

GENETIC ENGINEERING and the SACRED

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## Genetic Engineering and the Sacred\*

When I received the topic for this symposium, I was less than pleased. As a Jewish atheist trained in Anglo-American analytic philosophy, and as a person whose son's middle name is David Hume, I have little sympathy for talk of the "sacred". In addition, despite my non-religious predilections, I had during the last few years published three pieces in the Christian Century, delivered three sermons in two Protestant churches and a synagogue, and given a talk on religion and animals at the Harvard Divinity School and one at Tufts. Is it possible, I reflected, that God was punishing me, recalling the old Hungarian proverb that God does not punish with a stick!

I had indeed written a fair amount on religion and biotechnology, but almost exclusively in the context of making the point that any new and dramatic technology creates a vacuum in social ethics, when people realize that they are not sure of the implications of that technology for how we live. If no one articulates the genuine issues occasioned by our new powers, the ethical lacuna will be filled by bad ethics coming from vested interest groups, in what I called an ethics version of Gresham's Law — bad money drives good money out of circulation. And the usual source of bad ethics is pronouncements by religious leaders. For example, when the scientists who cloned Dolly failed to raise the genuine ethical concerns attendant upon cloning (for example, will the process cause new suffering for the animal?), the vacuum was filled by theologians and others announcing that cloning violates God's will, involves playing God, violates species integrity, claims with little or no clear meaning. In my view, there was little left to say about "the sacred" and the ethics of biotechnology.

Out of ideas, I approached one of my colleagues, a fine analytic philosopher lately turned to studying ritual and gave him my problem. "You are not going to like this", he said. "But you may

\*An invited version of this paper was read at the University of Scranton Symposium on Genetic Engineering in October of 2002.

find something of value in Bataille". "Bataille?" I exclaimed. As far as I was concerned, Bataille and many other French philosophers like Derrida, Lacan, Deleuze were as incomprehensible and obscurantist as theologians. (Noam Chomsky once told me that he had spent an entire week in "dialogue" with Lacan and not understood a single sentence!) "Give it a shot", said my colleague, handing me a copy of Bataille's Theory of Religion, "He talks about the sacred."

This turned out to be a superb piece of advice. For reading Bataille served to remind me that I had an extremely impoverished view of religion and the sacred, and that broadening that view opens up a whole new vista on the issue at hand. Like so many Americans for whom religion is not a significant portion of life, the God I don't believe in is something like the manager at Safeway, a benign Mr. Whipple watching that one does not squeeze the Charmin. This is the God who, I am assured by simpleton friends, is a fan of the Denver Broncos. The God who is in the infield with Christian softball players when they make a spectacular catch. The God whose angels are the sort of benign vapid ciphers depicted in "Touched By An Angel". A God comfortable at Rotary Clubs, church pot-luck suppers, and Harley Davidson toy runs for poor children around Christmas. A "regular guy" God. A God who, in film, can be played by George Burns. A God who wants masses sung in English, being a good American. A God whose sacred places are clean, bright, and hidden in gated communities.

The key point is not that this "American God" view is any more absurd than any other view of the Supreme Being. Rather, this view neglects an enormous part of what has traditionally been circumscribed by religion and what is thought of as sacred.

To identify this deficiency we can look back to a dualism inherent in pre-Socratic Pythagoreanism. In the *Metaphysics*, Aristotle tells us that the Pythagoreans postulated dualistic fundamental principles of which the most basic were the limited and the unlimited, and "evil

belongs to the unlimited, and good to the limited” (Aristotle \*\*\*\*). From the limited and unlimited follow other dualistic pairs — male and female, light and dark, square and curved (Aristotle \*\*\*\*)..

There is no need to delve into Pythagoreanism here; I cite it only because it is a very early Western philosophical manifestation of what Bataille finds essential to religion. Influenced by Heidegger, he points out that there are two aspects to the world (Bataille 1989). There is the primordial world that animals, according to him lacking language or categorial apparatuses or self-awareness, experience. In his graphic image, animals are in the world as “water in water”. He seems to mean that animals do not put their experiences in organizational boxes, but rather simply are primordially there. There is no distinction between self and other, inner and outer experience, based on the old Cartesian idea that animals lack linguistic categories. (As I have written elsewhere, I do not believe that animals lack concepts but that is irrelevant to our discussion here)( Rollin 1993).

