Education and the Spirit of Time

*Historical, Global and Critical Reflections*
BOLD VISIONS IN EDUCATIONAL RESEARCH
Volume 6

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Education and the Spirit of Time
*Historical, Global and Critical Reflections*

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Much has happened in the world while the present book has been in progress. After 9/11 the global war against terrorism, the invasion of Iraq, and terrorist attacks in Madrid and London have permanently changed our commonly shared life world.

Most of the texts compiled in this volume have been written while this change was taking place. We would like to express our gratitude to all the contributors in this volume who stuck with us though the lengthy process. Also our publisher Sense Publishers and Peter de Liefde deserve thanks for their support and bold visions in the field of scientific publishing.

We would also like to thank our families for their continuous understanding. Päivi, Linnea, Ulpu, Armas, Erja and Anna Sofia know what it means these days if someone in the family is working in academia – be it the lack of job security or the emphasis on the academy as a qualification mill.

We want to express our gratitude to some of our colleagues for the on-going discussions that have found their way into this volume: Tapio Aittola, Robert Fitzsimmons, Rauno Huttunen, Leena Kakkori, and Tuukka Tomperi. We are grateful to Gareth Griffiths who was invaluable in proof-reading and also translating parts of the chapters.

This book is dedicated to Pierre Bourdieu, who was due to be a contributor to this book, but his unfortunate death in 2003 prevented this from happening. Now instead, this great analyzer of the Zeitgeist is a definite part of the book in spirit.

Olli-Pekka Moisio and Juha Suoranta
Autumn 2005 in Jyväskylä, Finland, and Minneapolis, USA
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The aim of this book is to raise current social, political, and moral issues in social theory by taking a critical stance towards historical, global, and educational themes in the context of culture, politics, and technology. All the contributors have written their texts in the spirit of critical Zeitgeist analysis, which, they believe, is a highly needed genre in social theory.

Thus the focus of the book is critical Zeitgeist analysis, and its potential in addressing various social maladies of the present era. Methodologically, critical Zeitgeist analysis is argued to be of value in demonstrating how to both utilize and expand the possibilities of writing normative social theory. The key idea behind critical Zeitgeist analysis is, and has always been, to reflect critically on the state of the present world. In this task it combines analytical, political and moral languages, as well as the languages of critique and hope. In critical Zeitgeist analysis it is not only possible but also necessary to ask who we are, and what states of affairs prevail in our tragic times.

Traditionally it has been common to differentiate between two different forms of theory (or narratives) in social sciences. First there are grounded theories, which are inductively constructed on empirical findings, and second there are those theories which are built the other way round, that is, by applying the standards of deduction and the coherence theory of truth to empirical data. The focus of the present book is, however, on critical Zeitgeist analysis as a third form of social theorizing. Critical Zeitgeist analysis is, and always has been, a central part of social science and sociological theory in reflecting upon the world.

In recent years there have been several debates about the role and function of social theory in various branches of the social sciences. Judging by those debates, it is difficult to know which is the major paradigm or movement in current social theory. Instead, we are tempted to argue that there is presently a plethora of small or middle range theories and approaches within the field (structuralist as well as post-structuralist theories, various theories of reproduction, gender, and identity-based theories, interactionism, Marxist and neo-Marxist theories, and so forth).

In the present book it is argued that the current age, with its various economic, political and social maladies, needs to be faced with the tools of critical Zeitgeist analysis in order to avoid the well-known pitfalls of both positivism and objectivism, and in order to constitute counter-public spheres for economic, political,
and cultural hegemony. As Zygmunt Bauman (2000) has stated, middle-ground, neutral social theories are practical impossibilities, and it is hard to see them as having any further relevance. Especially from the point of view of a just world, there is reason to differentiate between participatory and objective social theories.

In the final instance, all social theory and research is about social justice. Therefore, various forms of critical Zeitgeist analysis, as part of social theory, can bring forth an awareness of the mechanisms of oppression; mechanisms which make life difficult and often painful. Undoubtedly, Zeitgeist analysis hardly neutralizes the oppression, let alone makes it disappear or resolves it, but, as Pierre Bourdieu (1999, p. 629) argues, the sociological message can lead to change:

But, as skeptical as one may be about the social efficacy of the sociological message, one has to acknowledge the effects it can have in allowing those who suffer to find out that their suffering can be imputed to social causes and thus to feel exonerated; and in making generally known the social origin, collectively hidden, of unhappiness in all its forms, including the most intimate, the most secret. Contrary to appearances, this observation is not cause for despair: what the social world has done, it can, armed with this knowledge, undo.

There are several distinctive features in Zeitgeist analysis. Its overall function is to act as an eye-opener or witness. That is, authors who write critical Zeitgeist analysis try to expand human possibilities by tackling shared taboos, political myths, and societal dilemmas. They also write against the grain by questioning, and demystifying the foundations of social and political life, offering alternative points of view for public discussion. This is why critical Zeitgeist analysis operates more with contemporary appearances and practical worldly events than transcendental or deep structures or essences of the world. Of course, the actual arguments in Zeitgeist analysis are often based on strong theoretical and philosophical premises, but the actual focus of the critical look is always on the current state of earthly affairs.

This is especially important nowadays when universities look more and more like qualification mills and information production factories, and without too many “troublemaking tenured radicals” who could raise the critical consciousness of students and colleagues, and transform the halls of the academy into the sites of resistance and the counter-hegemonic (see Klein, 2000, p. 103). In this situation critical scholars in the field of social sciences should take seriously one of the forgotten starting points of all critical intellectual work and theorizing:

When we talk or write it is all too easy to forget that the beginning was not the word, but the scream. Faced with the destruction of human lives by capitalism, a scream of sadness, a scream of horror, above all a scream of anger, of refusal: NO. (Holloway 2003, p. 15)

The scream can be, and often is, a plain negation, as suggested above. But it can also be a more elaborated and nuanced statement. In this respect we would like to refer to two additional screams, those of the vertical and horizontal, originally introduced by Finnish novelist and critic Christer Kihlman. The vertical scream,
to which Kihlman also refers as “bourgeois scream”, comes from inside us, it is “a lonely scream of individualism, a scream that stems from the wealth of the unbearable riot of the market and scam, a helpless scream in front of the facade of conflicts, a scream through the superficial” (Kihlman, 1971, p. 17).

The horizontal scream, or the “proletarian scream” as Kihlman sometimes refers to it, is heard as a distress “from the depths of desperation, poverty and sadness, from the endlessly painful reality of the people who have been cheated, trampled, and humiliated, from the bottom of the well of the final defeat”. The horizontal scream of unprecedented human misery refers to the growth of global injustice and the polarization between the rich and the poor, and wounds also those who try to maintain a decent living in the midst of terrible economic over-development.

From the point of view of critical Zeitgeist analysis, both screams are ethically demanding. Yet the power of the horizontal scream is about how to drown the vertical, for, as Kihlman (ibid.) writes, the horizontal scream is a scream, which we must listen to, for it is getting louder around us all the time, all over the world, from the throats of millions of starving people, listen, it comes behind the horizon, it is here so close, it goes horizontally into the very ground in which we stand, and hits us at a right angle, challenging like the sound of a storm bell, the scream of an unfulfilled promise, the scream of anger of those from whom both a robe and a rice cup have been stolen, a scream that demands solidarity and justice, the only scream, which really judges. (Ibid., p. 18)

An overall coldness has taken hold of the world. Human beings have drifted further away from each other, and they cannot recognize the other and the other in themselves. This dialectical otherness would, however, be a radical and necessary moral attitude in these times of ultimate instrumental reason. The withering away of pity, empathy, and compassion as truly humane categories of human action, along with the empty formal embroidery of words, is something that is used to conceal the fear of dropping out of the present survival game. Critical Zeitgeist analysis asks why we cannot take steps closer towards other human beings who live, suffer and hope just as we do.

CONTENT OF THE BOOK

The present book consists of three parts. Part I addresses various historical transformations in modernity. In Chapter I Zygmunt Bauman gives a reading of Kant’s treatise on the destiny of humans as earthly creatures who must all live in the same place and sphere, and move around on the surface of that sphere. Human beings have nowhere else to go and hence are bound to live forever in each other’s company and neighborhood. Bauman claims that this unity is by no means “historically determined”, but, as he writes,

[T]he continuing uncontrollability of the already global network of mutual dependence and “mutually assured vulnerability” most certainly does not increase
the chance of such unity. This only means, however, that at no other time has
the keen search for common humanity, and the practice that follows such an
assumption, been as urgent and imperative as it is now. In the era of globaliza-
tion, the cause and the politics of shared humanity face the most fateful steps
they have made in their long history.

In Chapter 2 Steven Best and Douglas Kellner deal with the age of biotechnology,
and demand a supradisciplinary critical philosophy and social theory in order to
understand and illuminate the current problems and stakes. They want to demon-
strate the problems which loom behind the debates over stem cell research and
cloning. In conclusion, they claim that the road to the biotechnological era as a
new stage of history is paved with good intentions.

In Chapter 3 Sakari Hänninen takes as his starting point Kant’s short text The
Contest of Faculties in which the latter tackled with the problem of prognosing the
future and, in this sense, outlined the basic problems of Zeitgeist analysis. After
probing Kant’s argument, Hänninen travels through time, via Hobbes, Boyle and
Tocqueville, to the present age of globalization, where the vision of the unification
of the human race, and the necessity of hospitality and tolerance as a utopia is
now exploited to support hegemonic efforts and effects. Hänninen argues that
globalization can be seen as a historic sign of the times, in that all previously
held visions of mankind’s progress and happiness are imported into the sphere of
economics.

In Chapter 4 Chris Ford analyses Ukraine’s Orange Revolution the rever-
berations of which continues to be felt. Not only has grasping its nature been
problematic for analysts but it has also posed questions of the meaning of freedom
itself. He examines the claims that “freedom” has been established as the culmi-
nation of the Ukrainian Revolution as an historic process. A contention which he
asserts fails to define the logic of the Ukrainian Revolution. Taking the definition
of Volodymyr Vynnychenko that it is a quest for “omnilateral liberation”, he
places the Orange Revolution against the mirror of the revolutionary history of
Ukraine to assess whether it has reached its historical logic. Ford roots the cur-
rent complexities in the ability of the old rulers to reconstitute themselves during
the transition from totalitarian communism to private-capitalism, a process eased
by the abandonment the quest for universal liberty by the national-democratic
opposition.

Part II is devoted to global politics. It starts, in Chapter 5, with Martin Jay’s
examination of mendacity in current political culture. In searching for the roots
of contemporary political lies, he takes us through 20th century theoretical turns
in the art of political rhetoric and science, concentrating on three figures: Leo
Strauss, Theodor W. Adorno, and Hannah Arendt. In their own distinctive ways,
each of them tried to expand the understanding of the relationship between
political life and mendacity.

In Chapter 6 Peter McLaren begins with the claim that the world has entered
a reality zone captured by its opposite: unreality. It is a world into which nobody
really wanted to venture, where order has given way to disorder, and reason to
unreason. As McLaren states, in this stage of history “the once noble search for explanations has been replaced by a dizzying vortex of plastic flags, stars and stripes, rhinestone belts, coffee klatch war strategists, Sunday barbecue patrioteering, militant denunciations of war protestors, a generalized fear of whatever lies ahead, xenophobic hostility, and point-blank outrage”. In his article, McLaren wants to give a critical response to the current capitalist world order, and the hegemonic dominance of the military-economic apparatus of the US-lead axis of “the good and faithful”. In McLaren’s view, social theorists and critical educators, whether inside or outside the academy, are faced with a new sense of urgency in the fight to create global-scale social justice, and to establish what Karl Marx called a “positive humanism”.

In Chapter 7 Tuija Parvikko studies the question of the Holocaust from the point of view of the politics of memory. She gives one possible answer to the question of why the Holocaust has become such an important event in the post-totalitarian European culture and politics. Parvikko wants to show that although remembering will inevitably remain a controversial – and as such a profoundly political – practice, it constitutes an indispensable dimension of political reality without which we are not able to judge human action and tell right from wrong.

