Out of Bounds: The Mad Scientist Figure in the Nineteenth Century

Jessica MacDonald
Western University, jessicawmacdonald@gmail.com

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This paper examines the figure of the scientist in nineteenth century England. It argues that this figure encroaches upon religious territory by examining both real-life scientists (Darwin and his contemporaries) and their literary counterparts, as found in Robert Louis Stevenson’s *The Strange Case of Dr. Jekyll and Mr. Hyde*, H. G. Wells’ *The Island of Dr. Moreau*, and Richard Marsh's *The Beetle*. When these sources are then put in the context of the development of Christianity and the Self/Other mode of thinking it enforces, the prevalence of paranoia around the scientist figure shifts from a concern over the consequences of scientific exploration, to the fear of a god-like figure who can unite previously divinely separated entities like man and animal. Through this figure, then, science in the nineteenth century becomes a new form of religion powerful enough to affect a paradigm shift in belief that echoes the original shift of Judeo-Christian away from the ‘pagan’ Greco-Roman and other polytheistic belief systems.
Ubiquitous to nineteenth-century British literature is the scientist, a figure that deeply problematizes religious faith and, often, villainously plagues his civilization. The scientist figure is rooted in nineteenth-century England by the widespread anxiety about scientific exploration and its consequences, ranging from the debate over vivisection to the concern that scientists were ‘playing God’ in their experiments, thereby moving beyond Christianity. The Christian itself evolves out of a practice of separating itself from an Other that was originally Greco-Roman ‘paganism’ and the locus of crossed creatures contained therein. As such, the rise of scientific thought in the nineteenth century that crossed lines between the Christian Self and animal Other (Darwinism among others) as well as reinvigorated ‘pagan’ practices through pseudo-sciences provoked a cultural paranoia that spilled over into literature. Thus, examining the representations of scientists in literature of the nineteenth century—principally here H. G. Wells’ *The Island of Dr. Moreau*, Robert Louis Stevenson’s *The Strange Case of Dr. Jekyll and Mr. Hyde*, and Richard Marsh’s *The Beetle*—provides the context both of the perception of scientists at that time, and the omnipresent fear that science will (and indeed, in the 20th century does) rise as a new and more powerful form of religion than Christianity.

Christianity’s central Self/Other paradigm is established quickly in the early chapters of Genesis, with the Christian God’s division of “the light from the darkness,” and “the waters from the waters” (1:4, 1:6). Human and Animal quickly become Self and Other with the declaration that one has “dominion” over another (Genesis 1:26). However, the divisive focus of Christianity represented a conscious shift from Greco-Roman ‘paganism’, the attempt to segregate Christianity from movements that came immediately before, such as Judaism, and the Greco-Roman
and Egyptian polytheistic systems. Edward Carpenter asserts that Christian writers “not only introduced new doctrines, legends, miracles and so forth—most of which we can trace to antecedent pagan sources—but that they took especial pains to destroy the pagan records and so obliterate the evidence of their own dishonesty,” giving as a specific example Jesus’ turning of water into wine, previously attributed to the Greek God Bacchus (205, 213). A like example occurs in Satan’s trident, which manifested against that of Neptune.

Northrup Frye and Jay Macpherson suggest that “in the earliest times the forms of things were more fluid” (306); indeed this fluidity manifests itself clearly in Ovid’s *Metamorphosis* and other Greco-Roman mythic accounts. Gods and mortals mingled and had children together—Zeus infamously had many affairs with mortals, resulting in such famous children as Helen of Troy and Hercules. Compare this to the separation of God and men in Christianity. Of particular significance in the *Metamorphoses*, however, is the fluidity between human and animal. Europa and the Bull and Leda and the Swan are both sights of the crossings not just of mortals and gods, but also human and animal; Zeus took animal form, and Leda bore his children as hatchlings from eggs. The permeability of the human body with the animal is further evident in the locus of hybrid entities in the Greco-Roman system, where Centaurs (horse-men) and Satyrs (goat-men) flourish alongside the Egyptian crossings of Horus and Anubis as the falcon-headed and jackal-headed gods, and the famous cat-human Sphinx.
Horus (left), usually depicted as falcon-headed, is typically considered the principal deity in the Egyptian polytheistic system. Anubis (right) is the jackal-headed god of the afterlife for the same religion.

The boundaries established between Christianity and other religions, however, bar such ‘pagan’ crossing. According to Christopher Jones, the Book of Luke etymologically links ‘demons’ with cross-breeds: “creatures below the level of God or of gods, [were called] daimonia; long familiar to Greeks as a word for minor divinities, this was eagerly caught up by Christians to designate all supposed gods of paganism, and passed into modern language as ‘demon’” (2).
These plates from the 1665 edition of Fortunio Liceti's De Monstris, depict monstrous crossed creatures, some of which are recognizably taken from Greco-Roman mythology, such as the Satyrs (right).