As linguistic and tool-making beings (language is a tool), we humans perceive and experience the world not as a unit, but in discrete objects and events dictated by our “cookie cutters” or categories. (Even self and other and mind and body are ways of limiting what is primordial.) All of the history of civilization can be seen as acquiring more and more tools and concepts to tame, and in Pythagorean terms, limit the world. But our tool-making and concept-forming ability, is always imperfect, so part of the world must remain untamed, as it were. It is this primordial world that religion addresses, specifically our experiential intimations of it.

Early man was closer to the primordial, possessing far fewer tools and concepts. And in activities like sacrifice, festivals, sexual frenzy and bacchanals, drunkenness, orgiastic dance, we lose our carefully wrought categories, and come closer to the original continuum. (Bataille himself was fascinated by the degree to which extreme pain can create ec-stasy; literally standing outside of one’s categorial self.) This acknowledgment of the original world, uncharted and uncontrolled, is

the purview of religion, and is unsettling. The modes of experiencing the primordial are fear and terror, and ecstasy, compared to what we can categorize and control and understand.

As Nietzsche pointed out in The Birth of Tragedy, Greek religion plainly acknowledges these two forces of reality (Nietzsche 1967). The Appolonian, official, state religion lauded order and reason, and was celebrated in ways that themselves emphasized order and reason — official dated festivals, holidays, organized activities. On the other hand, the Eleusinian mysteries and Dionysian, orgiastic festivals, where the mode was out-of-control chaos, musically, sexually, timelessly, mindlessly; dominated by satyrs, Pan, goat-men, centaurs combining men and animal and transcending moral and other rules. For Nietzsche, the melding of Appolonian and Dionysian in Greece was an endless source of creativity and energy.

The notion of the sacred as uncapturable in concepts, fearsome, inspiring terror, dread and awe, and transcending rational categories is classically analyzed in Rudolf Otto's Idea of the Holy where, as in Bataille, the analysis is couched in experiential — i.e. phenomenological — terms (Otto 1957).. Otto explicitly remarks that the nature of the sacred is such that it grips or stirs the human mind with this and that determinate, affective “state”. He calls this state Mysterium Tremendum. Describing this state, Otto affirms that

It may burst in sudden eruption up from the depths of the soul with spasms and convulsions, or lead to the strongest excitements, to intoxicated frenzy, to transport, and ecstasy. It has its will and demonic forms and can sink to an almost grisly horror and shuddering (Otto 1957, 12-13).

Pivotal to this experience is a sense of awfulness, of dread exceeding normal fear. Such a state is mentioned in the Bible, and gives us “a terror fraught with an inward shuddering such as not even the most menacing and overpowering created thing can instil”(Otto 1957, 14). According to Otto, “It is this feeling which, emerging in the mind of primeval man, forms the starting point for

the entire religious development in history. ‘Demons’ and ‘gods’ alike spring from this root”(Otto 1957, 16). “Creeping flesh,” “skin crawling,” “blood running cold” are the closest phenomena to this usually experienced by civilized men, or “[a sense of] personal nothingness and submergence before the awe-inspiring object directly experienced”(Otto 1957, 17).

This terror, or feeling of being nothing in the face of what inspires it, is not associated with the rational category of having been created as an entity, but rather with the destruction of the knowledge of self; it is, as Bataille might say, “impotence and general nothingness as against overpowering might, dust and ashes as against ‘majesty’”(Bataille 1989, 21). This experience annihilates the sense or category of self.

The experience underlying religion is thus erosive of self or reason, according to both Bataille and Otto. This primordial experience tends to be played down and de-emphasized by modern, liberal, ethics-based religion, but it lurks beneath that sanitized exterior in all major religions.

For Otto, the very fact of the experience provides an argument for the existence of its object — thus he thinks he is generating something of an ontological argument similar to Anselm’s, wherein one goes from the concept of God to His existence. Here one goes from the experience of the numinous to the validation of what it signifies. Such an argument is always highly suspect, but for our purposes is irrelevant. Our discussion is, if you like, with phenomenology, not ontology, with a certain part of experience, not with the furniture of the universe!

