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Malchronia: Cryonics and Bionics as Primitive Weapons in the War on Time

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Abstract

The feeling that one was 'born in the wrong time' we call *malchronia*. This is distinct from mere nostalgia, in that it may generate the longing to transcend the temporal present in favor of a time of which one has had no experience, or even a timeless state of being. Implicit in malchronetic longing is the rejection of one's experience of one's own time, making it a revolutionary and utopian inclination. In this article we examine two dominant strategies—primitive weapons in the war on time, really—that have been developed in the hopes of delivering individuals to a future beyond the reach of their natural life spans: cryonics and bionics.

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Both conferences focused broadly on the theme of 'boundaries', and responses elicited from these have greatly informed the development of the ideas presented within this article. We would like to thank Prof. Dudley Knowles and Dr. Tony Milligan for their comments on earlier drafts.

I: Introduction

'Time travel', properly construed, is the misapplication of a spatial metaphor to a non-spatial phenomenon. 'Travel' is a spatial term, but the independent traversal of the temporal dimension alone does not in any way imply literal movement through space. Thus, 'time travel' is a poor way of describing a process that we *imagine* can occur—the temporary and localized dissociation of time from space—though in truth it may be beyond human capacity to initiate it or even comprehend its full implications.

Two main streams of literature concern themselves with the possibility of time travel: theoretical physics and science fiction. The latter of these, at least, typically treats time travel in a Ptolemaic fashion, which is to say that the earth is implicitly taken to be the unmoving center of the universe. Flatly ignoring the movement of the earth through space allows authors of science fiction to avoid having to account for the various logistical problems this fact would pose for their time-traveling characters. But to take the idea of time travel seriously—as distinct from spatial travel—one must account for the idea that during time travel one presumably stays in a single spatial location in the universe as one navigates the temporal dimension independent of spatiality. Leaving out the theoretical problems posed to one's animal survival upon leaving the spatial dimension, under such conditions it is very probable that upon one's reentry to spatiality, at a (presumably pre-selected) earlier or later time, expressed as a temporal coordinate, that one could end up in the vacuum of space, or somewhere within the crust of the planet, or on a meteor, or so forth, unless one was extremely diligent in making the appropriate calculations to avoid such contingencies (and even then there could be no guarantee of safety). So in science fiction it is often a conveniently neglected fact that we are spinning through the universe (in which nothing keeps its exact place—not planets, suns, solar systems, galaxies, nor even the universe itself), and not firmly pinned to an unmoving surface, *terra firma*. Indeed, it is difficult for us to conceive of inhabiting time independently of space, because space and time are, in all observable cases, intimately connected. So through popular usage of the term, and perhaps also a dearth of imagination, we have become burdened with the unapt spatial metaphor of 'time travel', and all of its concomitant Ptolemaic assumptions.

But that concept of time travel—of moving through time independently of space—is itself exceedingly modern. What we are interested in here is not the science or metaphysics of such modern time travel, but rather the *desires* that inspire research regarding, and drive people to attempt, time-travel, as well as primitive technological and philosophical expressions of this desire, a desire as old as humankind itself. We are interested in dissatisfaction with the present, in utopian longings for inaccessible pasts and futures. We are interested in man's war on time (where the term 'man' stands for all humankind), and how this can be further understood as the extension of man's war on himself, his quest to flatten all limitations that nature has imposed upon him. For the purposes of our discussion we shall be content to leave the popular misconceptions about 'time-travel' outlined above as we found them. They will trouble us no further for the moment, as the frameworks of desire, and primitive methods of time-travel generated by the same, are

simple enough to be analyzed equally well within either a Ptolemaic or a non-Ptolemaic worldview.

II: Malchronia and Cryonics

The first nascent technology of time travel we will examine is cryonics, the practice of preparing and storing organisms, in whole or in part, at subzero temperatures, for the purposes of re-animation at a later time. Currently, this procedure is mostly favored by the wealthy terminally ill who have themselves cryogenically preserved as soon after their deaths as possible, in the hopes that they can be revived at some future time, when a cure for their ailment might be available. The reasoning behind this practice is typically justified by making reference to life as the source of ultimate good (regardless of the expected quality of life). Cryonic freezing, by offering even a small chance at future life, is thus touted as a preferable alternative to certain death.