Animals and animal sacrifice for so-called ‘pagans’, asserts Jones, were “traditional and powerful form[s] of communication with the gods,” etymologically linked with holiness; “the Greek for animal victims already found in Bronze Age Linear B, is hiereion, ‘the holy object’: the Latin word victim also comes from an Indo-European root meaning ‘holy’” (62, 61). This animal sacrifice posed a problem for Christianity in a way that it didn’t for Judaism due to the presence of Christ. One of the likeliest reasons why Christianity evidences such a strong break from its history while Judaism does less so is Christ’s sacrifice, meant to “supersede[s] all further sacrifice” (Jones 61). Any comparison of Christ with the “repellant form of sacrifice” Christians saw in ‘pagan’ animal slaughter was therefore made an untenable proposition (Jones 34). The denial of animal spirituality resulting from this disjunction would later lead Enlightenment thinkers—like Rene Descartes—to hypothesize the animal as a ‘beast-machine’ in what Christine Kenyon-Jones asserts was part of the “over-emphatic insistence on the special, divinely appointed, place of Man in the world” (205) manifesting itself as a cultural remnant of this early break.
Famous examples of scientific exploration, however, often focus on the unifications, rather than disjunctions, challenging the boundaries Christianity established centuries earlier. Giambattista della Porta’s sixteenth century book of human physiognomy, *De humana physiognomonia libri IIII* (pictured below), was an early example of bridging the gap established between human and animal, which Darwinian thought extended.

This image, from Giambattista della Porta’s *De humana physiognomonia libri IIII* (1586), compares the physiognomy of humans and animals, an early attempt to show the relation of animals and humans.
W. H. Hudson, Darwin’s contemporary, argued that “the fact of evolution in
the organic world was repellent...because we did not like to believe that we had
been fashioned, mentally and physically, out of the same clay as the lower animals”
(qtd. Schmitt 38), using religion—as many philosophers did reflexively—to argue
against science. Darwin, however, explicitly challenged this use of Christianity as
explanation, rejecting such “teleological explanation, because it led to the end of
inquiry by invoking divine intelligence to explain whatever was not apparently
lawlike, [and] inhibited scientific investigation” (Levine 85). In so doing, Darwin
could integrate humans with the rest of the natural world and therefore subject
them to analysis alongside animals.

George Lewis Levine places natural theology as “an implicit defense of the
way things are—a theodicy” (84). Conversely, natural selection explained the
natural world without invoking God, and could therefore look at species without the
otherwise omni-present mysticism of creation clouding observation. For Darwin’s
Victorian audience, however, “the dangers of...secularization were always near the
surface” (Levine 84)—the concern that science could move to preclude God from a
predominantly Christian society manifested in enormous anxiety around the scientist figure who could effect such a shift in belief.

Alfred Russell Wallace, sometimes called “Darwin’s co-discoverer of natural selection” (Moore 292), was likewise noting the resemblance of humans and animals in his studies of indigenous tribes in Borneo. He stated “the more I see of uncivilized people...the better I think of human nature on the whole, and the essential differences between so-called civilized and savage man seem to disappear” (qtd. Moore 298), comparing the Dyaks (an indigenous tribe) to orangutans. Wallace observed that orangutans’ bodies “mocked ‘the human form divine’ and, [that] like tribesmen, they kept in one locale” (Moore 299).

These drawings of Hopi Kachinas (believed by the Hopi to be spirits, or personifications of things in the real world) were created by a 30-year-old Hopi man named Kutcahanauu or White-Bear, who was hired in 1903 by an American anthropologist to visually record this combination of man and animal.
Even merely at the level of needing to step outside ‘society’ in order to find information, which is then brought back into society as science, Wallace as a scientist was effecting a unification of sorts of the Self with the Other. However, more immediately concerning to Darwin and Wallace’s contemporary audience was their problematization of the definition of species originally categorized by God. Observation “invariably yields facts that blur the margins...Multiplicity and difficulty of definition reduce the prima facie case for rationality and simplicity—and hence for intelligent design” (Levine 106). Science, in other words, through the suggestion of a unification of man and animal, was undermining belief in the universe as logical creation of one God.