Though the experience we have described is generally considered “religious”, it shares many elements with a certain mode of aesthetic experience discussion of which has waned in the twentieth-century. I am referring to what was once called “the sublime” or sublimity. From the time that we are children, we realize that the usual categories of aesthetic experience built into ordinary language and discourse, “beautiful”, “pretty”, and similar notions do not capture some of

our most profound aesthetic experiences. While a field of mountain wild flowers or a painting by Monet or Dufy may fairly be called pretty, or even beautiful, that is not the right word for certain paintings by El Greco, Goya, or Van Gogh, or Di Chirico and certainly not many of our most profound experiences of nature. Consider the Wadsworth passage in the Prelude where he is caught by a storm in a small boat, in the middle of a large lake, surrounded by crags. The profound sense of grandeur, of your own smallness or insignificance, of human weakness before nature that Wadsworth captures so well, though manifestly aesthetic, is not an experience one would call pretty or beautiful. It is rather what the eighteenth century called “sublime”, as best discussed, perhaps, by Kant in the Critique of Judgement.

I have experienced sublimity many times in my life; as when, for example, I stand alone, at night at the base of a great dam, or beneath a massive bridge, or when camping at the base of a massive mountain range when a storm rolls in. Many people feel similar experiences at Stonehenge, Easter Island, or the Lascaux caves. Certain music can elicit a similar sensation; e.g. Carmina Burana, as can certain artists, such as Francis Bacon or Bruce Nauman. The Nazis were particularly adept at producing the sense of the minuteness of the individual before the power of the state in architecture and at orchestrated festivals and rallies. Such experiences are probably as close as most people get to the loss of self Bataille is talking about.

But still, the experiences described by Bataille and Otto are not at all uncommon in society. As a young man, I would occasionally feel it in massive and old Catholic cathedrals and at Latin masses. Pentecostal and other ecstatic forms of Protestantism seem to deliberately aim for creating such experiences. As a youth I was drawn to black churches and revival meetings, where the loss of self in music and rhythm was common, and an energy close to sexual reigned. (Many of my peers sought to take their dates to such events, as a modality for awakening latent sexual feeling.) Some people can experience these feelings at bullfights (which I found loathsome); others at “holy roller”

or charismatic prayer meetings, snake-handling, speaking in tongues, Indian peyote ceremonies, Chasidic celebrations, or raves and rock concerts and other musical gatherings. Mainstream churches eschew this experience, seeing ecstasy or lack of control as inimical to rational, morally didactic religion. The heady mixture of sexuality, music, loss of inhibition, fear, adrenaline, is far too Dionysian for polite society's "staats-religion".

Fascination with the Dark Side of religious experience is manifest in popular culture. An underground culture of sexual vampirism has emerged in large cities, with adherents even having dental surgery to create fangs, and the correlative blood-consuming erotic activity inducing ecstasy and loss of consciousness. The widespread use of drugs speaks for itself and is omnipresent in all societies and in countless religions. (According to some chemical intoxication also pervades the animal kingdom)(Siegel 1989).

A recent book by a psychologist on exorcism documents in great detail the spectacular rise in exorcisms in Catholicism and fundamentalists Protestantism (Cuneo 2001). Despite our living in the age of mapping the human genome and space travel (or, oddly enough, perhaps because of living in such an age), many of us find the presence of demons clearly operative in the world undeniable. A surprising number of psychologists attribute aberrant human behavior to demons. Exorcisms have been performed by the Pope; others have been televised.

A remarkable series of films starring Christopher Walken, beginning with Prophecy, demonstrate the power of the Bataille/Otto view of religion over the social imagination. In these films, the central focus is angels, the emissaries of God who do God's work. As against the popular puerile image of angels as aerodynamically unsound porky babies, or cloyingly lovable women, these films present a far more Biblically accurate view of angels as God's gunslingers, awesome in demeanor and action. (Recall that angels are dispatched to destroy Sodom and perform similar awe-inspiring tasks.) As such, the angels are portrayed as beyond good and evil as we conceive it, and as



inspiring fear and awe in humans. They remind us that being “touched by an angel” is almost certainly not a church supper pleasant sort of experience.