In Chapter 8 Richard Wolin asks whether suicide bombings are in any way morally defensible, taking as his point of departure a publishing scandal involving charges of anti-Semitism. This debate dominated the feuilleton sections of leading German daily newspapers for months after Ted Honderich’s controversial book After Terror was published in Germany. The dispute raises a fundamentally important issue concerning the ground rules of the continuing, fractious debate over Middle-East politics: At what point does vigorous criticism of Israeli policy dovetail with rank anti-Semitism?

Part III focuses on critical education. In Chapter 9 Ilan Gur-Ze’ev examines traffic and traffic accidents as reflections of Western thinking. Traffic accidents are conceived in the public as unavoidable and almost as holy sacrifices to the Moloch of the current historical moment. He suggests that we have to prepare ourselves for the possibility of a counter-education that will offer an alternative to the Western order. This would include not only the intellectual, psychological, and economic liberation of the oppressed but also technological, and transportational liberation with essentially different kinds of traffic practices.

In Chapter 10 Dave Hill calls for a transformative activism by educators and other actors in the culture industry and other potential sites of resistance. He wants to see them as united so as to develop a just economic order, polity and society. Hill sets out the main characteristics of a neoliberal economic regime and highlights its effects on education and culture at large.

In Chapter 11 Petteri Niemi argues that as a consequence of the current nihilistic modernization the world has become a big playground for self-builders. Based on a conceptual and genealogic analysis of nihilism, he makes the claim that when the strength of the old “grand narratives” is weakened, new social integrative centres conquer the weakened space, the most important of them being the “ethos of the self” in which a new Übermensch lives.
In the closing chapter, Olli-Pekka Moisio and Juha Suoranta develop the idea of ideology critique as Zeitgeist analysis in the context of critical pedagogy. They see education as a fundamentally political endeavor, and thus emphasize the importance of studying both its theoretical and practical dimensions critically.

REFERENCES


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PART I
HISTORICAL TRANSFORMATIONS
1. THE FATE OF HUMANITY IN THE POST-TRINITARIAN WORLD

Habent sua fata libelli … The fate of Kant’s Ideen zu einer allgemeinen Geschichte in weltbürgerlicher Absicht is as thought-provoking and illuminating as it has been peculiar. Conceived in 1784 in Kant’s tranquil, off-the-beaten-track Königsberg seclusion in 1784, the little book quietly gathered dust, for two centuries, in academic libraries. If read, it was only by a few dedicated archivists of ideas, without much excitement, as a historic curiosity and a trace of a lighter moment in the great philosopher’s life of scholarly pedantry. But after two centuries of exile to the footnotes and bibliographies of scholarly monographs, the little book burst all of a sudden into the very centre of the Jetztzeitgeschichte. In the stark opposition to the recent past, it would be a tall order to find these days a learned study of the convolutions and challenges our currently lived-through shared history that would not quote Kant’s Histoire Universelle as a supreme authority and source of inspiration for all debate of “human rights” – itself an issue that made a stunning come-back from the small print of footnotes to the main, bold-letter text of the narrative to land, noisily, in the very centre of public attention.

The fatum of this particular libellae may seem strange and baffling, but it holds in fact little mystery. Its secret is simple: it took the world two hundred years to reach the limits of a tendency that guided it since the beginning of modern times – but which Kant, having put it to a philosophical test, would have found in advance contrary to was die Natur zur höchsten Absicht hat. Kant observed that the planet we inhabit is a sphere – and thought through the consequences of that admittedly banal fact. And the consequences he explored were that we all stay and move on the surface of that sphere, have nowhere else to go and hence are bound to live forever in each other neighbourhood and company. Moving on the spherical surface, you cannot but shorten the distance whenever you try to stretch it – all effort to lengthen a distance and to keep it cannot but be ultimately self-defeating. And so die vollkommene bürgerliche Vereinigung in der Menschengattung is the destiny Nature has chosen for us – the ultimate horizon of our allgemeine Geschichte that, prompted and guided by reason and the instinct of self-preservation, we are bound to pursue and in the fullness of time reach. This is what Kant found out – but it took the world two more centuries to find out how right he was.

Sooner or later, Kant warned, there will be no empty space left into which those of us who have found the already populated places too cramped or too

inhospitable, awkward or otherwise ungenial for comfort, could venture. And so the Nature command us to view (reciprocal) hospitality as the supreme precept which we need – and eventually will have to – embrace in order to seek the end to the long chain of trials and errors, of the catastrophes the errors caused and of the ruins left in the wake of the catastrophes. As Jacques Derrida would observe two hundred year later, the Kant’s propositions would easily expose the present-day buzz-words like “culture of hospitality” or “ethics of hospitality” as mere tautologies: “L’hospitalité, c’est la culture même et s’est n’est pas une éthique parmi d’autres … L’éthique est hospitalité”. Indeed, if ethics, as Kant wished, is a work of reason, then hospitality is – must be or sooner or later become, the ethically-guided mankind’s first rule of conduct.

The world, though, took little notice; it seems that the world prefers to honour its philosophers by memorial plaques than by listening to them, let alone by following their advice. Philosophers might have been the main hero of the Enlightenment lyrical drama, but the post-Enlightenment epic tragedy all but neglected its script. Busy with equating the nations and the states, states with sovereignty, and sovereignty with a territory with tightly sealed and controlled borders, the world seemed to pursue a horizon quite different from the one Kant had drawn. For two hundred years the world was occupied with making the control of human movements the sole prerogative of state powers, with erecting barriers to all the other, uncontrolled human movements, and manning the barriers with vigilant and heavily armed guards. Passports, visas, custom and immigration controls were among the major inventions of the art of modern government.

The advent of the modern state coincided with the emergence of the “Stateless person”, the sans papiers, and the idea of unwertes Leben, the later-day reincarnation of the ancient institution of homo sacer, that ultimate embodiment of the sovereign right to exempt and to exclude such human being as has been cast off the limits of human and divine laws; to make it into a being that can be destroyed without punishment – but whose destruction is devoid of all ethical or religious significance.

MAN AND CITIZEN

Five years after Kant sent the brief results of his ruminations to the printers, another, even shorter document was published – one that was to weigh on the next two centuries of history much more heavily than Kant’s little book. That other document was Déclaration des droits de l’homme et du citoyen, of which Giorgio Agamben would observe, with the benefit of long hindsight, that “it did not make clear whether the two terms [man and citizen] were to name two distinct realities” or whether, instead, “the first term is always already contained in the second”. 3

That un-clarity, with all its gruesome consequences, had been noted in a world suddenly filling up with “displaced persons”; by Hannah Arendt. She recalls the old and genuinely prophetic Edmund Burke’s premonition that the abstract
nakedness of “being nothing but human” was the humanity’s greatest danger. Human rights, Burke noted, were an abstraction, and humans can expect little protection from abstraction of “human rights” unless it is filled with the flesh of the Englishman’s or Frenchman’s rights. “The world found nothing sacred in the abstract nakedness of being human” – Arendt’s sums up the experience of the centuries that followed Burke’s observations. “The Rights of Man, supposedly inalienable, proved to be unenforceable . . . whenever people appeared who were no longer citizens of any sovereign state”.  

Indeed, human beings endowed with “human rights” and no more than that – no other rights to contain and hold them in place – were nowhere to be found and for all practical intents un-imaginable. A social, all-too-social potenza, puisance or Machi 6 was obviously needed to endorse the humanity of humans. And throughout the modern era, such “potency” happened to be always a potency to select: to draw a boundary between human and inhuman, without residue into land properties of sovereign states the homeless are rightless, and they suffer not because they are not equal before law – but because there is no law that applies to them and to which they could refer or whose protection they could claim.  

In her essay on Karl Jaspers7 penned down a few years after the Origins of Totalitarianism, Hannah Arendt observed that though for all the preceding generations was but a concept or an ideal (we may add: a philosophical postulate, humanists’ dream, sometimes a war-cry, but hardly ever an organizing principle of political action), it “has become something of an urgent reality”. And if it has – it was because of the impact of the West, that had saturated the rest of the world with the products of its technological development, but which also exported to the rest of the world “its processes of disintegration” – among which the breakdown of metaphysical and religious beliefs, awesome advances of natural sciences and the ultimate triumph of the nation-state as virtually the sole form of government figured most prominently. The forces which required long centuries to “undermine the ancient beliefs and political ways of life” in the West, “took only a few decades to break down . . . beliefs and ways of life in all other parts of the world”.  

Such kind of unification could not but produce a “solidarity of mankind” that is “entirely negative”. Each part of human population of the earth is made vulnerable by all other parts and each of the other parts. This is, we may say, “solidarity” of dangers, risks and fears. For most of the time and in most thoughts, “unity of the planet” boils down to the horror of threats gestating or incubated in distant parts of the world – the world “reaching out yet itself out of reach”. John Donne of our days would perhaps modify the admonition contained in his Devotions: “never send to know for whom the bell tolls; it tolls for thee – the death knell” . . . But he would it seems hold to the observation that “no man is an Island, entire of itself; every man is a piece of Continent, a part of the main” – only it would mean now, first and foremost, that one can no longer count on the secure shelter islands used to provide in simpler and poorer times. On a continent, crisscrossed – as all continents nowadays are, by rail- and motor-ways – there is nowhere to hide. There is no place left “away from beaten tracks”, nor “far from madding crowds” – however passionate and hectic are the efforts to keep the crowds away
from the gates and fences and make the tracks accessible for selected users only and selected use.

THE (UN)HOLY TRINITY

For two hundred years or so after the publication of Kant’s musings, the progressive “filling of the world” (and so, consequently, the urge to admit that the fullness of the planet Kant thought to be an unavoidable and no-appeal-allowed verdict of Reason and Nature rolled into one, was indeed eminent) was fought back with the help of the (un)holy trinity of territory, nation, and state.

Nation-state, as Giorgio Agamben observes, means a state that makes “nativity or birth” the “foundation of its own sovereignty”. “The fiction that is implicit here”, Agamben points out, “is that birth [nascita] comes into being immediately as nation, so that there may not be any difference between the two moments”.

One is, so to speak, born into the “citizenship of the state”; this nakedness of the newly born child yet un-dressed in the legal/juridical trappings provides the site on which the sovereignty of the state power is established and perpetually re-born through the inclusive/exclusive practices aimed at all other claimants of citizenship that fell into the reach of the state’s sovereignty. We may hypothesize that the reduction of bios to zoē that Agamben takes for the essence of modern sovereignty (or, we may say as well, the reduction of the Leib, the living-acting body, to the Körper, a body that can be acted upon but cannot act) is unavoidable once birth is selected as the sole no-question-asked entry into the nation. All others who may knock to the door of the sovereign state asking to be admitted may first be submitted to the de-robing ritual. As Victor Turner suggested following Van Gennep three-stages scheme of rite de passage, before the newcomers who apply for admission to another social site are given access (if access is given) to a new wardrobe where the dresses appropriate to the new site and for that site reserved are stocked, they need to be bared (metaphorically as well as literally) of all and any trappings of their previous belonging; a quarantine is needed in the space-not-space of “betwixt and between”, where no socially forged and approved weapons are on offer and none is permitted. In the purgatory of the intermediate “nowhere space” that separates the plots in the world sliced into plots and conceived as aggregation of spatially separate plots, the site is cleaned for the construction of a new belonging.

According to Turner, the stopover in the site denuded of all socially supplied jacks that lift the incumbents from the level of zoē or Körper to that of bios or Leib, “the social significance of rendering them [individuals ‘on the way’ from the lost social denomination to another- not-yet acquired one – Z.B.] down into some kind of human primo materia, divested of specific form and reduced to a condition that, although it is still social, is without or beneath all accepted forms of status” is that there is no direct way leading from one to another socially approved status. Before one can pass from one status to another, one needs to immerse in “an unstructured or rudimentarily structured and relatively undifferentiated communitas . . .”