Pseudo-sciences, although since discredited, formed another branch of popular exploration—John Reed asserts that “not only mesmerism, but somnambulism, clairvoyance, and similar phenomena occasioned great public interest. Even Alchemy continued to fascinate” (441) its nineteenth century audience—that challenged conventional Christian thought due to its seemingly pagan (in this sense, representative of a mysticism alien to Christianity) origins. Late eighteenth century interest in science “actually encouraged an interest in the occult...[as] scientific experiments had revealed...wonderful and invisible forces” (Reed 441); thus pseudo-science was accepted as fact. Kenyon-Jones cites the widespread belief “that eating bull’s flesh (or even participating in bull-baiting or bull-fighting) would give people bull-like characteristics” (204), evincing the recurrence from Greco-Roman ancestry of a belief in the mystical powers of animals. Meanwhile, Franz Mesmer “maintained a mystical aura...[and] claimed to work through an occult power” (ntd. Wells 125). As a result of the flourishing of
Darwinism and pseudo-science, the figure of the scientist becomes closely associated with the unification both of animal and man, and man and occult power.

Scientific growth and the literary tradition of paranoia about science and scientific figures grew hand in hand—although paranoia becomes prominent in the nineteenth century due to the expansion of scientific experiment, expressions of concern are evident even in the Early Modern Period. Writing religious meditations in the 16th century, John Donne famously used science and metaphysical conceits to approach religious topics, while simultaneously cautioning science as a “new philosophy [which] calls all in doubt” (205). Ben Jonson’s play *The Alchemist* would similarly problematize those claiming science as pretext for their actions, particularly the pseudo-science of alchemy and its possible usefulness to criminals. Likewise, Shakespeare’s Perdita in *A Winter’s Tale* refused to plant gillyvors in her garden, claiming that they were “nature’s bastards” (4.4.83)—as they were cross-bred with other flowers by gardeners ‘grafting’ plants together—combined using scientific experiment and therefore somehow against her Christian faith.
A reproduction of “A Group of Carnations”, one of the plates from Robert Thorton’s 1807 Temple of Flora, in which he explores the relation between flora and human eroticism.

However, the Early Modern Period’s fascination with and wariness of science and the scientist figure is elevated multifold in nineteenth-century literature. Taylor Stoehr asserts that in the nineteenth century, the archetype of scientist has two main strands: “the crackpot scientist—balmy alchemist, virtuoso, projector”—which likely originates in the Early Modern Period—or the scientist with a “passion for esoteric knowledge and [a] monstrous interference with the course of nature” (251, 252). This version of scientist, Stoehr suggests, originates in the Gothic period with Mary Shelley and Frankenstein (252). In Stoehr’s model, the crackpot scientist is utopian, “a model of self-sacrificing idealism or self-deluded figure of fun,” while the monstrous experimenter is “Faustian…sacrilegiously meddling with the souls of his victims” (252, 252-253). It is this latter category into which scientists like
Moreau, Jekyll, and Atherton (and the Beetle) are placed, symbols of crossing into an Other and so contravening religious tenants.

Moreau—who creates creatures “human in shape...with the strangest air about them of some familiar animal...[the] irresistible suggestion of a hog, a swinish taint, the unmistakable mark of the beast” (Wells 100)—overtly links the human and animal. Wells ties Moreau closely to prominent scientific figures of his time like Mesmer and Darwin—Moreau admires the “growing science of hypnotism,” while evolutionary theory is implied in the idea of “the plasticity of living forms” (125, 124). Prendick in this sense is the marker for Victorian morality and Christian values here, observing a “strange wickedness” in the choice of human form and the suggestion that, like Perdita’s carnations, Moreau’s creations are “superceding old inherent instincts by new suggestions, grafting upon or replacing the inherited fixed ideas” of Christianity (Wells 126, 125). R. H. Hutton asserted that the “extinguis[h] of] the chasm which divides man from brute” in the text was tantamount to “the fanaticism of a foul ambition to remake God’s creatures” (189, 189), again revealing the concern that science could supersede Christianity in reconnecting Self and Other in the form of human and animal.

Marsh’s Beetle likewise combines the human and animal (here insect), crossing not only that divide but also the gender divide; the Beetle’s indeterminate sex makes both men and women its sexual victims. In its ability to “pump...life from [the Beetle’s] own body into the unconscious man’s [Percy]” as well as the penetration it performs on Holt, “envelope[ing] [his] face with its huge, slimy, evil-smelling body, and embrac[ing] [him] with its myriad legs” (Marsh 139, 52), readers
can find not only sexual imagery—itself unmentionable for Victorians—but a fear of the Other somehow infecting the Self.

Stevenson too shows in Jekyll and Hyde the “thorough and primitive duality of man” (Stevenson 79), suggesting repeatedly that Hyde is the degenerative and animal Other to Jekyll. In some senses, the dual personalities of Jekyll as scientist
parallel Stoehr’s two versions of the scientist; however, their incorporation into one person suggests—just as the tainted salts do—that the two coexist, that underneath even the seemingly harmless scientific inquirers there lurks something darker.