Otto demonstrates in his book the degree to which the dark and awesome experience of the sacred we have been discussing pervades the major religions; it can be found in Christian mysticism, in Kabbalistic writings in Judaism, in Hinduism in rituals of Shiva the Destroyer and Kali, in Tantric Buddhism: Though historically and epistemologically fascinating, such an exposition is beyond the scope of our discussion. We have said enough to justify the centrality of the dark concept of the sacred to the experiential dimension of religion, even today. The next question is whether such an experience is good or bad, deleterious or salubrious to human life.

In my reading of Bataille’s theory, such experience is above all else essential and inevitable to human life, since human life is at root the “taming” of the primordial by linguistic categorization and other tools. We will never fully capture the world in and by our concepts and tools, since such a task is a moving target, and always leaves a residue, presumably as a result of what Arthur Danto has aptly called the “space between language and the world.” Primordial reality will always elude us, leaving a remainder that is present as the experience of the sacred. However we refine our concepts, there is always an ineffable leftover that is there to haunt and taunt. However refined our science, it will never be congruent with reality, making our striving perhaps tragic because futile.

If that is the case, the experience of the sacred can be seen as a consolation, an affirmation of the fact that while we can engage forever in Appolonian striving, we can retreat to the Dionysian in a self-abnegating way which has its own rewards (ecstasy being nothing to sneer at!) It further reminds us that the purely intellectual is not the be all and end all of apprehending reality, that there is a largely experiential inexplicable alternative that thrills while it chills, and delights without insights. Loss of self, ecstasy, fear, and finitude can be fun! Even more dramatically, as Bataille’s

lifelong obsession with ecstasy achieved through pain reveals, there may indeed be redemption through suffering!

## II

We now approach the hard part. If we assume that the experience of the sacred is desirable for adding balance to life, or at least inevitable, what relation does this have to genetic engineering? Will it augment, diminish or be irrelevant to the experience of the sacred?

On one level, it appears that it could undercut our experience of the sacred. If animals are indeed primordially other in not being capturable by our concepts, themselves lacking concepts, is not genetic engineering likely to diminish this mystery, for they are now made by us? To be sure we have always made animals as tools. Domestication and selective breeding of cattle, sheep, dogs, horses, is surely a triumph of human tool-making. The dog is a cliché'd example. Blake can sing of tigers burning bright, but surely, not of Chihuahuas!

To put it another way, one might argue that animals created by humans, being tools, products of human conceptual deployment, are inimical to the "otherness" required for the sense of the sacred. That is certainly conceptually plausible, but it is in fact empirically wrong.

Let us first recall that the experience of the sacred is an experience, and is verified phenomenologically. So whatever in fact provides us with the experience in question is a legitimate source of sacred experience, be it a drug or something artifactual. LSD is a humanly synthesized drug, yet it can lead to profound experiences of the sacred. Second, let us also recall that works of art, architecture, literature that create in us a sense of the sublime or the numerous are also artifacts or "tools" created by humans. If they can provide in us an experience of the sacred, why not animals we have in fact engineered? Third, rituals, dances, festivals (such as the Eleusinian mysteries) which create in us the experience of the sacred are in fact human creations and tools--

institutionalized vehicles for dealing with such spiritual need and thousand of years of practice. The church only needed to modernize some of its superstructure; its infrastructure was solid.

And, indeed, he was right. To meet the needs of that generation, the church modernized its music with rock masses, and created retreats calculated to provide religious experiences by use of food and sleep deprivation to cater to those wanting “spiritual sustenance.” “Jewish renewal” has done the same thing. In fact, I would argue that the church in Vatican II did far more harm to itself by de-emphasizing Latin and Protestantizing its ritual than the 60's did. Old Catholicism (as in the demand for exorcism) was more suited to meet the 60's need for “spirituality” and sacred experience (that continues today) than does the antiseptic modernity of today's masses; and the underground demand for exorcism supports this claim.

In other words, the effect of genetic engineering on the core religious experience of the sacred will depend in part on the sort of genetic engineering to be done in society, in part on how society evolves, and in part on how religious institutions manage this change. For the remainder of our discussion, I will assume that the human attraction for the numinous and sacred will remain a ubiquitous part of the human psyche for the foreseeable future. As Otto points out, virtually all cultures revel in ghost stories and in tales that thrill and frighten by involving the sacred.