Hannah Arendt had situated the phenomenon later explored by
Turner in the power-operated realm of expulsion, exile, exclusion and exemption. Humanity that takes “the form of fraternity”, she implied, “is the great privilege of pariah peoples” (wandering through public debates of the eighteenth century under the generic name of *les malheureux*, in those of the nineteenth century of *les misérables*, today perhaps (and for the last half century) gathering under the umbrella of “the refugees” – but at all times deprived of a place of their own on the mental map of the world drawn by people who invented/deployed their names). As if under the pressure of persecution, “the persecuted have moved so closely together that the interspace which we have called world (and which of course existed between them before the persecution, keeping them at a distance from one another) has simply disappeared.” For all practical intents and purposes they were *out of the world*: the world of categories and fine distinctions that the powers that be have spawn and made known under the name of “society” – the only world humans were supposed to inhabit and the only world that could reforge its inhabitants into citizens, the bearers and practitioners of rights. They were *uniform* – in their common lack of such attributes as vernacular speakers would be able to note, grasp, name and comprehend; or uniform they seemed to be – due to the alliance between the poverty of the vernacular and the power-assisted homogenization-through-expropriation-of rights.

Indeed, if birth and nation are one, than all others who enter or wish to enter must mimic, or are compelled to mimic, the nakedness of the newborn’s non-status The state – the guardian and prison guard, the spokesman and the censor-in-chief of the nation – would see to it that the condition is met.

As Carl Schmitt, arguably the most clear-headed, illusion-free anatomist of the modern state, avers: “He who determines a value, *eo ipso* always fixes a nonvalue. The sense of this determination of a nonvalue is the annihilation of the nonvalue”. Determining the value draws the limits of the normal, the ordinary, the orderly; nonvalue is an exception that marks this boundary.

The exception is that which cannot be subsumed; it defies general codification, but it simultaneously reveals a specifically juridical formal element: the decision in absolute purity … There is no rule that is applicable to chaos. Order must be established for juridical order to make sense. A regular situation must be created, and sovereign is he who definitely decides if this situation is actually effective … The exception does not only confirm the rule; the rule as such lives off the exception alone.

Giorgio Agamben comments: “The rule applies to the exception in no longer applying, in withdrawing from it. The state of exception is thus not the chaos that preceded order but rather the situation that results from its suspension. In this sense, the exception is truly, according to its etymological root, *taken outside (ex-capere)*, and not simply excluded”. Let me observe that this is the very circumstance which the rule-making sovereigns, to legitimize their action, tend to occlude. Order-making is undertaken in the name of fighting the chaos. But there would be no chaos were there no ordering intention already in place and the “regular situation” has not been conceived and promoted. Chaos is born as a non-
value, an exception; ordering bustle is its birthplace and it has no other legitimate (sic!) parents nor family home.

Penetrating and insightful as he is when scrutinizing the bizarre, paradoxical logic of *Ordnung*, Carl Schmitt endorses the fiction cultivated by the guardians/promoters of order, the wielders of the sovereign power of exception, on one crucial point. Just like in the sovereigns’ body of practice, so in Schmitt’s theoretical model the boundaries of the territory over which the work of *Ordnung* is conducted are presumed to constitute the outer limits of the world bestowed with the topical relevance for the ordering intentions and efforts. The sum total or resources required if the ordering job is to be done, as well as the totality of factors necessary to account for its operation and effects, are contained inside that world. Sovereignty produces the distinction between the value and non-value, the rule and exception – but it is preceded by the distinction between the inside and the outside of the sovereign realm, without which the sovereign prerogatives could be neither claimed nor obtained. Sovereignty as practiced by the modern nation-state and as theorized by Schmitt is inextricably bound to a territory; sovereignty is unthinkable without an “outside”, and it is inconceivable in any form but a localized entity. Schmitt’s vision is as “localized” as the sovereignty whose mystery it tries to unravel. It does not step beyond the practice and cognitive horizon of the made-in-heaven wedlock of territory and power.

As the “state of law” was gradually, but irresistibly (since under constant legitimacy-building and ideological mobilization pressures) evolving into the “nation’s state”, the wedlock has grown into a trinity – of territory, state and nation. One may suppose that the advent of that trinity was a historical accident that occurred in one, relatively small part of the globe; but since that part, however small, happened to claim the position of metropolis resourceful enough to transform the rest of the globe into periphery and arrogant enough to denigrate its peculiarities accordingly, and since it is the prerogative of the metropolis to set the rules by which periphery should live and since it is in its power to enforce the observance of the rules – the overlap/blend of the nation, state and territory has become the norm, and any of the three un-allied with and unsupported by the other two has been turned into anomaly; a monstrous mutation to undergo a drastic surgery or to be delivered a coup de grace in case of being found beyond redemption. Territory with no nation-state had become a no-man’s land; nation without a state had become a noxious, obstreperous and obtrusive alien body given the choice of surrender or annihilation, state without a nation or more than one nation a residues of time pasts facing an urgent demand of modernization. Behind the new normality, loomed the sense-giving and unquestionable principle of the inalienable territoriality of any power bidding for sovereignty and all power standing the chance of the bid being granted or won.

All bids for purity sediment dirt, all bids for order create monsters. The dirty monsters of the promotion-of-the-territory/nation/state-trinity era were nations without states, states with more than one nation and territory without nation-state. It was thanks to those monsters that the sovereign power could claim and acquire
the rights to deny rights and set conditions for humanity that most of the humanity could not meet.

In 1920, a booklet had been published under the title Die Freigabe der Vernichtung lebensunwerten Leben, authored by the penal law expert Karl Binding and Alfred Hoche, medicine professor, and commonly credited with the introduction of the unwertes Leben (“life unworthy of living”) concept, and for the suggestion that such life is unduly and unjustly protected at the expense of the fully-fledged life that should command attention and loving care owed to humanity. The learned expert saw no reason (juridical social or religious) why extermination of unwertes Leben should be seen as a crime and punished accordingly. Agamben discerns in Binding/Hoche’s conception the modern rendition of the ancient category of homo sacer – a human being that can be killed without punishment yet whose murder is devoid of both social and religious significance, and observes that the concept of “life unworthy of being lived” is as the concept of homo sacer has always been, non-ethical; but that in its modern wrapping it acquires profound political significance of a category “on which sovereign power is founded”.

In modern biopolitics, sovereign is he who decides on the value or the nonvalue of life as such. Life – which with the declaration of rights, had as such been invested with the principle of sovereignty – now itself becomes the place of a sovereign decision.14

This seems to be, indeed the case. But it could be a case in as far as the territory/state/nation trinity has been lifted to the rank of universal principle of human cohabitation, planted and promoted in every nook and cranny of the planet, including areas which for centuries failed to produce elementary conditions of such trinity – that is, homogeneity of the population and/or permanent settlement resulting in the “rootedness in the soil”. It is because of that contrived universality of the Trinitarian principle that, as Hannah Arendt points out, “whoever was thrown out of one of these tightly organized communities found himself thrown out of the family of nations altogether”15 – and so from the realm of humanity into the nowhere-land of homini sacri, since human species has become identical with the “family of nations”.

THE LONG INTERMEZZO

It was thanks to the territory/nation/state trinity that Kant’s warning/ premonition could gather dust for two centuries – and, if read by the few dedicated archivists/collectors of curiosities, aberrations and paradoxes known as “historians of philosophy”, explained away by the momentary lapse of the scientific rigour in the otherwise exemplarily disciplined life of the pioneer and life-long advocate of modern reason. With the trinity in its full command, the roundness of the globe seemed of no consequence and the prediction of the imminent fullness of the planet was taken to be, if treated leniently, the stuff of which the science-fiction fairy tales are made.
Despite its magnitude and the depth of its suffering, the human detritus sedi-
mented in ever rising volume by the including/excluding zeal and bustle triggered
and continuously energized by the territory/nation/state trinity, seemed to carry
the marks of a transient and essentially removable irritant than to be portent
of the catastrophe to come. Dark clouds seemed lighter and dark premonition
could be laughed away as “prophecies of doom” thanks mostly to another modern
enterprise that went down in history under the names of “imperialism” and “col-
ization” serving, alongside its other functions, as the disposal and recycling
plant for the growing outlay of human waste. The breathtakingly vast expanses
of the “virgin land” that the imperialist invading/conquering drive had laid open for
colonization could be used as a dumping ground for those unwanted, and act as a
promised land for those who fell by, or were thrown over the board as the vehicle
of progress picked up speed and gained ground.

No land of course was really “virgin” at the time Kant’s Allgemeine Geschichte
was sent to printers; but plenty of lands had been already made virgin and many
more were to be recast as “virgin” in the following decades thanks to the enormous
and still rapidly widening power differential between the fast industrializing cen-
ter and deteriorating periphery. That power of metropolis was so overwhelming
that it could declare the extant human habitation of the “primitive”, “backward”
and “savage” lands null and void, and summarily recast the population of such
lands as a collective “homo sacer” of the metropolis – thereby offering the
metropolitan population a license to kill. When somewhat later the technique of
summary exclusion from the human race developed during the conquest of distant
lands was to be ricocheted on Europe. Aimé Césaire pointed out (in 1955) that
what the Christian bourgeois (of Europe and its extensions) could not really for-
give Hitler was not the crime of genocide as such (by then it was an acknowledged,
legitimate method of dealing with the presence of undesirables), but the crime of
having applied to Europe the colonialist actions as were borne up till now by the
Arabs, the coolies of India and the Negroes . . .

Colonisation allowed Kant’s premonitions to gather dust. However, it also
made them look, when finally dusted off, as a prophecy of apocalypses instead
of as the cheerful utopia Kant intended them to be. Kant’s vision looks now that
way because – due to misleading abundance of “no man’s land” nothing needed to
be done and so nothing has been done in these two centuries to prepare humanity
for the revelation of the ultimate fullness of the world.

To get rid of the domestic European hominis sacr, the lands decreed as virgin
provided the Devil Islands, Botany Bays and other similar dumping grounds for
European governments envious of the Russian Empire that ruling over the infinite
permafrost expanses of Siberia. For the Europeans fearing the outcasts’ lot, the
“virginised lands” offered a promising alternative – a hide-out and a chance to
“start a new life”. Irish villagers sought there salvation from potato-blight famine
at home, German, Swedish and Polish peasants run there from overcrowded vil-
lages and decaying townships with no jobs and no prospects, Jews sought there
safety from Russian pogroms. The untiiled offspring of titled families traveled to
the “frontiers of civilization” hoping to restore their power and wealth in mili-
tary service, colonial administration or business ventures, having first built a new
world – a world needing to replace the indolent and somnolent native nobility
with brand new elites, and so fit to provide the incomers with brand new career
tracks. For many years, modernity, that intrinsically expansive and transgressive
civilization, had no reason to worry: the civilization made of the urge of expansion
and transgression had seemingly infinite space to expand and could look forward
to endless new barriers waiting to be transgressed. On the map of the modern
world, there was profusion of blank spots marked (provisionally, of course!) “ubi
leones”, and waiting to be spattered with new towns and crisscrossed with new
road networks. Those distant blank spots were safety valves letting out the steam
and protecting the metropolis from overheating. There were a lot of places for
the adventurous to seek adventure, for the gamblers to try their luck and for the
defeated to attempt reversal of bad fortune. The world was anything but full.

Well – it is now. No more Statues of Liberty promising to huddle the downtrodden
and abandoned masses. No more escape tracks and hideouts for anyone but
the few misfits and criminals. But (this being, arguably, the most striking effect
of the world’s newly revealed fullness) – no more the safe and cozy chez soi either, as
the events of the 11th September have proven dramatically and beyond reasonable
doubt.

As the last spots bearing “ubi leones” tags are vanishing from the world map
and the last among the many distant frontier-lands have been claimed by powers
potent to man the seal borders and issue entry visas – the world in its entirety is
turning into a planetary frontier-land… According to Eric le Boucher’s summary
of the new wisdom that has been forced upon us on 11th September (in Le Monde
of 25 October 2001, p. 17) – “the world cannot divide itself into two separate
parts – one rich and secure behind its modern anti-missile system, the other left
… to its wars and ‘archaism’”. After 11th September, it has become clear that
the “far-away countries can no more be left to their anarchy” – that is, if the rich
and allegedly secure want to stay rich and be secure indeed. Ask no more where
the “frontier-land” can be found; it is here, all around you, all around your city and
in the city itself, in the city centre as much as in the banlieues notorious as they
are as places in which everything can happen but little can be done, any action
being but an experiment that can proceed solely only through risk-infested trials
and errors.