Scientific inquiry for nineteenth century novelists occupied a similar place to that of religion in the earlier Gothic novel. Diane Hoeveler identifies an “intense religious anxiety caused by the aftershocks of the Protestant Reformation,” centering in literature around tropes of Catholicism like monks, nuns and ruined abbeys (5)—Matthew Lewis’ *The Monk* (1796), for example. Fears that Catholic power would reemerge to threaten English Protestantism ran high. The shifts in nineteenth century science resulted in the formation of an almost parallel figure of hysteria in the mad scientist, whose association with occult behaviors raised the specter of a resurgence of paganism, another religious threat to Christianity.

Marsh’s beetle places this threat in terms of Egyptian polytheism victimizing an English population. Lessingham as “the Apostle” (Marsh 146) presents a new figure of religion around which to gather, made non-threatening by his status as English Protestant. However, his mysterious association with the beetle—a “child of Isis,” closely associated with “Egyptian mythologies” through its form as “ancient scarab” (Marsh 149, 148)—puts this new religion in the context of the past, significantly problematizing it. Sydney Atherton is himself a kind of scientist god figure, “endowed with an unusual tenacity of vision” (Marsh 141) like God’s vision for the world, and of course exerting powers of life and death through his ‘magic vapors’. In his use of electricity, he makes the beetle worship him as a kind of god; after being shocked with electricity, the beetle “shook with terror…[crying] ‘My lord!—My lord!—have mercy, oh my lord!’” (145). In Atherton’s claim that the
beetle’s mesmeric powers and his experiments are parallel “magic[s]” (149), he 
aligns again his science with the pagan mysticism of the beetle. Georgia Louise 
Leonard dubbed the beetle’s powers “the occult sciences of Egypt” (340), 
amalgamating science with pagan mystical religious activity, making the scientists of 
the nineteenth century dangerous magicians invoking the past rather than 
progressing to the future.

John Knox suggested that “true myth is never consciously invented; it is a 
cultural inheritance” (24). With the figure of the scientist, the specter of past 
religions came to haunt scientist figures—this use of specter itself haunts the text as 
a Gothic trope. Knox asserts that such mythic connotations are “indispensable 
symbol[s]” in the cultural memory; while a new generation of scientists can 
reinterpret the myths of Paganism that early Christianity feared, “it cannot 
conceivably substitute another myth for it” (24). As a result, scientists whose 
experiments tended to unification were haunted by this darkness from the past, and 
their theories met with resistance.

Michaelangelo’s “The Creation of Adam” (1512) is juxtaposed with Rudolph Zallinger’s 
“March of Progress” (1965)
The perceived darkness behind scientific inquiry for nineteenth-century Britain lies not only in the past threat, but also the current one—the perception that scientists, in crossing things biblically defined as separated, were attempting to play God. The laws Moreau impresses upon his animal subjects, as a parody of the Ten Commandments, constitute for Prendick a “deification” (Wells 123) of Moreau. In his vivisection experiments, Moreau determines to “make a rational creature of [his] own” (130), just as God did in the creation of man. Moreau, like Atherton, claims to match the intellect of God, asserting “I have seen more of the ways of this world’s Maker than you…I have sought his laws, in my way, all my life” (127), and claiming that the drive for scientific inquiry is an “intellectual passion...strange, colourless delight” (127), echoing the passion of Christ. Certainly, Prendick’s story to the animals following Moreau’s death suggests the death and resurrection Christ; the injunction that “he has changed his body...[to] watch [them]” (151) from above resonates with Christian mythology of godlike resurrection.

Stevenson’s description of Jekyll, too, alludes to Christian mythology; in characterizing the shift from his own body into that of Hyde, Jekyll recalls a “trembling immateriality, the mist-like transience, of this seemingly solid body in which we walk attired” (Stevenson 79), alluding to the archetypally Christian division of body and soul. That Jekyll has the ability to so do is itself described in terms of religious clothing—“pluck[ing] back that fleshy vestment” (79)—thus transcending his physical body with Christ-like powers. Stevenson describes Jekyll’s medicine as a “virtue” (91), illustrating the separation of body and soul as moral, and thereby making Jekyll as the scientist an arbiter of morality. In Jekyll and
Moreau, then, the nineteenth century concern with science as a potential force to replace Christianity seems validated by the characters’ Christ-like qualities. The beetle and Sydney seem poised to perform a similar replacement, although through the resurgence of paganism within science rather than in science as a new religion unto itself. The figure of the scientist in the nineteenth century, as figure who unifies opposites and acts with a Christ-like authority that contravenes the teachings of Christianity, becomes himself a sort of new Christ, ministering to an often fearful audience. The jump then from Christianity to Darwinism (as seen in the cartoon below) seems imminent, as science in the nineteenth century becomes a new religious form.

This 1883 cartoon, captioned “Our National Church: The Aegis of Liberty, Equality, Fraternity”, locates Darwinism among Britain’s religious history, with Darwin as a new religious leader.
Works Cited


**Images Cited**


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