One possible scenario is to imagine that all genetic engineering in animals will be so prosaic as to be perceived simply as extending our tools over nature with no element of the sacred involved. This might occur if we genetically engineered only such things as vegetables whose shelf life was increased; animals who utilized feed more efficiently or who produced more milk; plants who resisted insect infestation (e.g. by BT genes); animals who resisted disease that would once have decimated them: all such prosaic innovations would probably do little if anything to increase the social sense of the sacred, and if anything, might well diminish it by showing yet another set of examples of human mastery over wild nature before which humans were historically impotent.

That such mundane use of genetic engineering would provide the exclusive domain for such technology is inconceivable to me. Indeed, we have already gone beyond this when the “geep” was produced by fusing embryos of a goat and a sheep. (This is technically not genetic engineering, but is close enough.) Even more dramatic is the incorporation of the insect firefly gene for luminosity (luciferase) into tobacco plants making them glow phenotypically, or the gene for green fluorescent protein having been incorporated into a rabbit by an artist working with a biologist, and yielding a rabbit that glowed in the dark. Expecting biotechnologists to restrict themselves to the mundane is like expecting a person with a new Harley Davidson to observe the speed limit, or a child with a BB Gun to restrict himself to shooting at targets. Creating rabbits that glow in the dark approaches the terrain of the sacred in the sense we have been discussing.

One of my colleagues, George Seidel, has for many years raised the possibility of resurrecting the mammoth by biotechnological means. Mammoth DNA has been preserved in Siberian permafrost and, given the funds, Seidel believes it would be relatively simple to recreate a mammoth birthed by an elephant. Recreating an animal that has been extinct for 10,000 years — particularly an animal of numinous size — is certainly a way of creating in those who see it a sense of great mystery and numinousness, something we already may experience in the presence of tigers, giant blue whales, sea crocodiles and other animals of great size and otherness.

Why stop there? People are talking about recreating the extinct dodo, and one could create a literal zoo of extinct animals where we have remnants of their DNA. And what could create a greater sense of awe and the sacred than coming face to face with animals that walked the earth 10,000 years ago, previously vanished and now contained in a vivarium designed to create a sense of mysterium tremendum. (I recently visited the Monterey aquarium and saw an exhibit of deep sea luminous jellyfish in an artificially lit room which gave me something close to the experience we have been discussing.)

Indeed, why stop there? I can see genetic engineering emerging as an art form, with artists manipulating genomes, in the manner of the luminous rabbit, that would be calculated to inspire experiences of sublimity — mammals engineered to live underwater; giant insects; animals with enormously enhanced intelligence; dogs who communicate using bee dance language. The shaping of life itself becomes an aesthetic pursuit, collection of such life becomes a cultural norm.

Indeed why stop there? Entertainment is a huge industry, and new technologies are quickly deployed on behalf of entertainment, be it new roller coasters, video games, ever more convenient musical recordings, holograms. Why not genetic engineering? Jurassic Park is not that far-fetched if the technology continues to accelerate exponentially. Legal constraints? The industry will simply go offshore, or buy its own island somewhere, where we can resurrect dinosaurs, hunt sabre-tooth tigers, ride pterodayctyls.

Even more numinous: Recall that the bulk of videos and DVDs sold are pornography or, more kindly, erotica, catering to all manners of predilection. With genetic engineering, we could have genuine satyrs and centaurs cavorting and indulging us in true orgastic abandonment greatly surpassing even ancient erotic rituals. Those able to afford such recreation could have sex with mermaids and centaurs under conditions that replicate ancient myths that already evoke the sacred as stories, let alone as life experiences. Or why not build a maze inhabited by a minotaur? And, indeed, why stop there? We could shape humans into demonic forms. We could craft them to live underwater. Or we could build them according to specifications. I am sure public opinion would draw the line at altering humans for whimsical reasons, but no amount of law or ethics will stop the wealthy from so indulging themselves, nor will it halt such experimentation, since we are not talking about billion dollar investments here. The presence of an illegal industry trafficking in altered humans is surely one of the most numinous of possibilities. Even if such activity is so well

concealed as to be merely rumored, that in itself would create an inexhaustible source of mysterium tremendum, the whispers fanning the flames of imagination.