In the most ideal application of this procedure, a frozen body would stay in more or less one geographic location while time marched onwards (note once more the inevitable use of a spatial metaphor), and while various other spatial entities moved around her, cumulatively changing the appearance of her surroundings. After a given length of time, she would be revived and allowed to explore her unfamiliar surroundings with, no doubt, a sense of wonder. This prospect of preserving oneself, whilst one's physical and social world becomes largely unrecognizable (hopefully for the better), forms part of the underlying utopian dream that pushes forward technological development in cryonics. One might freeze oneself, if not out of sheer desperation or fear of death, then presumably in the hope that one will be greeted by a better world when one is eventually thawed out.

It would seem, however, that to sacrifice the inherent advantages of familiarity with one's native time and place (for example: knowing where to acquire food, with what currency, using which gestures, and so forth), one must find the present, for one reason or another, wholly intolerable. Whether this is due to concrete reasons, such as concerns for one's health, or ideological reasons, such as dissatisfaction with the system of governance one is subject to, the compulsion to flight is very similar in effect. This sense of existing in an unbearable present time we call being in a state of 'malchronia', or 'bad-time-condition', as literally translated from its Greek root and Greek and Latin affixes. A person in a state of malchronia may experience intense psychic distress resulting therefrom, which can be expressed in a condition we have dubbed 'malchronesis'. One so suffering from malchronesis may respond to the discomforts it induces by becoming what we will refer to further along in the paper as a 'malchronetic agent'—one who engages in, or agitates for, a war on the limitations imposed by time. The movement from a realization of malchronia to the development of malchronesis—the phenomenological equivalent of an allergenic reaction to time itself—is not necessarily driven by egoistic concerns; one can be sick of one's own time because of widespread injustice, societal entropy, and environmental conditions which impact others more than oneself, as well as because of profound personal disaffection, maladjustment, or ostracism.

In the background, behind all of these particular and general dissatisfactions with the present is, no doubt, a concern with cheating time...with gaining immortality. Keeping this generally appealing prospect in mind, the fiction and theory built upon the logical possibility of time travel is, considering its low probability of realization, still understandably quite comprehensive. Consider the well-known tale of Rip Van Winkle. As the story goes, Rip takes a nap after drinking with some gnomes in the Catskill Mountains of New York state and wakes up twenty years into the future, only to find that he has been all but forgotten, his wife now deceased and his daughter grown. Further, Rip has no place in

the present he wakes up in because of the unexplainable gap in his past, which prevents others from finding his words to be credible. Similarly, in the Japanese fairy tale "Urashima Taro", one reads of the eponymous hero's trip to the wondrous undersea Dragon Palace on the back of an enchanted turtle. Taro stays there with the princess Otohime for three days of leisure and entertainment. When he returns home, however, three hundred years have passed in his village. And so the tragedy of time traveling is compounded in Taro's case...the site of his house is in ruins and all of his family is long dead. When he realizes what has happened to him, in some versions of the fairy tale he ages terribly in seconds, and in others he disintegrates completely. In the stories of both Rip and Taro, the moral is clearly a cautionary one: *punishments await those who transgress temporal boundaries*.

III: Prometheus, Noah, and H. G. Wells

But neither Rip Van Winkle nor Urashima Taro *chose* to time travel; it simply happened to them in the natural course of conducting their ordinary mortal affairs. It is a hunting trip gone awry that brings Rip into contact with the mischievous gnomes, and it is during a fishing excursion that Taro is approached by the enchanted turtle. Each man is a victim, it would seem, of bad moral luck, as he goes about his day-to-day business. This is an important observation to make here, as we are particularly interested in examining a very different strain of time traveler. We wish to concentrate on figures who *willfully* pursue the option of temporal flight over remaining in a present which they find to be painful and ultimately dissatisfying—figures that, in type, resemble H. G. Wells' Time Traveler from his novel *The Time Machine*.

