the first centuries of the Common Era, relates how the man regenerated through gnosis becomes internally-focused, incorporeal, feeling god’s presence within, becoming god’s son. Having imbibed the secret divine knowledge that nature’s seeming disunity is an illusion all becomes connected: “I no longer picture things with the sight of my eyes but with the mental energy that comes through the powers. I am in heaven, in earth, in water, in air; I am in animals and in plants; in the womb, before the womb, after the womb; everywhere.”<sup>17</sup>

The first treatise of this Hermetic corpus, the *Poimandres*, stages a wedding between humanity and nature. Roland Edighoffer reads this as indicating “man needs the mediation of Nature and must take on a body to bring about the encounter with his own perfect shape in God, while nature herself needs the mediation of man to bring about its transmutation and to spiritualize matter.”<sup>18</sup> Gnostic desires recognize and/or produce resemblances spanning the universe, from human-shaped microorganism to the angel shaped like a human, to the human whose knowledge sees in them all divine being. After the world-changing discovery of DNA, surrealist artist and devout Catholic Salvador Dalí exclaimed: “This is for me the real proof of the existence of God.”<sup>19</sup> English physicist Francis Crick, co-discoverer of DNA, later cited Dalí’s remark to express his own feelings.<sup>20</sup> Materiality and consciousness, sameness and difference, seemingly incompatible realms, seemingly contrary modes of perception—always circling through one another in the gnostic imaginary.

It is easy to see why the technological and angelic have always appeared as the object of yearning, of both figurative and literal erotic appeal. What we might call a pornography of the prosthetic—Freud famously wrote in *Civilization and its Discontents* that “man

has, as it were, become a kind of prosthetic God”—seems to be behind depictions of angels since their beginning, a cross-cultural meditation on human selfhood via similar but impossible bodily configurations. For transhumanists ancient and post-modern, evolution into something more than human, into the *really* human is often imagined by means of the angelic. Progressivism, perhaps since the Renaissance, has shifted the angelic from ancient, medieval, and early modern religion or mysticism’s moral ideal to be achieved via emulation or communion to a system upgrade via scientific-technical operations. We waver yet between codes, between (meta)physical self-imaginings.

Voss-Andreae descends from the German pastor Johann Valentin Andreae, author of one of the earliest texts of Rosicrucianism, *The Chemical Wedding of Christian Rosenkreuz* (1616). The Rosicrucians comprised an eclectic group of Protestant pietists who admired alchemy and its gnostic reverberations, working it into their unconventional, and controversial, spirituality. The sculptor’s full first name is actually Johann Julian, after his pastor progenitor. In an email conversation in which I asked about his descent from the Rosicrucian pastor, Voss-Andreae claimed not to be very familiar with his ancestor’s thought, even if he did attend a Rudolf Steiner school in Germany from grades 9 to 13. (Steiner was apparently quite influenced by the Rosicrucian Andreae.) Says the sculptor: “I very much disliked the school and I am still struggling with my love-hate relationship to Steiner’s views (Goethe vs. Newton, phenomenology and holism vs. reductionism, occultism/vitalism vs. mechanism, etc).”<sup>21</sup> In *Angel of the West*, perhaps the sculptor had in mind resonances of the term “antibody” which could be said to allude to the paradoxical anti-worldly powers of traditional spiritual entities. Human antibodies, that is, fight alien matter that seeks to corrupt the host body, distinguishing (good) organism from (bad) organism, whereas angels defend and serve human souls (and therefore bodies) while partaking themselves, at least sometimes, confusedly in human bodily existence.

In titling his sculpture Voss-Andreae explicitly links the desire and ability to improve humanity and its condition to “The West.” The power to protect against “nature”—i.e., the failings of the god of religion—now dwells in the human scientific-technological skills mastered by a certain culture, whose prowess enables it to discover these new (meta)physical angels and harness their powers. Here the angelic entails not a universal bestowal but a particularistic advancement and advantage, a displacement that has persistently confused Christianity even as it dissipates into supposedly secular realms. *Angel of the West* thus functions as an icon of sorts. Oversized, posted at a significant site of traffic, at the entrance to an institution driven by a lofty mission, it draws attention to the image it bears, an image that symbolizes and reinforces the aims to which the institution is devoted. The scientific researchers comprise the priesthood that can see microorganismic angels and make them visible to the rest of us. The sculpture presents an homage for believers in one of the powers that they both serve and wield, a power utterly Other yet circulating through their—our—very bodies, a power conjured in an (angelic) image of our own (human) image, a non-human entity that makes being human possible. And the other way around.

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## Notes

1. Kip Bradshaw, "Sculptor mixes Physics, Art in his Creation for Scripps," *Sun Sentinel* (11 March 2009), available at [www.julianvossandreae.com/new.html](http://www.julianvossandreae.com/new.html). See also Eric Sauter, "New Sculpture Portraying Human Antibody as Protective Angel Installed on Scripps Florida Campus," *News & Views: Online Weekly of the Scripps Research Institute* 8,34 (10 November 2008), available at [www.julianvossandreae.com/Artist/resume/articles/2008\\_11\\_10\\_Scripps.html](http://www.julianvossandreae.com/Artist/resume/articles/2008_11_10_Scripps.html).

2. Julian Voss-Andrae, "Artist's Statement: Angel of the West," *Academic Medicine* 84,12 (December 2009): 1656, a brief description of the sculpture, which appeared as the cover art of that issue of the journal. See Eduardo A. Padlan, "Anatomy of the Antibody Molecule," *Molecular Immunology* 31,3 (February 1994): 169-217. doi:10.1016/0161-5890(94)90001-9. A black and white drawing (173) served as the two-dimensional template used by the sculptor.