If the scenario we have described does indeed play out, it is easy to imagine organized religion (or new religions) quickly appropriating such technology in service of orchestrating close encounters of the sacred kind, even as religion has always appropriated art, music, ritual, and architecture for creating such experiences. I can also imagine organized religions rising up to quell and condemn that use of biology as art, and demanding that creation be restricted to God. I can also see a variety of other advocates joining forces with churches to put a stop to such activities — animals rights and welfare advocates who worry about the treatment of artificial life; environmentalists who worry about the effect of such manipulation of life on ecology and the environment; public health advocates who fear the emergence and dissemination of new diseases; humanists who see such manipulation as riding roughshod over human nature; bluenoses who deplore the sexual aspects; Kantians, and innumerable other advocates who would see the entire enterprise as demonic, as hell on earth. Such opposition would itself evoke a sense of awe, fear, and mysterium tremendum in people who oppose such activity without their experiencing anything but hints of what is happening.

It is arguable that those of us growing up after World War II and living under a historically unprecedented Sword of Damocles, i.e. nuclear weaponry, were strongly affected by that state of affairs. Prior to that period, the only power comparable to the atomic bomb was in nature — tornadoes, floods, hurricanes, avalanches, and so on. Surely the constant sense that the annihilation of humanity sits in the hands of humans would have a major psychological effect. Perhaps the 60's pacifism, drug culture, loosening of sexual mores, experimentation with alternative religions, were all a response to such power concentrated in human hands. Certainly the 60's moved more people away from mindless church white bread religion to greater “spirituality”, alternative searches for

comfort and meaning. And clearly drugs, meditation, music, the teachings of Don Juan, sexual experimentation were all approaches to the sacred in Bataille's sense — ecstasy, loss of individuality, dissolution of hard-edged conventionally assumed reality.

We can expect the same from biotechnology. The idea that humans are shaping life is worrisome, and assurance of bureaucratic control over the process even more worrisome. For biotechnology will inevitably change the world far more than nuclear power would. At worst, nuclear weaponry could obliterate, but was unlikely short of that to change our reality.

Biotechnology will constantly mutate that reality, and could indeed establish Heraclitean flux as the fundamental mode of reality. Distinctions long assumed, for example the divide between nature and convention, nature and culture, cannot stand in the face of a technology capable of changing life.

Inexorable evolution, like God out of our control, is no longer a given. Evolution is in our hands, in the hands of scientists and bureaucrats, who are actually less reassuring than the Divine Watchmaker or the Blind Watchmaker. That in itself can lead us to greater escapism, which in turn can accelerate movement towards the sacred and the numinous.

All of us have some notion of animals as standing across a vast cognitive chasm from us. Most ordinary people realize that animals think and feel, but not like we do. Pets provide us with an illusion of mental proximity and cousin-hood; but even a brief encounter with wild animals shatters that. Perhaps that is why we anthropomorphize wild animals into laughable or cuddly cartoons or teddy bears. If animals are made by us, as we see fit, will they be less separated from us than they are now, or more separated? I would argue the latter, since every piece of genetic engineering is a throw of the dice, a spin of the wheel. When we modify a gene for immunity, we produce leglessness. We cannot predict the effects of our manipulations. So there is chaos built into the genetic engineering. Can that chaos not serve to increase our distance from these animals? How do I know that engineering a dog to resist a given disease will not unleash primordial ferocity?

Given this uncertainty of results compared to traditional breeding, given the ecological anarchy that could result, could not the proliferation of genetic engineering lead us away from a sense of order and control, to an inherent sense of randomness tied to the possibility of infinite manipulation by humans. In short, could not increased control without increased predictability make us more responsive to the sacred, to the other worldly, to the fearsome? We probably trust people less than we trust nature or God!

Ethical theorist and rationalist though I am, there is something pervasively appealing about a man-created nature. First of all, it diminishes our obsequious fawning and beseeching of the Gods. If we are playing God, They is Us, to misquote Pogo. And with rationalism, scientism, and their technological products spinning us out of control, we can perhaps intuit a new mode for humanity, an increased surrender to the chaotic, which, in the end, may at least make for better parties and a renewed experience of the sacred.



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