Such malchronetic agents are in the tradition of Prometheus (the Titan in Greek mythology who stole fire from the gods for the benefit of humankind). They defy powerful forces (the so-called natural order and time's place in it) and risk terrible punishments (typically, their own annihilation through stranding or disappearance in time). These fictional figures are confronted with an ugly present, yet nevertheless dare to imagine a different time, a *better* time even; in this way, would-be time travelers constitute a subversive, utopian archetype. Like the early scientists in any emergent field of study, they grope in the darkness for answers to barely articulated questions. Or, conversely, they may be led, like the biblical Noah, by mysterious visions of apocalypse and the means by which to escape the foretold annihilation. But regardless of whether the source of dissatisfaction with the present is internally or externally suggested, once it has been accepted there can be no step backwards for malchronetic agents, and formulating a method to cheat time becomes their central occupation from that point onward; whether that is expressed in ark-building or solitary cogitation will be an agent-specific affair.

One might fairly ask why we consider together figures such as Noah and Prometheus, neither of whom are conventionally interpreted as time-travelers, in the same breath as true time-travelers. Partially this is due to the suggestions of both H. G. Wells and his critics. Wells' *All Aboard for Ararat* features a latter-day descendant of Noah in a reprise of the familiar role of humanity's savior, while Patrick Parrinder makes specific reference to Prometheus as a figure analogous to Wells' Time Traveler. But more importantly, we make these associations because of the distinct methodologies both Noah and Prometheus employ in their quests to achieve their ends, which have, as a distinct feature, some *time-cheating effect*. For Noah, *enduring the passage of time* allows for a transition to a better state of affairs. For Prometheus, stealing fire for man *brings the future closer* for all of humankind. In other words, through the employment of technology, the cultural practices of humanity are irrevocably altered: *the future becomes now*, and thus the old order, the hated former 'now', is forever vanquished.

IV: Performance Art and the Culture of Bionics

We link the Promethean strategy for combating malchronesis to bionics, the electro-mechanical modification of the human body for aesthetic, medical, functional, or spiritual purposes. Robotic limbs, artificial organs, and cybernetic implants in one's nervous system all count as instances of bionic enhancement. Cyborgs, the entities that are the result of such marriages between flesh and machine, seek not only to prolong their own lifespan (and, in some cases, perhaps to alter the quality of their experiential lives), but also (one presumes) to inhabit a world wherein the value of bionic modification is generally recognized. Thus, an implicit goal of the bionics movement is not only the bio-modification of individuals, but the generation of a cyborg-friendly culture that welcomes (or even adulates) those so modified, as well. The future, in such a schema, is not something that is sought after through escape to another time, but something that is brought closer to the present through choices and actions performed in the here and now. Prometheanism, then, can be described as a variety of inverted fatalism, wherein the present pulls the future inexorably closer, and finally—by consuming it—becomes it.

We see the efforts made by such real-world malchronetic agents as the contemporary artist Stelarc as representatives of Prometheanism. Stelarc examines the problematic of human augmentation through performances utilizing bionautical media. In his 1981 performance piece *The Third Hand*, he utilized a five-fingered robotic hand, constructed in collaboration with the Japanese auto concern Imasen Denki, which was manipulated via movements in his abdominal and leg muscles. In his most notable performances with this bionic appendage, Stelarc simply wrote "THE THIRD HAND" with both his right hand and robotic hand simultaneously, but the theory behind his work is much more comprehensive and ambitious than his demonstration alone might have suggested. Stelarc posits that "[t]he body must become immortal to adapt. Utopian dreams [have] become post-evolutionary imperatives."[1] What is significant about Stelarc's views toward bionautical exploration is that accompanying his proposed transcendence of death, and attainment of immortality, he posits that a future must be conceptualized in advance, one wherein eternal cyborgs could perpetually inhabit. Again we see how bionics is pursued *now*, in the present, but necessarily with an eye towards transforming both the modifiable self and the society that contains it into a vision of the future that will support both.