In the frontier-land, it is guns and slyness that count, but agility and cunning
count more than the largest stack of guns. In the frontier-land, fences and stock-
ades mark the intentions rather than realities. In a frontier-land, the efforts to give
conflicts territorial dimensions and to keep the differences apart and at a safe
distance from each other by dividing the ground, seldom bring results. Suspected
from the start to be ultimately ineffective, such efforts tend to be half-hearted
anyway – wooden stakes signal the lack of self-assurance that stone walls would
manifest. In the course of interminable frontier-land warfare, trenches are seldom
dug. The adversaries are known to be constantly on the move. Their might and
the nuisance-making ability lie in the speed, inconspicuousness and randomness
of their moves. For all practical intents and purposes, in a frontier-land adversaries are extraterritorial.

The threats of terrorist attacks the 11th September style were on the cards for a long time, as they should have been under increasingly frontier-land’s conditions. The threats emanated from existential insecurity, massively generated inside the un-colonised, politically un-controlled, thoroughly de-regulated and extraterritorial “space of flows” (to use Manuel Castells’ terms). But the materialisation of such threats in the dramatic and exquisitely spectacular form they took on 11th September has re-forged the premonitions onto tangible reality, drawn the invisible within sight and the distant within the neighbourhood. It thereby allowed to translate the threat from the arousing little emotions, opaque and seldom resorted to language of global security (a bland and semantically impoverished language with few if any syntactic rules) into the all-too-familiar, daily used and easily understood language of personal safety. The good news is that in a longer run that translation may assist the comprehension of the link between the two, and even enable the reverse translation – of local safety concerns into global security issues. The bad news are that for the time being one thing that has been made crystal clear is but the present-day mutually assured vulnerability of all politically separated parts of the globe.

That manifestation of the changed existential condition took us unawares – as the change itself took us unprepared. The sacrosanct division between dedans and dehors, that charted the realm of existential security and set the itinerary for future transcendence, has been all but obliterated. Il n’y a pas le ‘dehors’ any more … We are all “in”, with nothing left outside. Or, rather, what used to be “outside” entered the “inside” – without knocking; and settled there – without asking permission. The bluff of local solutions to planetary problems has been called, the sham of territorial isolation has been exposed.

Frontier-lands of all times have been known as, simultaneously, factories of displacement and recycling plants for the displaced. Nothing else can be expected from their new, global variety – except of course the new, planetary scale of the production and recycling problems. Let me repeat: there are no local solutions to global problems – although it is precisely the local solutions that are avidly, though in vain, sought by the extant political institutions, the sole political institutions that we have collectively invented thus far and the only we have. And no wonder – since all such institutions are local, and there sovereign power of feasible (or for that matter legitimate) action is locally circumscribed.

For the two hundred years of modern history, the refugees, the voluntary and involuntary migrants, the “displaced persons” tout court, were naturally assumed to be the host country affair and handled as such. Few if any of the nation-states that filled the modern map of the world were as local as their sovereign prerogatives. Sometimes willingly, some other times reluctantly, all of them had to accept the presence of aliens inside the appropriated territory, and all had to admit in the successive waves of immigrants escaping or chased away from the realms of other sovereign nation-state powers. Once inside, the settled or fresh aliens fell under exclusive and undivided jurisdiction of the host country. That country was free to
deploy the updated, modernised versions of the two strategies which have been described in *Tristes tropiques* by Claude Lévi-Strauss as the alternative ways of dealing with the presence of strangers.

The available choice was between the anthropophagic and the anthropoemic solutions to the strangers’ problem. The first solution boiled down to “eating the strangers up”. Either literally, in flesh – like in cannibalism allegedly practiced by certain ancient tribes, or in a more sublime, modern metaphorical re-make, spiritually – as in the power-assisted assimilation practiced almost universally by nation-states so that the strangers are ingested into the national body and cease to exist as strangers. The second solution meant “vomiting the strangers” instead of devouring them: rounding them up and expelling (just what Oriana Fallaci suggested we should do with people who adore other gods and display baffling toilet habits) either from the realm of the state power or from the world of the living.

Let us note however that pursuing either of the two solutions made sense only on the twin assumptions: of a clean-cut territorial division between the “inside” and the “outside”; and of the completeness and indivisibility of sovereignty of the strategy-selecting power inside its realm. None of the two assumptions commands much credibility today, in our liquid-modern global world; and so the chances of deploying either of the two orthodox strategies are, to say the least, slim.

The tested ways of acting no more available, we seem to be left with no good strategy to handle the newcomers. Since in the times when no cultural model can authoritatively and effectively claim its superiority over competitive models and when nation-building and patriotic mobilisation ceased to be the principal instrument of social integration and state’s self-assertion, cultural assimilation is no more on the cards. Since deportations and expulsion make dramatic television and are likely to trigger public outcry and tarnish the international credentials of the perpetrators, the governments prefer to steer clear of the trouble by locking the doors to all who knock asking for shelter.

The present trend to drastically reduce the right to political asylum, accompanied by the stout refusal of entry to “economic immigrants”, signal no new strategy regarding the refugee phenomenon – but the absence of strategy, and the wish to avoid a situation in which that absence causes political embarrassment. Under the circumstances, the terrorist assault of 11th September was a God-send gift to the politicians. In addition to the usually brandished charges of sponging on the nation’s welfare and stealing the jobs, refugees stand now accused of playing a “fifth column” role on behalf of the global terrorist network. At long last, there is a “rational” and morally unassailable reason to round up, incarcerate and deport people whom one does not know any more how to handle and does not want to take trouble to find out. In the US, and soon after in Britain, under the banner of “anti-terrorist campaign”, foreigners have been promptly deprived of the essential human rights that until now have withstood all vicissitudes of history since Magna Carta and Habeas Corpus. Foreigners can be now indefinitely detained on charges against which they cannot defend themselves since they are not told what they are. As Martin Thomas acidly observes, from now on, in a dramatic reversal of
the basic principle of civilised law, the “proof of a criminal charge is a redundant complication” – at least as far as the foreign refugees are concerned.

The doors may be locked; but the problem won’t go away, however tight the locks. Locks do nothing to tame or weaken the forces that cause displacement. The locks may help to keep the problem out of sight and out of mind, but not to force it out of existence.

And so, increasingly, refugees find themselves in a cross-fire; more exactly, in a double bind. They are expelled by force or frightened into flying out of their native countries, but refused entry to any other. They do not change places; they lose place on earth, they are catapulted into a nowhere, into Augé’s “non-lieux” or Garreau’s “nowherevilles”, into Michel Foucault’s “Narrenschiffen”, into a drifting “place without a place, that exists by itself, that is closed in on itself and at the same time is given over to the infinity of the sea”19 – or (as Michel Agier20 suggests in a forthcoming article in Ethnography) in a desert, that by definition un-inhabited land, the land resentful of humans and seldom visited by them.

Refugees have become, in a caricatured likeness of the new power elite of the globalised world, the epitome of that extraterritoriality where the roots of the present-day precarité of human condition, that foremost of present-day human fears and anxieties, are sunk. Those fears and anxieties, seeking other outlets in vain, have rubbed off on the popular resentment and fear of refugees. They cannot be defused nor dispersed in a direct confrontation with the other embodiment of extraterritoriality – the global elite drifting beyond the reach of human control, too powerful to be confronted. Refugees, on the other hand, are a sitting target for unloading the surplus anguish …

According to the Haut Commissariat des Nations Unies pour les Réfugiés (UNHCR) there are between thirteen and eighteen millions “victims of enforced displacement” struggling for survival beyond the boundaries of their countries of origin (not counting the millions of “internal” refugees in Burundi and Sri Lanka, Columbia and Angola, Sudan and Afghanistan, condemned to vagrancy by endless tribal wars). Of those, more than six million are in Asia, seven to eight million in Africa; there are three million of Palestinian refugees in the Middle East. This is, to be sure, a conservative estimate. Not all refugees have been recognised (or claimed to be recognised) as such; only a part of the displaced persons were lucky enough to find themselves on UNHCR register and under their care. Of those on the UNHCR register, 83.2% are placed in camps in Africa, and 95.9% in Asia (in Europe, so far only 14.3% of the refugees have been locked in the camps).

The camps are artifices made permanent through blocking the exits. The inmates cannot go back “where they came from” – the countries they left do not want them back, their livelihoods have been destroyed, their homes burned or stolen. But there is no road forward either: no government would see gladly an influx of homeless millions. As to their new “permanently temporary” location, the refugees are “in it, but not of it”. They do not truly belong to the country on which territory their huts are assembled and the tents pitched. From the rest of the host country, they are separated by the invisible, but thick and impenetrable veil of suspicion and resentment. They are suspended in a spatial void in which
time has ground to a halt. They neither have settled nor are on the move, they
are neither sedentary nor nomads. In the terms in which humanity of the humans
is narrated, they are ineffable. They are Jacques Derrida’s “undecidables” made
flesh. Among people like us, praised by others and priding ourselves for the
skills of self-reflection, they are not only the un-touchables, but un-think-ables.
In our world of imagined communities, they are the un-imaginables. And it is
by refusing them the right to be imagined that other – genuine or hoping to be
genuine – communities seek credibility for their own labours of imagination. Only
a community frequently appearing these days in political discourse but otherwise
nowhere to be seen in real life and real time, the global community, an inclusive
yet not exclusive community, a community matching Kant’s vision of Vereinigung
in der Menschengattung, may lift the present-day refugees out of the “non-lieu”
in which they have been cast.

All communities are imagined. Global community is no exception from that
rule. But imagination turns into a tangible, potent and integrating force when
sustained by socially produced and socially sustained institutions of collective
self-identification and self-government, like in the case of modern nations wedded
for better or worse and till-death-do-them-part to modern sovereign states. As
far as the imagined global community is concerned, similar institutional network
(woven of global agencies of democratic control, globally binding legal system
and globally upheld ethical principles) is largely absent. And this is, I suggest, the
major cause of what is being called, euphemistically, the “refugee problem”, and
the major obstacle to its resolution.

The unity of the human species that Kant postulated may be, as he suggested,
resonant with Nature’s intention – but it certainly does not seem “historically
determined”. The continuing uncontrollability of the already global network of
mutual dependence and “mutually assured vulnerability” most certainly does not
increase the chance of such unity. This only means, however, that at no other time
has the keen search for common humanity, and the practice that follows such an
assumption, been as urgent and imperative as it is now. In the era of globalization,
the cause and the politics of shared humanity face the most fateful steps they have
made in their long history.

NOTES
1 In Cosmopolites de tous les pays, encore un effort!, Galilée 1997, p. 42.
2 As Giorgio Agamben discovered – see his Homo sacer: Il potere sovrano e la nuda vita, Einaudi
1995.
3 Giorgio Agamben, Mezzi senza fine (1996); here quoted after Vinzenzo Binetti and Cesare
Casarino translation, Means without Ends; Notes on Politics, University of Minnesota Press, 2000,
p. 20.
4 Edmund Burke, Reflections on the Revolution in France (1790), quoted by Arnedt after
Wveryman’s Library version edited by E.J. Payne.
5 Hannah Arendt, The Origins of Totalitarianism, Andre Deutsch, 1986, pp. 300, 293.
6 See the translators’ note in Means without Ends, p. 143.
7 Karl Jaspers: Citizen of the World?, in Hannah Arendt, Men in Dark Times, Harcourt Brace, 1993,
pp. 81–94.
BAUMAN

8 Means without Ends, p. 21.
13 Homo Sacer, p. 18.
14 Homo Sacer, p. 142.
15 The Origins of Totalitarianism, p. 204.
17 A charge eagerly resorted to, with great profit, by ever widening range of contemporary politicians across the political spectrum, from LePen, Pia Kjersgaard or Vlaams Block on the far right to the growing number of such as define themselves as “left of centre”.
20 Michel Agier, “Between war and city: Towards an urban anthropology of refugee camp”, Ethnography, 3(3).
2. BIOTECHNOLOGY, DEMOCRACY, AND THE POLITICS OF CLONING

O, wonder!
How many goodly creatures are there here!
How beauteous mankind is!
O brave new world
That has such people in’t.
William Shakespeare, The Tempest

We’re ready to go because we think that the genie’s out of her bottle.
Dr. Panos Zavos

Anyone who thinks that things will move slowly is being very naive.
Lee Silver (1998)

As we move into a new millennium fraught with terror and danger, a global postmodern cosmopolis is unfolding in the midst of rapid evolutionary and social changes co-constructed by science and technology. We are quickly morphing into a new biological and social existence that is ever-more mediated and shaped by computers, mass media, and biotechnology, all driven by the logic of capital and a powerful emergent technoscience. In this global context, science is no longer merely an interpretation of the natural and social worlds, rather it has become an active force in changing them and the very nature of life. In an era where life can be created and resigned in a petri dish, and genetics codes can be edited like a digital text, the distinction between “natural” and “artificial” has become confused and confounded. The new techniques of manipulation call into question existing definitions of life and death, demand a rethinking of fundamental notions of ethics and moral value, and pose unique challenges for democracy.