3. Voss-Andrae, "Artist's Statement: Angel of the West."

4. *Guide to the Perplexed*, pt. 2, ch. 6; Shlomo Pines translation (Chicago: University of Chicago Press, 1963), 2:263-64; emphasis in original.

5. Carlo Ginzburg, *The Cheese and the Worms: The Cosmos of a Sixteenth-Century Miller*, trans. John and Anne Tedeschi (Baltimore: Johns Hopkins University Press, 1980), 6. Perhaps not surprisingly, Mennochio's world view is cited by Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Duke University Press, 2010), 148, n. 3, who seeks to ground in the world of matter itself all the qualities – such as consciousness and intelligence -- previously considered otherworldly by metaphysics.

6. See Elizabeth Blackmar and Roy Rosenzweig, *The Park and the People: A History of*

*Central Park* (Ithaca: Cornell University Press, 1992).

7. Mary Rose O'Reilly, *The Barn at the End of the World: The Apprenticeship of a Quaker, Buddhist Shepherd* (Minneapolis: Milkweed Editions, 2000), 37.

8. [julianvossandreae.com/works/protein-sculptures-angel-of-the-west](http://julianvossandreae.com/works/protein-sculptures-angel-of-the-west).

9. David Noble, *The Religion of Technology: The Divinity of Man and the Spirit of Invention* (Penguin, 1999), 193. For more on Peacocke and his notion of man as co-creator, see Ronald Cole-Turner, *The New Genesis: Theology and the Genetic Revolution* (Louisville, KY: Westminster/John Knox Press, 1993), 100-101; Arthur R. Peacocke, *Creation and the World of Science* (Oxford: Clarendon Press, 1979), 301, 306.

10. Quoted in Noble, *Religion of Technology*, 197.

11. Carl Sagan, *Pale Blue Dot: A Vision of the Human Future in Space* (New York: Random House, 1994), 398.

12. Available online at [transhumanism.org/index.php/WTA/more/huxley](http://transhumanism.org/index.php/WTA/more/huxley). Huxley was using a term that he and others had used earlier. See Peter Harrison and Joseph Wolyniak, "The History of 'Transhumanism'," *Notes and Queries* 62 (2015): 465-7; doi:10.1093/notesj/gjv080; Max More and Natasha Vita-More (eds.), *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology, and Philosophy of the Human Future* (Chichester, UK: Wiley-Blackwell, 2013); R. Cole-Turner (ed.), *Transhumanism and Transcendence: Christian Hope in an Age of Technological Advancement* (Washington, DC: Georgetown University Press, 2011).

13. I came across Saenz's image at [acceleratingfuture.com/michael/blog/page/2](http://acceleratingfuture.com/michael/blog/page/2), posted 29 Sept. 2011. See Saenz's bio at [singularityhub.com/about](http://singularityhub.com/about). Singularity Hub was acquired by Singularity University in 2012.

14. A. David Lewis, "The Cult of Kurzweil: Will Robots Save Our Souls?" *Religion Dispatches*, 6 April 2011, [religiondispatches.org/the-cult-of-kurzweil-will-robots-save-our-souls](http://religiondispatches.org/the-cult-of-kurzweil-will-robots-save-our-souls).

15. Saenz's evolving being seemingly remains always male. And Voss-Andreae's antibody-angel? In his invocation of Vesuvian Man it appears masculine as well. Stebbins, in her *Angel of the Waters*, makes the angel female, in accord with the nineteenth-century domestication of angels that paralleled the cult of domesticity, her compassion and will to heal according with "women's nature." (Kushner's late-twentieth-century hapless angel who can't quite heal is decidedly female, a play on gay adoration of and empathy for the feminine, but that is another story.) The *Angel of the West*, in contrast, embodies a spirit of extroversion, reflects something impersonal in its abstract facelessness—the face being one of the most important qualities of (good) angels—a quality of hardness, metallic strength and dominance.

16. On the narrower question of technological transhumanism see John Markoff, *Machines of Loving Grace: The Quest for Common Ground Between Humans and Robots* (New York: Ecco, 2015); Kevin Staley, “Imago Dei in Machina: A Theological Reflection on the Ethics of Man and Machine in Communion” (PhD Diss., University of the Free State/Universiteit van die Vrystaat, 2011); Robert M. Geraci, “Apocalyptic AI: Religion and the Promise of Artificial Intelligence,” *Journal of the American Academy of Religion* 76, no. 1 (2008): 138-166. doi:10.1093/jaarel/lfm101. An illuminating satire, even if unintended as such, is Sam Frank, “Come With Us if You Want to Live: Among the Apocalyptic Libertarians of Silicon Valley,” *Harper’s Magazine* (January 2015): 26-36.
17. Brian P. Copenhaver, trans. and ed., *Hermetica: The Greek Corpus Hermeticum and the Latin Asclepius* (Cambridge: Cambridge University Press, 1992), 51.
18. Roland Edighoffer, “Hermeticism in Early Rosicrucianism,” in eds. Roelof van den Broek and Wouter J. Hanegraaf, *Gnosis and Hermeticism from Antiquity to Modern Times* (Albany: SUNY Press, 1998), 208, 209.
19. Quoted in Noble, *Religion of Technology*, 181.
20. According to Crick’s colleague and friend, neurobiologist Gunther S. Stent, Crick, who leaned toward atheism or pantheism, considered Dalí’s remark laughable and quoted it ironically (“Francis Crick,” *Proceedings of the American Philosophical Society* vol. 150, no. 3 (Sep 2006): 467-474; an excerpt of the relevant section if available online at [cornea.berkeley.edu/duality/pubs/stent’s%20obituary%20of%20crick.pdf](http://cornea.berkeley.edu/duality/pubs/stent’s%20obituary%20of%20crick.pdf)).
21. Personal communication; April 2013.