V: Cryobiology and The Great Flood

Returning to the malchronetic archetype of Noah, we see a different sort of strategy adopted in response to unbearable present conditions. Noah, as we discussed, hopes simply to endure disaster—to live to see a better tomorrow. The great biblical Flood, he has been promised by his God, will eventually subside—and then a new beginning for humanity will obtain. Humankind is to be delivered to safety by protective, otherworldly forces that elude his full comprehension. The chore of humankind, in this schema, is not to transform itself internally—to rebuild itself from the top down bionically or morally—but simply to suspend its normal activities until certain external conditions have improved.

Noah's strategy for combating malchronesis has its parallel in the motivation behind (and technology of) cryonics: one prepares oneself for 'travel' to a future euchronia ('good time'), either through the building of an ark, or the readying of a cryo-chamber, to

[1] Stelarc, "From Psycho-Body to Cyber-Systems: Images as Post-Human Entities", *Virtual Futures*, eds. J. B. Dixon and E. J. Cassidy (New York: Routledge, 1988), 120.

escape a present that one interprets as fundamentally unchangeable by human effort in the short term. Noahism, then, could be described as an impatient variety of fatalism: the future is seen as inevitable, and the present as unbearable, and so the future should be arrived at as soon as possible. This is to say that, during the course of a natural lifetime, a Noahist will not strive for improvements, but rather *pray for interventions*. After he has built the ark, Noah is largely a passive figure awaiting an outcome. Compare this to the figure of Prometheus, who takes the initiative, and plays an active role in generating an outcome. Noah *outlasts*, while Prometheus *transforms*.

It should not be surprising then, that cryonics should find its initial inspiration in the passive natural phenomena of hibernation and diapause. Hibernation is familiar enough to people of colder climes; it is the process by which over-wintering animals are seen to enter a state of prolonged sleep during the onset of winter, in order to conserve energy as they await more favorable conditions for foraging and breeding to emerge. Diapause is a slightly more obscure and more dramatic process, wherein organic growth and development are themselves temporarily suspended as the bodies of animals—usually insects and amphibians in this case—decrease their metabolism and produce much more sugar than usual (which acts as a kind of natural antifreeze), or develop coverings such as hibernacula, cocoons, or egg shells as barriers to the cold. Diapause, in short, induces a more severe state of suspended animation than simple hibernation.[2] Animals in such a state appear to be deceased for all intents and purposes—such are the effects of diapause. As growth is arrested in an organism in a diapausal state, so too is *decay*, and therein lies the deeper kernel of pragmatic motivation behind developing the science of cryobiology, the umbrella discipline under which cryonics ostensibly falls. If decay can be indefinitely forestalled, then life should be able to be indefinitely extended.

Significant investigations by R. A. Reaumur were conducted in cryobiology in 1736 using the bodies of whole insects as his subjects. Reaumur was known to have likened the animals' recovery from freezing to resurrection.[3] Although to this day, insects remain the largest animals to survive freezing at extremely low temperatures, the information these investigations provided has subsequently been applied to other, larger animals which have been able to be reanimated from less severe freezing, such as frogs, fish, and mammal embryos, including those of humans.[4]

Applications of cryobiology have also played a significant role in medical research and practice. Cryosurgery, the freezing of organic tissue to destroy infected or malignant tissues, or to deaden nerves as a pain prevention method before an operation, is routinely practiced in hospitals worldwide. And cryotherapy, or exposing part or all of the body to extreme cold to prevent pain, has long been employed in folk medicine and professional medical practices alike. Cheating pain and disease through freezing or chilling tissue—in other words, overcoming certain factors which make the present unbearable—constitutes the application of a primitive, elemental technology toward the end of transcending natural limitations. Pain thresholds and life expectancies are only two examples of boundaries that promise to be broken utilizing these means.