As technoscience develops by leaps and bounds, and as genetics rapidly advances, the science-industrial complex has come to a point where it is creating new transgenic species and is rushing toward a posthuman culture that unfolds in the ever-more intimate merging of technology and biology. The posthuman involves both new conceptions of the “human” in an age of information and communication, and new modes of existence as flesh merges with steel, circuitry,

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and genes from other species. Exploiting more animals than ever before, technoscience intensifies research and experimentation into human cloning. This process is accelerated because genetic engineering and cloning are developed for commercial purposes, anticipating enormous profits on the horizon for the biotech industry. Consequently, all natural reality – from microorganisms and plants to animals and human beings – is subject to genetic reconstruction in a commodified “Second Genesis”.

At present, the issues of cloning and biotechnology are being heatedly debated in the halls of science, in political circles, among religious communities, throughout academia, and more broadly in the media and public spheres. Not surprisingly, the discourses on biotechnology are polarized. Defenders of biotechnology extol its potential to increase food production and quality; to cure diseases and prolong human life; and to better understand human beings and nature in order to advance the goals of science. Its critics claim that genetic engineering of food will produce Frankenfoods that pollute the food supply with potentially harmful products; that biotechnology-out-of-control could devastate the environment, biodiversity, and human life itself; that animal and human cloning will breed monstrosities; that a dangerous new eugenics is on the horizon; and that the manipulation of embryonic stem cells violates the principle of respect for life and destroys a bona fide “human being”.

Interestingly, the same dichotomies that have polarized information-technology discourses into one-sided technophobic and technophilic positions are reproduced in debates over biotechnology. Just as we have argued that critical theories of technology are needed to produce more dialectical perspectives that distinguish between positive and negative aspects and effects of information technology, so too would we claim that similar multiperspectival approaches are required to articulate the potentially beneficial and perhaps destructive aspects of biotechnology. Indeed, current debates over cloning and stem cell research suggest powerful contradictions and ambiguities in these phenomena that render one-sided positions superficial and dangerous. Parallels and similar complexities in communication and biotechnology are not surprising given that information technology provides the infrastructure to biotechnology that has been constituted by computer-mediated technologies involved in the Human Genome Project, and, conversely, genetic science is being used to push the power and speed of computers through phenomena such as “gene chips” (see Best and Kellner, 2001).

As the debates over cloning and stem cell research indicate, issues raised by biotechnology combine research into the genetic sciences, perspectives and contexts articulated by the social sciences, and the ethical and anthropological concerns of philosophy. Consequently, we argue that intervening in the debates over biotechnology require supradisciplinary critical philosophy and social theory to illuminate the problems and their stakes. In addition, debates over cloning and stem cell research raise exceptionally important challenges to a democratic politics of communication. Biotechnology is thus a critical flashpoint for democratic theory and practice, as it underscores the need for more widespread knowledge of important scientific issues, participatory debate, consensus, and regulation con-
cerning new developments in the biosciences, which have such high economic, political, and social consequences.

More specifically, we will demonstrate problems with the cloning of animals that for now render the cloning of humans unacceptable. In our view, human cloning constitutes a momentous route to the posthuman, a leap into a new stage of history, with significant and potentially disturbing consequences. We will also take on arguments for and against stem cell research and contend that it contains positive potential for medical advances that should not be blocked by problematic conservative positions. Nonetheless, we believe that the entire realm of biotechnology is fraught with dangers and problems that require careful study and democratic debate. The emerging genomic sciences should thus be undertaken by scientists with a keen sense of responsibility and accountability, and be subject to intense public scrutiny and open discussion. Finally, in the light of the dangers and potentially deadly consequences of biotechnology, we maintain that embracing its positive potential can be realized only in a new context of genuine social democracy and new sensibilities toward nature.

BRAVE NEW BARNYARD: THE ADVENT OF ANIMAL CLONING

The idea is to arrive at the ideal animal and repeatedly copy it exactly as it is.
Dr. Mark Hardy

We are up to our ears in [animal] clones.
Michael Bishop, President of Infigen Inc.

From its entrenched standpoint of unqualified human superiority, science typically first targets objects of nature and animals with its analytic gaze and instruments. The current momentous turn toward cloning is largely undertaken by way of animals, although some scientists have already directly focused on cloning human beings (see below). While genetic engineering creates new “transgenic” species by inserting the gene from one species into another, cloning replicates cells to produce identical copies of a host organism by inserting its DNA into an enucleated egg. In a potent combination, genetic engineering and cloning technologies are used together in order, first, to custom design a transgenic animal to suit the needs of science and industry (the distinction is irrevocably blurred) and, second, to mass reproduce the hybrid creation endlessly for profitable peddling in medical and agricultural markets.

Cloning is a return to asexual reproduction and bypasses the caprice of the genetic lottery and random shuffling of genes. It dispenses with the need to inject a gene into thousands of newly fertilized eggs to get a successful result. Rather, much as the printing press replaced the scribe, cloning allows mass reproduction of a devised type, and thus opens genetic engineering to vast commercial possibilities. Life science companies are poised to make billions of dollars in profits, as numerous organizations, universities, and corporations move toward cloning
animals and human stem cells, and patenting the methods and results of their research.

To date, science has engineered thousands of varieties of transgenic animals and has cloned sheep, calves, goats, bulls, pigs, cats, mice, and other species. Though still far from precise, cloning nevertheless has become routine. What’s radically new and startling is not cloning itself, since from 1952 scientists have replicated organisms from embryonic cells. Rather, the new techniques of cloning, or “nuclear somatic transfer”, from adult mammal body cells constitutes a new form of human reproduction. These methods accomplish what scientists long considered impossible – re vesting adult (specialized) cells to their original (non-specialized) embryonic state where they can be reprogrammed to form a new organism. In effect, this startling process creates the identical twin of the adult that provided the original donor cell. This technique was used first to create Dolly, and subsequently all of her varied offspring.

**DOLLY AND HER PROGENY**

Traditionally, scientists considered cloning beyond the reach of human ingenuity. But when Ian Wilmut and his associates from the Roslin Institute near Edinburgh, Scotland, announced their earth-shattering discovery in March 1997, the “impossible” appeared in the form of a sheep named Dolly, and a “natural law” had been broken. Dolly’s donor cells came from a six-year-old Finn Dorset Ewe. Wilmut starved mammary cells in a low-nutrient tissue culture where they became quiescent and subject to reprogramming. He then removed the nucleus containing genetic material from an unfertilized egg cell of a second sheep, a Scottish Blackface, and, in a nice Frankenstein touch, fused the two cells with a spark of electricity. After 277 failed attempts, the resulting embryo was then implanted into a third sheep, a surrogate mother who gave birth to Dolly in July 1996.2

Many critics said Dolly was either not a real clone or was just a fluke. Yet, less than two years after Dolly’s emergence, scientists had cloned numerous species, including mice, pigs, cows, and goats, and had even made clones of clones of clones, producing genetic simulacra in mass batches as Huxley envisioned happening to human beings in *Brave New World* (1932 [1958a]). The commercial possibilities of cloning animals were dramatic and obvious for all to behold. The race was on to patent novel cloning technologies and the transgenic offspring they would engender.

Animals are being designed and bred as living drug and organ factories, as their bodies are disrupted, refashioned, and mutilated to benefit meat and dairy industries. Genetic engineering is employed in biomedical research by infecting animals with diseases that become a part of their genetic make-up and are transmitted to their offspring, as in the case of researchers trying to replicate the effects of cystic fibrosis in sheep. Most infamously, Harvard University, with funding from Du Pont, has patented a mouse – OncoMouse – that has human cancer genes built into its genetic makeup and are expressed in its offspring (see Haraway, 1997).
In the booming industry of “pharming” (pharmaceutical farming), animals are genetically modified to secrete therapeutic proteins and medicines in their milk. The first major breakthrough came in January 1998, when Genzyme Transgenics created transgenic cattle named George and Charlie. The result of splicing human genes and bovine cells, they were cloned to make milk that contains human proteins such as the blood-clotting factor needed by hemophiliacs. Co-creator James Robl said, “I look at this as being a major step toward the commercialization of this [cloning] technology”.3

In early January 2002, the biotech company PPL announced that they had just cloned a litter of pigs which could aid in human organ transplants – on the eve of the publication of an article by another company Immerge Bio Therapeutics that claimed they had achieved a similar breakthrough.4 The new process involved creation of the first “knockout” pigs, in which a single gene in pig DNA is “knocked out” to eliminate a protein that is present in pigs which is usually violently rejected by the human immune system. This meant that a big step could be made in the merging of humans and animals, and creating animals as harvest-machines for human organs.

Strolling through the Brave New Barnyard, one can find incredible beings that appear normal, but are genetic satyrs and chimera. Cows generate lactoferrin, a human protein useful for treating infections. Goats manufacture antithrombin III, a human protein that can prevent blood clotting, and serum albumin, which regulates the transfer of fluids in the body. Sheep produce alpha antitrypsin, a drug used to treat cystic fibrosis. Pigs secrete phytase, a bacterial protein that enables them to emit less of the pollutant phosphorous in their manure, and chickens make lysozyme, an antibiotic, in their eggs to keep their own infections down.

“BioSteel” presents an example of the bizarre wonders of genetic technology that points to the erasure of boundaries between organic and inorganic matter, as well as between different species. In producing this substance, scientists have implanted a spider gene into goats, so that their milk produces a super-strong material – BioSteel – that can be used for bulletproof vests, medical supplies, and aerospace and engineering projects. In order to produce vast quantities of BioSteel, Nexia Biotechnologies intend to house thousands of goats in 15 weapons-storage buildings, confining them in small holding pens.5

Animals are genetically engineered and cloned for yet another reason, to produce a stock of organs for human transplants. Given the severe shortage of human organs, thousands of patients every year languish and die before they can receive a healthy kidney, liver, or heart. Rather than encouraging preventative medicine and finding ways to encourage more organ donations, medical science has turned to xenotransplantation, and has begun breeding herds of animals (with pigs as a favored medium) to be used as organ sources for human transplantation.

Clearly, this is a very hazardous enterprise due to the possibility of animal viruses causing new plagues and diseases in the human population (a danger which exists also in pharmaceutical milk). For many scientists, however, the main concern is that the human body rejects animal organs as foreign and destroys them within minutes. Researchers seek to overcome this problem by genetically
of a cons I have Met a BEST AND KELLNER
modifying the donor organ so that they knock out markers in pig cells and add
genes that make their protein surfaces identical to those in humans. Geneticists envision cloning entire herds of altered pigs and other transgenic animals so that an inexhaustible warehouse of organs and tissues would be available for human use. In the process of conducting experiments such as transplanting pig hearts modified with a human gene into the bodies of monkeys, companies such as Imutan have caused horrific suffering, with no evident value to be gained given the crucial differences among species and introducing the danger of new diseases into human populations.6

As if billions of animals were not already exploited enough in laboratories, factory farms, and slaughterhouses, genetic engineering and cloning exacerbate the killing and pain with new institutions of confinement and bodily invasion that demand millions and millions more captive bodies. Whereas genetic and cloning technologies in the cases described at least have the potential to benefit human beings, they have also been appropriated by the meat and dairy industries for purposes of increased profit through the exploitation of animals and biotechnology. It is the nightmarish materialization of the H.G. Wells scenario where, in his prophetic 1904 novel The Food of the Gods, scientists invent a substance that prompts every living being that consumes it to grow to gargantuan proportions.7 Having located the genes responsible for regulating growth and metabolism, university and corporate researchers immediately exploited this knowledge for profit. Thus, for the glories of carnivorous consumption, corporations such as MetaMor-phix and Cape Aquaculture Technologies have created giant pigs, sheep, cattle, lobsters, and fish that grow faster and larger than the limits set by evolution.