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[2] E. Asahina, "Freezing and Frost Resistance in Insects", *Cryobiology*, ed. H. T. Meryman (New York: Academic Press, 1966), 453.
[3] J. W. Kanwisher, "Freezing in Intertidal Animals", *Cryobiology*, ed. H. T. Meryman (London and New York: Academic Press, 1966), 486.
[4] R. G. Edwards and P. C. Steptoe, "The relevance of the frozen storage of human embryos in clinical practice", *The Freezing of Mammalian Embryos* (Oxford: Ciba Foundation, 1977), 235.

VI: Utopianism, Transhumanism, and Nietzsche

Although, on the whole, cryonics seems more passive than bionics, both of these strategies for overcoming malchronesis fall under the aegis of a transcendent urge, an ideological compulsion for one-upping what exists in favor of what could take its place. Thus we attach it not to the philosophy of late modernism, the era wherein these technologies have begun to come into their own, but rather the early modern tradition of utopianism, which began in the sixteenth century. In literary practice, utopians depict alternate societies that challenge individuals to change their ways—and shame societies to become more than what they are. We have in mind here the work of Sir Thomas More and his earliest imitators as exemplars of this trend toward critical, yet constructive and imaginative, expressions of sociopolitical dissatisfaction with the current order.

A more recent manifestation of the utopian impulse can be found in the philosophy of transhumanism, which aims toward a self-directed course of evolution for humanity, and advocates utilizing available means toward this end. Transhumanists hope to transgress many boundaries that are currently held to define our species: that we are born from wombs; that we cannot have knowledge of other minds; that we occupy only one space at one time; that our consciousness is inseparable from our bodies; and that these bodies age and eventually perish. Cloning, telepathy, the 'uploading' of human minds into computers, and of course the enhancing and preserving aspects of bionics and cryonics technology, are considered to be potential enablers of self-directed evolution for the human species. The obstacle, for the transhumanist, is in discovering the means to realize them; and, also, in addressing the anxiety of a public who may (quite understandably) be concerned about possible abuses of these emergent technologies.

Many transhumanists acknowledge the humanist movement of the Enlightenment as constituting the origin of their theoretical lineage, in that the human remains the center of the moral universe on their schema. Yet, ironically, transhumanism can also be construed as containing a strand of *anti-humanism*, since its goal is to denude humanity of many characteristics we now understand as constitutive of it. By aiming to eliminate certain salient features of the human condition, it also threatens to eliminate the conditions that make conventional morality possible. Therefore, we think it more appropriate to situate transhumanism as a theoretical descendent of Romanticism, and especially Nietzsche's writings on moral freedom and self-transcendence. However, we must make here an important distinction between minimal transhumanism—that is to say, that branch of transhumanism that advocates species enhancement due to fear of death (thanatophobia), or the desire to prolong life—and maximal transhumanism. Maximal transhumanism, while advocating similar ends and means as its minimal counterpart, finds its initial source of inspiration in a more robust ideology of transcendence, which encapsulates both species and self. It is toward the philosophical origin of this latter variety of (maximal) transhumanism—a position that only a small percentage of professed transhumanists might feel comfortable aligning themselves with—that we now turn.

Nietzsche captures the malchronetic sentiment behind self-transcendence in the following extended passage from *Human, All Too Human*:

> *A drive and impulse rules and masters [the free spirit] like a command; a will and desire awakens to go off, anywhere, at any cost; a vehement dangerous curiosity for an undiscovered world flames and flickers in all its senses. 'Better to die than to go on living here'—thus responds the imperious voice and temptation: and this 'here', this 'at home' is everything it hitherto loved! A sudden terror and suspicion of what it loved, a lightening-bolt of contempt for what it called 'duty', a rebellious, arbitrary, volcanically erupting desire for travel, strange places, estrangements, coldness, soberness, frost, a hatred of love, perhaps a desecrating blow and glance backwards to where it*

> *formerly loved and worshipped, perhaps a hot blush of shame at what it has just done and at the same time an exultation that it has done it, a drunken, inwardly exultant shudder which betrays that a victory has been won—a victory? over what? over whom? an enigmatic, question-packed, questionable victory, but the first victory nonetheless: such bad and painful things are part of the history of the great liberation. It is at the same time a sickness that can destroy the man who has it, this first outbreak of strength and will to self-determination, to evaluating on one's own account, this will to free will: and how much sickness is expressed in the wild experiments and singularities through which the liberated prisoner now seeks to demonstrate his mastery over things!* [5]

This quotation is quintessential of many important elements of our discussion of malchronetic longing thus far. Nietzsche combines in this one passage both the 'hot blush' and 'exultation' characteristic of the bionic Prometheanist, and the craving for the 'coldness' and 'frost' of 'strange places' characteristic of the cryonic Noahist. Moreover, he echoes the theme of punishment pending the transgression of boundaries so central to the Western literary tradition that can be read both in the Bible (Adam's fall from Edenic grace) and in Greek mythology (Icarus' fall from the skies). In the same stroke, Nietzsche simultaneously presages the work of H. G. Wells (who himself is not oblivious to these repeated themes of transgression and punishment). Wells' main characters, especially in his popular science fantasies (i.e. *The Time Machine, The Invisible Man,* and *The Island of Doctor Moreau*), taste the exhilaration of freedom from certain given limitations, the experience of which is followed closely by death or disillusionment. The 'great liberation' Nietzsche refers to is, unfortunately, tainted by the 'sickness' of less free times; and thus unfortunately some men will be destroyed by their 'wild experiments'.

Wells, who is said to owe the idea of the *samurai* class of his *A Modern Utopia* to Nietzsche's concept of the *übermensch*, can be situated on both sides of the transhumanist line, as during different phases of his life, he was both a proponent and a detractor of transhumanism's underlying premises.[6] Put differently, Wells has been at various points both an optimist and a pessimist regarding the potential of science to aid in the betterment of humankind, and this can be read between the lines in his various choices of whether to portray his protagonists as either enlightened seekers of truth or as 'liberated prisoners' demonstrating a terrifying and unstable newly-won 'mastery over things'. At the beginning, and again at the end of his career, it is said that there is a distinct "theme of the liberated intellect as a destructive element."[7] As V. S. Pritchett observes, "[t]here is the optimistic outward journey, [and] there is the chastened return."[8]

From the perspective of narrative, the quest outward and the return home require each other; mirror each other—as does the critical function of a utopia both need and ape its constructive function—and the relationship between these two elements is, not accidentally, complementary. There is a similar resonance, as well, between the two primitive technologies of time travel under our consideration. Cryonics' adherents hope that bionics will progress to such a point that when cryonically preserved sleepers

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[5] F. Nietzsche, *Human, All Too Human*, eds. K. Ameriks and D. M. Clarke, trans. R. J. Hollingdale (Cambridge: Cambridge University Press, 1986), 7.
[6] B. Bergonzi (ed.), "Introduction", *H. G. Wells: A Collection of Critical Essays* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1976), 6.
[7] A. West, "H. G. Wells", *H. G. Wells: A Collection of Critical Essays*, ed. B. Bergonzi (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1976), 14.
[8] V.S. Pritchett, "The Scientific Romances", *H. G. Wells: A Collection of Critical Essays*, ed. B. Bergonzi (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1976), 36.

eventually awaken, they will be equipped with fully functional mechanized bodies, or at least bodies whose circulatory systems will have been repaired by nanobots that could be circulated through their arteries, repairing the damage caused by thawing. At the opposite end of the spectrum, bionics is now being used in medicine in the relatively innocuous forms of pacemakers and hearing aids. This not only demonstrates the less sensational side of human augmentation—it establishes that, in very practical terms, the medical application of bionics technology serves to extend the lifespan of its recipients. Thus bionics also serves the central aim of the cryonics movement: life extension.