Amidst the surrealism of Wellsian gigantism, cattle and dairy industries are engineering and cloning designer animals that are larger, leaner, faster-growing value producers. With synthetic chemicals and DNA alteration, pharmers can produce pigs that mature twice as fast and provide at least twice the normal amount of sows per litter as they eat 25% less feed, and cows that produce at least 40% more milk. Since 1997, at least one country, Japan, has sold cloned beef to its citizens.8 But there is strong reason to believe that US consumers – already a nation of guinea pigs in their consumption of genetically modified foods – have eaten cloned meat and dairy products. For years, corporations have cloned farmed animals with the express purpose of someday introducing them to the market, and insiders claim many already have been consumed.9 The National Institute of Science and Technology has provided two companies, Origen Therapeutics of California, and Embrex of North Carolina, with almost $5 million to fund research into factory farming billions of cloned chickens for consumption.10 With the Food and Drug Administration pondering whether to regulate cloned meat and dairy products, it is a good bet they are many steps behind an industry determined to increase their profits through biotechnology. The future to come seems to be one of cloned humans eating cloned animals.

While abnormalities such as self-shearing sheep and broiler chickens with fewer feathers have already been assembled, some macabre visionaries foresee engineering pigs and chickens with flesh that is tender or can be easily microwaved,
and chickens that are wingless so they will not need bigger cages. The next step would be to just create and replicate animal’s torsos – sheer organ sacks – and dispense with superfluous heads and limbs. In fact, scientists have already created headless embryos of mice and frogs in grotesque manifestations of the kinds of life they can now construct at will.

Clearly, there is nothing genetic engineers will not do to alter or clone an animal. Transgenic “artist” Eduardo Kac, for instance, commissioned scientists at the National Institute of Agronomic Research in France to create Alba, a rabbit that carries a fluorescent protein from a jellyfish and thus glows in the dark. This experiment enabled Mr. Kac to demonstrate his supremely erudite postmodern thesis that “genetic engineering [is] in a social context in which the relationship between the private and public spheres are negotiated”!13 Although millions of healthy animals are euthanized every year in US animal “shelters”, corporations are working to clone animals, either to bring them back from the dead, or prevent them from “dying” (such as in the Missyplcity Project, initiated by the wealthy “owners” of a dog who want to keep her alive indefinitely).12 Despite alternatives to coping with allergies problems and the dangers with cloning animals, Transgenic Pets LLC. is working to create transgenic cats that are allergen-free, and in 2001 Texas A&M created the first cloned cat, named “CC” for “CopyCat”.13 It is time to examine concretely what cloning means for animal existence.

TRANSGENIC TRAVESTIES

The agricultural use of genetics and cloning has produced horrible monstrosities. Transgenic animals often are born deformed and suffer from fatal bleeding disorders, arthritis, tumors, stomach ailments, kidney disease, diabetes, inability to nurse and reproduce, behavioral and metabolic disturbances, high mortality rates, and Large Offspring Syndrome. In order to genetically engineer animals for maximal weight and profit, a Maryland team of scientists created the infamous “Beltway pig” afflicted with arthritis, deformities, and respiratory disease. Cows engineered with bovine growth hormone (rBGH) have mastitis, hoof and leg maladies, reproductive problems, numerous abnormalities, and die prematurely. Giant supermice endure tumors, damage to internal organs, and shorter life spans. Numerous animals born from cloning are missing internal organs such as hearts and kidneys. A Maine lab specialized in breeding sick and abnormal mice who go by names such as Fathead, Fidget, Hairless, Dumpy, and Greasy. Similarly, experiments in the genetic engineering of salmon have led to rapid growth and various aberrations and deformities, with some growing up to 10 times their normal body weight (see Fox, 1999). Cloned cows are ten times more likely to be unhealthy as their natural counterparts. After three years of efforts to clone monkeys, Dr. Tanja Dominko fled in horror from her well-funded Oregon laboratory. Telling cautionary tales of the “gallery of horrors” she experienced, Dominko said that 300 attempts at cloning monkeys produced nothing but freakishly abnormal embryos that contained cells either without chromosomes or with up to nine nuclei.14
For Dominko, a “successful” clone Like Dolly is the exception, not the rule. But even Dolly is inexplicably overweight and there was evidence in May 1999 that she may be susceptible to premature aging. On January 4, there were reports that Dolly has arthritis and her creator Ian Wilmut said on a BBC broadcast: “There is no way of knowing if this is down to cloning or whether it is a coincidence”. Moreover, cloned mice have also become extremely obese, and cloned cows have been born with abnormally large hearts and lungs.

A report from newscientists.com argues that genes are disrupted when cultured in a lab, and this explains why so many cloned animals die or are grossly abnormal. On this account, it is not the cloning or IVF process that is at cause, but the culturing of the stem cells in the lab, creating major difficulties in cloning since so far there is no way around cloning through cultured cells in laboratory conditions.15

A team of US scientists at the MIT Whitehead Institute examined 38 cloned mice and learned that even clones which look healthy suffer genetic maladies and scientists found the mice cloned from embryonic stem cells had abnormalities in the placenta, kidneys, heart, and liver. They feared that the defective gene functioning in clones could, wreak havoc with organs and trigger foul-ups in the brain later in life and that embryonic stem cells are highly unstable.16 “There are almost no normal clones”, study author and MIT biology professor Rudolf Jaenisch, explained. Jaenisch claims that only 1–5% of all cloned animals survive, and even those that survive to birth often have severe abnormalities and die prematurely.17

As we argue below, these risks make human cloning a deeply problematic undertaking. Pro-cloning researchers claim that the “glitches” in animal cloning eventually can be worked out. In January 2001, for example, researchers at Texas A&M University and the Roslin Institute claimed to have discovered a gene that causes abnormally large cloned fetuses, a discovery they believe will allow them to predict and prevent this type of mutation. It is conceivable science someday will work out the kinks, but for many critics this assumes that science can master what arguably are inherent uncertainties and unpredictable variables in the expression of genes in a developing organism. A recent study showed that some mouse clones seem to develop normally until an age the equivalent of 30 years for a human being; then there is a spurt of growth and they suddenly become obese.18 Mark Westhusin, a cloning expert at Texas A&M, points out that the problem is not that of genetic mutation, but of “genetic expression”, that genes are inherently unstable and unpredictable in their functioning. Another report indicates that a few misplaced carbon atoms can lead to cloning failures.19 Thus, any small errors in the cloning process could lead to huge disasters, and the prevention of all such “small errors” seems to presume something close to omniscience.20

But the matter has become controversial as other scientists are now claiming that they have produced “normal” cloned animals. In June 2001, the University of Georgia announced that they had successfully cloned eight cattle, using a new and improved method that allegedly raises the survival rate from 5% to 14.3%. Still, this means that only one out of seven of the cloned cattle will live using current technology. On November 23, 2001, Science published a study by the
Mayo Clinic, the University of Pennsylvania, and three companies involved in animal cloning, including Advanced Cell Technology (ACT), which claimed that 24 cow clones were reported to be “normal in every way” after several years of experimentation. The company had created 500 cloned embryos implanted into 250 cows. Of those, only 110 became pregnant, 80 miscarried, 30 survived to birth, and 24 had survived to adulthood.

This is not exactly a success story, but it does not preclude the possibility science might be improving in its ability to clone. Critics like Jaenisch, however, questioned the claim to “normality” and argued that the “tests are very superficial” and that genetic problems could turn up later (Washington Post, November 23, 2001). Moreover, several of the scientists who authored the study have financial stakes in the animal cloning industry, and so have a vested interest in disseminating junk science and good PR releases – a tactic not beneath the “objectivity” of genetic industries such as ACT that willfully implode the boundary between science and publicity (see below). Indeed, in the highly competitive cloning marketplace, where companies are scrambling to patent the first major breakthrough in stem cell research, PR and the manipulation of media are lab tools as basic as a microscope.

Yet, while most scientists are opposed to cloning human beings (rather than stem cells), and decry it as “unacceptable”, none condemn the suffering caused to animals or position animal cloning research itself as morally problematic, and animal rights groups so far have been excluded from the debate. Quite callously and arbitrarily, for example, Jaenisch proclaims, “You can dispose of these animals, but tell me – what do you do with abnormal humans?” The attitude that animals are disposable is a good indication of the problems inherent in the mechanistic science that still prevails and a symptom of callousness toward human life that worries conservatives.

Despite the claims of its champions, the genetic engineering of animals is a radical departure from natural evolution and traditional forms of animal breeding, while human cloning takes the postmodern adventure of rapid technoscientific change into a new and, to many, frightening posthuman realm that begins to redesign the human body and genome (see below and Best and Kellner, 2001). Cloning involves manipulation of genes rather than whole organisms. Moreover, scientists engineer change at unprecedented rates, and can create novel beings across species boundaries that previously were unbridgeable. Ours is a world where cloned calves and sheep carry human genes, human embryo cells are merged with enucleated cows’ eggs, monkeys and rabbits are bred with jellyfish DNA, a surrogate horse gives birth to a zebra, an ordinary dairy cow spawns an endangered gaur, and tiger cubs emerge from the womb of an ordinary housecat.

The ability to clone a desired genetic type brings the animal kingdom into entirely new avenues of exploitation and commercialization. From the new scientific perspective, animals are framed as genetic information that can be edited, transposed, and copied endlessly. Pharsing and xenotransplantation build on the system of factory farming that dates from the postwar period and is based on the
confinement and intensive management of animals within enclosed buildings that are prisonhouses of suffering.

The proclivity of the science-industrial complex to instrumentalize animals as nothing but resources for human use and profit intensifies in an era in which genetic engineering and cloning are perceived as a source of immense profit and power. Still confined for maximal control, animals are no longer seen as whole species, but rather as fragments of genetic information to be manipulated for any purpose.

Weighty ethical and ecological concerns in the new modes of animal appropriation are largely ignored, as animals are still framed in the 17th century Cartesian worldview that views them as nonsentient machines. As Jeremy Rifkin (1997, p. 35) puts it,

Reducing the animal kingdom to customized, mass-produced replications of specific genotypes is the final articulation of the mechanistic, industrial frame of mind. A world where all life is transformed into engineering standards and made to conform to market values is a dystopian nightmare, and needs to be opposed by every caring and compassionate human being who believes in the intrinsic value of life.22

Patenting of genetically modified animals has become a huge industry for multinational corporations and chemical companies. PPL Therapeutics, Genzyme Transgenics, Advanced Cell Technology, and other enterprises are issuing broad patents claims on methods of cloning nonhuman animals. PPL Therapeutics, the company that “invented” Dolly, has applied for the patents and agricultural rights to the production of all genetically altered mammals that could secrete therapeutic proteins in their milk. Nexia Biotechnologies obtained exclusive rights to all results from spider silk research. Patent number 4,736,866 was granted to Du Pont for Oncomouse, which the Patent Office described as a new “composition of matter”. Infogen holds a US patent for activating human egg division through any means (mechanical, chemical, or otherwise) in the cloning process.