Bionics is already with us to stay, and as of yet there has been no notable 'chastened return' from its usage. Cryonics, on the other hand, has yet to actually function as a proven method of life extension. Nevertheless, cryonics, if perfected, would have an even greater impact on the perceived validity of transhumanist thought than the more modest successes of applied bionics. If the technology of cryonics could be proven safe for use (and this 'if' is a very unlikely counterfactual, given that the process of thawing is usually accompanied by severe tissue damage in higher animals) then the laws against the pre-legal-death freezing of human specimens would likely be repealed. The natural limitation of mortality would then be seriously challenged, if not partially overcome. One could, conceivably, move through time with less effort than it currently takes to move through space. For the first time in history, temporal emigration would be a live possibility. This would doubtlessly produce some foreseeable (and some unforeseeable) sociopolitical consequences, which we leave the reader to speculate upon at her leisure.

However, successful reanimation after being cryonically frozen is still very much a utopian dream, far removed from the realm of actual practice. Through our research on the subject, we have learned of only two cryonics centers that, today, offer the services of "long term patient care in liquid nitrogen": namely The Cryonics Institute and the Alcor Life Extension Foundation. Both operate in the USA, with the Cryonics Institute making its services available in the UK through a liaison with a London-based funeral home. One of the founders of the Cryonics Institute, Robert Ettinger, author of *The Prospect of Immortality* and *Man Into Superman* (here again, the overall influence of Nietzsche on transhumanist thought might be surmised by readers), claims the cryonics movement began in 1962, after which cryonics organizations began to proliferate. For a fee, clients (whose brain, by law, must be legally dead) have their bodies drained of blood and perfused with glycerol before entering the liquid nitrogen-filled cryo-chamber. The clients are then left, upside down, until such a time as the complications that caused their death can be addressed by medical science, and they might be retrieved, thawed and (ideally) healed. Earlier we mentioned the complications that arise when higher animals are thawed, in that tissue damage can occur due to its crystallization through freezing, and tissues are known to shear during thawing. Unsurprisingly, then, the argument for investing in post-mortem cryonics services focuses more on abstract probability calculations rather than actual revival conditions (which don't yet exist), with cryostasis presented as giving the client a better chance at eventual revival than either burial or cremation. Recruitment of customers seems to be the chief goal of the Cryonics Institute, and this is based on selling the notion of "build[ing] the long tomorrow".[9]

VII: Skepticism About Cryonics—The Long Today

[9] R. Ettinger, "Cryonics Institute: A Brief History and Overview" http://www.cryonics.org/ (accessed January 3rd, 2005).

Of course, one might justifiably ask, 'Will tomorrow ever come?' Or, more precisely, at what time—if ever—will it be deemed appropriate for the cryonically preserved to be 'awoken' from their icy slumbers? What Prince Charming will come for these Sleeping Beauties? Most of these medically dead clients are possessed of diseased and/or mangled bodies—and no doubt imperfectly preserved, like the reportedly seven-time fractured skull of the cryonically preserved baseball great Ted Williams. At what future time will *any* society have such excess wealth at its disposal as to fund the rehabilitation of these frozen masses, even if it were someday found to be possible? The principle of medical triage would demand that every non-frozen living person at that time were in good health and well provided for before the problem-children of centuries past would merit official attention and reactivation, as their conditions clearly wouldn't be getting any less stable in their cryo-stasis.

At this point we would like to give notice of a novel moral problem of the kind that advances in technology regularly (and inevitably) throw up—a problem that we shall not attempt to resolve in this paper. Readers may take it as a hypothetical example, or as advance warning of a looming conundrum. The question can be put as follows: Do cryonically frozen corpses have a right to be quickened, a right claimable against a society that possesses a level of technology sufficient to bring them back to life? This is not an absurd concern, not least since it should have interest for philosophers engaged with contemporary moral dilemmas. Can the dead have rights? Can they have interests, on the basis of which rights may be imputed? Grant that those who are in need of resuscitation have rights to first aid. Grant that the brain-dead may be 'allowed to die'. What is the *moral* standing of the resurrectible dead?[10]