Certainly, genetics does not augur solely negative developments for animals. Given the reality of dramatic species extinction and loss of biodiversity, scientists are collecting the sperm and eggs of endangered species like the giant panda in order to preserve them in a “frozen zoo”. It is indeed exciting to ponder the possibilities of a Jurassic Park scenario of reconstructing extinct species (as, for example, scientists recently have uncovered the well-preserved remains of a Tasmanian tiger and a woolly mammoth). In 2001, European scientists cloned a seemingly healthy mouflon lamb, a member of an endangered species of sheep, and ACT produced the first successful interspecies clone when a dairy cow gave birth to a gaur, an endangered wild ox native to Southeast Asia (although it died of an infection only two days later). Currently, working with preserved tissue samples, ACT is working to bring back from extinction the last bighorn mountain goat which was killed by a falling tree in January 2000.23

But critics dismiss this as a misguided search for a technofix that distracts focus from the real problem of preserving habitat and biodiversity. Even if ani-
mals could be cloned, there is no way to clone habitats lost forever to chainsaws and bulldozers. Moreover, the behaviors of cloned animals would unavoidably be altered and they would end up in zoos or exploitative entertainment settings where they exist as spectacle and simulacra. Animals raised through interspecies cloning such as the gaur produced by ACT will not have the same disposition as if raised by their own species and so for other reasons will not be less than "real". Additionally, there is the likelihood that genetic engineering and cloning would aggravate biodiversity loss to the extent it creates monolithic superbreeds that could crowd out other species or be easily wiped out by disease. There is also great potential for ecological disaster when new beings enter an environment, and genetically modified organisms are especially unpredictable in their behavior and effects.

Still, cloning may prove a valuable tool in preserving what can be salvaged from the current extinction crisis. Moreover, advances in genetics also may bypass and obviate pharmering and xenotransplantation through use of stem cell technologies that clone human cells, tissues, or perhaps even entire organs and limbs from human embryos or an individual’s own cells. Successful stem cell technologies could eliminate at once the problem of immune rejection and the need for animals. There is also the intriguing possibility of developing medicines and vaccines in plants, rather than animals, thus producing a safer source of pharmaceuticals and nutraceuticals and sparing animals suffering. None of these promises, however, brighten the dark cloud cloning casts over the animal kingdom, or dispel the dangers of the dramatic alteration of human life.

CLONES R’ US: THE PORTENT OF HUMAN REPLICATION

Human cloning could be done tomorrow.
Alan Trounson, In Vitro Fertilization clinician, Monash University

Even if we had to transfer the laboratory on a boat located in international waters, the human cloning project will continue.
Rael, ex-race car driver and founder of Clonaid

Thus, the postmodern adventure of the reconstruction of nature begins with the genetic engineering of transgenic animals and the cloning of numerous animal species for agricultural, medical, and “scientific” purposes, while in fact biotechnology is being positioned as a field for prodigious profits. The fate of the human is inseparable from the future of our fellow animal species, as they are the launch pad for the redesign of human nature. With the birth of Dolly, a new wave of animal exploitation arrived, and anxiety grew about a world of cloned humans that scientists said was technically feasible and perhaps inevitable. Ian Wilmut, head of the Roslin Institute team that cloned Dolly, is an example of an animal and stem cell cloning advocate who repudiates human replication. Like Jaenisch and numerous others, Wilmut believes human cloning is unethical, unnecessary,
and dangerous, and that the inevitable deformities would be cruel to both the parents and children involved (see Wilmut et al., 2000).

Wilmut feels human cloning should not be attempted until there is a quantum leap in cloning technologies, an advance he feels is at least 50 years away. Most of all, Wilmut fears that the drive toward human cloning could cause a backlash against all cloning, and thereby thwart the far more important research into cloning stem cells for therapeutic purposes. For Wilmut, the authentic purpose for biotechnology is to cure disease and improve agriculture. Whatever his intention, however, many scientists and entrepreneurs inspired by the Roslin Institute’s work have aggressively pursued the goal of human cloning as the true telos of genomic science. Driven by market demands for clones of infertile people, of those who have lost loved ones, of gays and lesbians who want their own children, of those who want to clone themselves or family members to provide needed organs, and of numerous other client categories, doctors and firms are actively pursuing human cloning.

THE RACE TO CLONE HUMANS

With fame and fortune awaiting the first Cloneumbus to land on the new terrain of posthuman breeding, it is no surprise numerous champions of reproductive cloning have emerged. The first visible human cloning advocate was Richard Seed who shocked the world in 1997 by declaring that he was prepared to clone himself, later appending the project to his wife. Infertility specialists Severino Antinori and Panayiotis Zanos openly announce their intent to clone humans, in defiance of any national law if necessary. The Council for Secular Humanism is a broad coalition of scientists, philosophers, authors, and politicians who decry the influence of religion in the cloning debates and champion the cause of human cloning, as they assure us that cloning will not create any “moral predicaments beyond the capacity of human reason to resolve”. The Human Cloning Foundation is an Internet umbrella group for diverse clonistas who see cloning as the best hope for curing infertility and diseases and promoting longevity.

No doubt the most notorious of the clonistas are the Raelins, a wealthy Quebec-based religious cult who believe that alien scientists cloned human beings in space laboratories. In December 2002, Raelins claimed that their “Cloinaid” project had delivered on their promise to produce the first human clone, and that more clones would soon be born. This of course ignited a firestorm of media attention, with Raelin leader Bridgette Boiseller promising to release evidence of the revolutionary breakthrough in science. The evidence never materialized, however, leading many to conclude that the entire affair was a sordid hoax all-too eagerly exploited by the media.

One bioethicist estimates that there are currently at least a half dozen laboratories around the world doing human cloning experiments. While cloning human beings is illegal in the US, Britain, German, Japan, and elsewhere, in many countries (e.g., Asia, India, Russia, and Brazil), it is perfectly legal and human
cloning is being pursued both openly and clandestinely. In fact, there are at least two known cases where human embryos have been cloned, but the experiment was terminated. According to Wired (9.02, February 2001, p. 128):

In 1988, a scientist working at Advanced Cell Technology in Worcester, Massachusetts took a human somatic cell, inserted it into an enucleated cow egg, and started the cell dividing to prove that oocytes from other species could be used to create human stem cells. He voluntarily stopped the experiment after several cell divisions. A team at Kyung Hee University in South Korea said it created an embryonic adult human clone in 1999 before halting the experiment, though some doubt that any of this really happened. Had either of these embryos been placed in a surrogate mother, we might have seen the first human clone.

In November 2001, ACT created a global sensation with (misleading) reports they had cloned human embryos (see below). While many scientists think human cloning is possible and inevitable, some think it is likely human clones already exist, perhaps in hideous form where they are studied on an island, such as was portrayed in H.G. Wells’ The Island of Dr. Moreau (see Best and Kellner, 2001). The breeding of monstrosities in animal cloning, the pain and suffering produced, and the possibility of assembly-production of animals and humans should give pause to those who want to plunge ahead with human cloning. Animal cloning experiments produced scores of abnormalities and it is highly likely that human cloning would do the same.27

The possibilities of producing serious human defects raises ethical dilemmas as well as the question of the social responsibility involved in the care of deformed beings produced by human cloning experiments. Fervent pro-cloners like Anti-nori and Zavos deny there are any risks to cloning humans and claim that there is “enough information” to proceed with confidence. If pressed to admit there might be “mistakes”, they simply write them off as necessary means to the end of reproductive freedom and medical progress. Ignoring the availability of frozen embryos and existing children for adoption, they claim the “right to reproduce” as crucial for human beings, and argue that this “right” – which in fact does not exist in any social constitution – outweighs any risks to the baby or to society as a whole, once the doorway is opened to the world of human cloning.

But, at present, what sane person would want to produce a possibly freakish replication of him or herself or a dead loved one? What are the potential health risks to women who would be called upon to give birth to human clones, at least before artificial wombs make women, like men, superfluous to the reproductive process? Who will be responsible for caring for deformed human clones that parents renounce? Is this really an experiment that the human species wants to undertake so that self-centered infertile couples can have their own children (apparently some can only love a child with their own DNA), or misinformed narcissists can spawn what they think will be their carbon-copy twins? What happens if human clones breed? What mutations could follow? What might result from long-range tampering with the human genome as a consequence from genetic engineering and cloning?
Furthermore, until scientists figure out how to clone minds, cloning inevitably involves reproduction of bodily DNA, raising questions of what sorts of minds cloning might produce. What if cloned humans appear to be mentally defective or aberrant as a result of the technology? What might be the long-term costs of the perceived short-term benefits that cloning may produce? Already, scientists are raising the issue of “cognitive deficiencies” in cloned animals and certainly this problem is relevant to the project of human cloning.

In addition, as the TV-series “Dark Angel” illustrates, there is the possibility of a military appropriation of cloning to develop herds of Übermenschen (although no two would be exactly alike). Indeed, will commodification of the humane genome, eugenics, designer babies, and genetic discrimination all follow as un-avoidable consequences of helping infertile couples and other groups reproduce, or will human cloning become as safe and accepted as in vitro fertilization (IVF), once also a risky and demonized technology? Will developing countries be used as breeding farms for animals and people, constituting another form of global exploitation of the have-nots by the haves? What are the consequences of the commodification of the human genome, and the patenting of stem cells and their research methods?

With so many questions and uncertainties that arise, it is clear that the project of human cloning is being approached in a purely instrumental and mechanistic framework that does not consider long-term consequences to the human genome, social relations, or ecology. Or, if social relations and consequences are considered, likely this is from the perspective of improving the Nordic stock and creating an even deeper cleavage between rich and poor since, without question, only the rich will be able to afford genetically designed and/or cloned babies with superior characteristics. This situation could change if the state sponsors cloning welfare programs or the prices of a “Gen-Rich” (Silver, 1998) baby drop like computers, but the wealthy will already have gained a decisive advantage and “democratic cloning” agendas beg the question of the soundness of human cloning in the first place.

PROBLEMS WITH HUMAN CLONING

Thus, we have serious worries about biotechnology not only due to the colonialist history of science and capitalism, the commodification of the life sciences, and how genetic technologies have already been abused for profit and power by corporations like Monsanto and Du Pont, but also because of the reductionistic paradigm informing molecular engineering.28 Ironically, while biology helped to shape a postmodern physics through evolutionary and holistic emphases, the most advanced modes of biological science – genetic engineering and cloning research – have not advanced to the path of holism and complexity (see Best and Kellner, 2001). Rather, biotechnology seems to have regressed to the antiquated errors of atomism, mechanism, determinism, and reductionism. The new technosciences and the outmoded paradigms (Cartesian) and domineering mentalities (Baconian)
that informs them generates a volatile mix, and the situation is gravely exacerbated by the commercial imperatives driving research and development, the frenzied “gene rush” toward DNA patenting.

Yet if human cloning technologies follow the path of IVF technologies, they eventually will become widely accepted, even though currently large percentages of US citizens oppose it (90% according to some polls in summer 2001). Alarming-ly, scientists and infertility clinics have taken up human cloning technologies all-too-quickly. After the announcement of the birth of Dolly, many were tripping over themselves to announce emphatically that they would never pursue human cloning. Nonetheless, only months later, these same voices began to embrace the project.29 The demand from people desperate to have babies, or “resurrect” their loved ones in conjunction with the massive profits waiting to be made, is too great an allure for corporations to resist – a demand begging for supply. The opportunistic attitude of cloning advocate Panayiotis Zavos is all-too-typical: “Ethics is a wonderful word, but we need to look beyond the ethical issues here. It’s not an ethical issue [!] It’s a medical issue. We have a duty here. Some people need this to complete the life cycle, to reproduce”.30

In his attempt to dispel the ineliminable moral quandaries surrounding cloning, Zavos has confused “need” with desire, and reduced humans to crude reproduction machines. Yet, as his statement shows, defenders of cloning and biotechnology argue for the primacy of individual reproductive rights over potential risks to society as a whole. They believe that science is valuable to the extent that it increases freedom, individuality, and choice, as if embryos were a soft drink and what an “individual” chooses in this case is not of enormous consequence for future humanity, to say nothing of the deformed children who surely will be the guinea pigs of science. Of them, Zavos can only say, “We’re ready to face those mishaps . . . It’s part of any price that we pay when we develop new technology”.31

There are indeed legitimate grounds for anxiety and loathing of cloning, but most fears of human cloning are irrationally rooted in what Leon Kass claims is an intuitive human repulsion – the “yuk” factor – toward something that is seemingly “unnatural” (see Kass, 1998, and the critique by Pence, 1998b). Intuitions are hardly a sound basis for rooting a critique of technology, especially because perceptions can quickly change from shock to acceptance. Clonophobic arguments from intuition are thus weak. The standard psychological objections, in particular, are poorly grounded. We need not fear Hitler armies assembling because the presumption of this dystopia – genetic determinism – is false (although certain desirable traits could be cloned which might prove useful for military powers). Nor need we fear individuals unable to cope with lack of their own identity since identical twins are able to differentiate themselves from one another relatively well and they are even more genetically similar than clones would be. Nor would society always see cloned humans as freaks, as people no longer consider test-tube babies alien oddities, and there are anywhere from 20,000 to 200,000 such humans existing today (figures vary widely). The physiological and psychological dangers are real, but in time cloning techniques could be perfected so that cloning
might be as safe, if not safer than babies born through a genetic throw-of-the-dice, or IVF.