Moving on, we cannot ignore the fact that we might face a great risk of contamination in thawing out the victims of past epidemics: some would, no doubt, have died of diseases that future generations may no longer have natural immunities to. This is the same reason that there has been some controversy regarding the possibility of bringing rock samples from future Mars probes back to earth for analysis: the fear of a Martian bacterium reviving itself here after a long period of diapause there (this concern is for the possible realization of a sort of *War of the Worlds* scenario in reverse—wherein earthlings are cast as the invaders who fall prey to Martian microorganisms—which would no doubt amuse Wells). Let us, for a moment, imagine that if there were cryonics clinics from the Middle Ages in operation that survived until the present day: would we, today, be in any rush to unthaw carriers of the bubonic plague, even if we had it in our power to do so? Or would the risk be too great to the living? And the retrodictable unlikelihood of any business surviving from the Middle Ages to today should give cryonics hopefuls another reason to reconsider their convictions; for what company can be expected to tend to their frozen charges in the face of unforeseen complications introduced by the passage of time? Bankruptcy, disaster, crime, governmental interference, or the eventual collapse of a certain form of government, could all potentially serve to close cryonics firms.

In the future, when there may no longer be any living individuals with emotional ties to the clients within the cryo-chambers, these time travelers may nonetheless serve as an important physical link to humanity's past—as *objects* of medical, scientific, environmental and anthropological research.[11] Cryonics is currently offered as a burial alternative, but in reality it is more likely that one has donated one's body to future scientific research in willing one's remains to be frozen. As in the necromantic rites of

[10] We are indebted to Prof. Dudley Knowles for bringing this line of inquiry to our attention.

[11] Just as the remains of the 'Hobbit' primate (found on the Indonesian Island of Flores) are, in our own time, a valuable anthropological resource, the bodies of the cryonics clients of today might serve to edify future generations of researchers in a like manner.

ancient Greek and Roman times, the bones of the dead may be utilized to make the past speak—and speak, perhaps, in a clearer and more truthful manner than if there were a living person in their place to tell the story. Not ephemeral ghosts, but microbes and strands of DNA, will speak to posterity on behalf of the frozen dead.

There is also the further complication that a frozen subject, even if perfectly and successfully revived, might not be ready for the future they found themselves in. As in the fictional cases of Rip Van Winkle or Urashima Taro, the future that one awakes to might be largely upsetting or incomprehensible to the quickened. No doubt the effects of 'culture shock' would pale in comparison to those of 'temporal trauma'. Alternately, as in the ultimate fate of Wells' Time Traveler, potentially one could become indefinitely stuck in one's time machine...never to be retrieved from the cryo-chamber. A worse fate still to contemplate, for those who have optimistically arranged for their bodies to be frozen, is that they could be allowed to thaw and rot—currently, a not unlikely outcome of volunteering one's corpse for cryonic preservation.

VIII: Conclusion

The *war on time*, utilizing the crude weaponry of bionics and cryonics that we have outlined herein, will doubtlessly continue if the generation of malchronetic desires within human hearts persists unabated. Thus the war on time cannot be won until the *war on the self* is concluded, and malchronetic longing consequently stanched. Then, perhaps, ineffectual wish-fulfillment schemes and primitive attempts at time-travel will cease to be attractive to humankind. Although Nietzsche posits that malchronetic desire, expressed as the will to power, is everywhere, it is also true that the final phase of Nietzsche's project of liberation involves *overcoming the will to power*. Nietzsche's position is, in the end, a post-malcronetic philosophy content with its temporal lot. This is not to say that complacency in the face of experienced malchronia is a justifiable response; this would be like ignoring the symptoms of a disease, discarding valuable phenomenological information without proper warrant. Yet, even if advanced and reliable methods of time travel do become available, the malchronetic agent must still learn to live with herself, amongst others. This, perhaps, is a prerequisite for more sophisticated modes of self-transcendence.

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