Similarly to Leon Kass, Francis Fukuyama (2001) argues that reproductive cloning is an assault on human dignity. Fukuyama qualifies his earlier thesis (1992) that society has reached “the end of history” in the sense that liberal capitalism has defeated its main ideological competitors, communism and fascism, and brought moral evolution to its magnificent close. While he does not change the problematic political argument that liberalism is the culmination of human political culture, he describes his profound anxiety that we are entering a “posthuman” stage of history. This era will take off when biotechnology overrides natural limits set on human modification and set us on a dizzying and dangerous path of radical change.

Fukuyama advances an Aristotelian argument that roots ethics and politics in a substantive notion of human nature. Rejecting the “naturalistic fallacy” which claims that “is” cannot be derived from “ought”, Fukuyama argues that human nature provides a normative foundation to develop notions of the good life and to address core issues in the debate over biotechnology. His concept of human nature is relatively complex in that it acknowledges a dialectic of nature and culture in shaping human beings and emphasizes that the human species is malleable. But he rejects the idea that human nature is infinitely plastic, arguing that despite dynamic changes in human evolution there are important biological constants that abide transhistorically and cross-culturally. If human beings do not adapt to or flourish under repressive governments, for instance, it is due to elements in their nature that resist being molded in negative ways.32

Fukuyama worries, however, that biotechnology has the potential to reshape our nature in negative ways. Biotechnology has distinct political implications in that it could alter liberal democracy and the nature of politics itself by manipulating human personalities, behaviors, and traits. Invoking the dystopia of Huxley’s Brave New World throughout the book, he fears that human rights and liberal equality is threatened by the spectre of eugenics. Even if germ line engineering never materializes, he observes that genomics, neuropharmacology, and the prolongation of life will transform notions of human equality and give societies new possibilities for manipulating biology and society. His most general fear is that biotechnology will cause us to lose our humanity, “some essential quality that has always underpinned our sense of who we are” (p. 101).33 With this dehumanization comes a loss of human dignity, some “factor X” that involves the universal human demand for recognition that one person is basically equal to one another. Biotechnology threatens to disrupt complex, long-standing evolutionary processes that we manipulate at our peril. It will undermine key human qualities such as genius or ambition, and eradicate the depth of human experience that is enhanced through struggle and suffering. Biotechnology also threatens to create a new class system based on genetics, and will lead to notions that some individuals inherently are better than others, thereby dissolving liberal democracy.

The state and market could ensure there is full democratization of eugenic technologies, he recognizes, but this would only universalize the other problem of
distorting human nature. Not regarding a ban on biotechnology as a plausible goal, he calls for national and international regulation of it. For those who proclaim the genie is out of the bottle, Fukuyama points to past precedents in human history such as with nuclear weapons and energy technologies where humanity has been able to control the spread of powerful technologies.

Essentialist arguments assume the existence of a human species essence that somehow is violated by technological manipulations of the body. From a fluid evolutionary perspective, the concept of species – as something static, changeless, and ontologically sealed from other life forms – has always been suspect as ultimately each “species” is related to every other and all share the same DNA material that enable life to exist on this planet. This not mean, as Fukuyama rightly argues, that there are not species specific characteristics, but it does dispel pre-Darwinian concepts that species are self-enclosed essences.

While other species such as birds and chimpanzees make and use tools, technology has been a major force in the evolution of human intelligence and social life. The human being is a natural being that changes, develops, and evolves through interaction with specific technologies and social conditions. As Marx and Engels observed in their theory of praxis, as we change and shape our world, we change and shape ourselves. Far from something alien to human nature, technology has been part and parcel of the human condition. Although the line between biology and technology has become increasingly blurred, it was never an absolute distinction in the emergence of the hominid line that some 5-8 million years ago evolved into Homo sapiens. While there is nothing about human cloning or genetic alteration to make biotechnology more or less “unnatural” than other technologies, such transformations nonetheless would constitute major new developments that bring about a postbiological mode of human reproduction and a posthuman culture that implodes distinctions among human beings, animals, and machines, as humanity undertakes the project of its own genetic redesign.

Rather than demonizing cloning technologies from a priori essentialist premises that they violate the commands of God or the laws of nature, and are therefore inherently objectionable, we argue that they are better assessed in light of empirical realities of what already has happened with animal cloning, the current commodification of biotechnology, and the consequences that might result from cloning human beings. There is nothing intrinsically wrong with altering “human nature” and, as we have argued, human beings by definition are dynamic self-altering beings. But some changes or mutations are more dramatic and risky than others, and collectively human beings may decide some are safe, ethical, and rational to choose and others are not.

A strong objection against human cloning and genetic engineering technologies is that they could be used to design and mass reproduce desirable traits, bringing about a society organized around rigid social hierarchies and genetic discrimination – as vividly portrayed in the film Gattaca (1997). Fukuyama emphasizes this problem and it was, of course, the nightmare of Aldous Huxley, who continued H.G. Wells’ speculations on a genetically engineered society and creation of new species. Indeed, with only trivial qualifications, Huxley’s Brave New
World ([1932] (1958a)) of genetic engineering, cloning, laboratory conception, addictive pleasure drugs (soma), entertainment and media spectacles, and intense social engineering has arrived. Huxley thought cloning and genetic engineering were centuries away from realization, but in fact they began to unfold a mere two decades since his writing of Brave New World in the early 1930s. Technocapitalism cannot yet, for instance, biologically clone human beings, but it can clone them in a far more effective way – socially. Whereas biological clones would have a mind of their own, since the social world and experiences that conditioned the “original” could not be reproduced, social cloning according to a given ideological and functional model is far more controlling. That is why Huxley’s sequel work, Brave New World Revisited ([1958] 1989b) focused on various modes of psychological conditioning and mind control.

Of course, as Baudrillard argues (2000), cloning is connected as well to the fantasy of immortality, to defeating the life-death cycle. Techno-utopians fantasize about the possibility of cloning one’s body, or uploading one’s memories into another body or a machine, thereby achieving immortality and alleged continuity of selfhood. The Raelians promote cloning as a chance for “eternal life”. In the current social setting, it is no surprise that cryogenics – the freezing of dead human beings in the hope they might be regenerated in the future through medical advances – is a booming global industry.

Defenders of cloning and biotechnology argue that genetic technologies will increase individuality, freedom, and choice, enabling people to design their own children and to alter their own bodies. Already with preimplantation genetic diagnosis, parents can screen out embryos at risk of disease and select those most likely to be healthy, as they also can know in advance the sex of the their child. Soon, parents and doctors might be able to isolate and remove genes that cause obesity, addictions, and a host of fatal illness, as well as to engineer genes that would enhance intelligence, strength, athleticism, physical attractiveness, and other desirable traits.

Along with Lee Silver, Gregory Stock is perhaps the most utopian advocate of germ line engineering (GLE), which, unlike gene therapy, makes potentially permanent changes in the human genome. Cloning is a conservative technology as it simply copies existing genetic information to create a human simulacrum, while GLE is revolutionary in that it alters human genes and makes them susceptible to design. Stock aggressively asserts the positive potential of GLE and believes that it is the next stage in the realization of parent desires to create the best life for their children. Against cyborg champions like Ray Kurzweil (2000), Stock believes that the most important engines of change in the human future will not be computers and implants, but rather genetic manipulation. We will remain largely fleshy beings, but biology will radically change the coding of that flesh. Stock also claims that the dramatic changes GLE will bring are inevitable; history is not a tale of self-restraint, he finds, and change is accelerating all the time. The great promise of GLE, then, is that it will “improve” our genetic assets as it provides us with more choice and freedom: “Human conception is shifting from chance to conscious design’” (p. 75).
Stock acknowledges the complexity involved in genetic manipulation, but thinks that through technologies such as artificial chromosomes science can precisely define and control modifications in the human genome. He denies that the charges GLE makes need be permanent modifications in the genome, and therefore ought to be rejected as too dangerous, because he believes the artificial chromosomes can be turned on and off at will. This also allows him to override the objection that parents are wrongly determining physical traits for their children insofar as he believes that children could simply switch them off if they so choose and reclaim their natural heritage. Stock’s reliance on a technofix for problems that might arise with complex biological systems is most unconvincing. Quite likely, Stock’s intentional evolution will be plagued by unintended consequences. Stock effectively rebuts the argument that GLE will result in the homogenization of the human genome, as even if millions of people employ the technology billions will not. But given that advertising models will inevitably influence the kinds of traits future humans will attempt to design, he fails to see that GLE will bring the trivialization of humanity as advertising ideologies would become absorbed into the genes themselves.

Currently, the human race stands at a crossroads and must make crucial choices concerning the future of the human, including the issue of GLE. Whatever one’s philosophical and ethical conceptions of cloning, it is clear that at present human cloning is unacceptable. Cloning proponents argue that it took hundreds of attempts to develop a test-tube baby and that trial-and-error is simply the scientific method. We need to ask, however, if such costs are legitimate when the benefits are not yet clear. While one might sympathize with couples that fervently desire a child, legions of unwanted children await adoption, and it is difficult to justify the great leap forward to cloning through these kinds of rationale.

THERAPEUTIC VS. REPRODUCTIVE CLONING: THE DEBATE OVER STEM-CELL RESEARCH

It is not unrealistic to say that stem cell research has the potential to revolutionize the practice of medicine.
Dr. Harold Varmus, former NIH director

The 20th century was the drug therapy era. The 21st century will be the cell therapy era.
George Daley, biologist with the Whitehead Institute for Biomedical Research, Cambridge, Massachusetts

Full-blown human reproductive cloning is problematic for numerous reasons, and we reject it on the grounds that it lacks justification and portends a world of eugenics and genetic discrimination rooted in the creation and replication of desired human types. Yet scientists are also developing a more benign and promising technology of stem cell research, or “therapeutic cloning”. The controversy around embryonic stem cell research – because it involves using and destroying
cells from frozen human embryos – remains one of the key debates of our time, important enough to provoke a major policy crisis for the Bush Administration and to warrant an address to the nation on prime-time TV in August 2001. Rarely do scientific debates erupt into the public forum, and although the technical aspects are difficult and complex, the ethical and medical stakes are clear enough to command a national debate.

In 1998, Dr. James A. Thomson, a developmental biologist at the University of Wisconsin, announced to the scientific world that he had isolated embryonic stem cells, thus portending a new era of “regenerative medicine” based on the renewal and recreation of the body’s cells. Stem cells are the primitive master cells of the body that differentiate into functions like skin, bone, nerve, and brain cells (the body produces over 200 cell types). The goal of stem cell research is to program the development of stem cells toward specific functions in order to replace lost or damaged cells, tissues, and organs. Using similar technological breakthroughs such as led to Dolly, stem cell research involves cloning cells from a wide range of human tissue, or very young human embryos (around 5 days of age) and aborted fetal tissues.

In the debates over stem cell research, an important distinction emerged between adult stem cells, that are derived from blood, bone marrow, fat and other tissues, and embryonic stem cells from discarded IVF cultures, aborted fetuses, or embryos created in a lab. While scientists are experimenting with adult stem cells, the current consensus is that embryonic cells are the most pliable and hence have the most regenerative potential. In July 2001, the National Institute of Health issued a report that “Stem cells from adults and embryos both show enormous promise for treating an array of diseases but at this early stage, cells from days-old embryos appear to offer certain key advantages”. As Ceci Connolly summarized it: “Embryonic stem cells are more plentiful and therefore easier to extract, can be grown and made to multiply in the laboratory more easily and appear to have the uncanny ability to develop into a much wider array of tissues”. In fact, embryonic and adult stem cell research may each contribute to significant medical and health advancement. According to Senator Bill Frist (R-Tenn), the only medical doctor in Congress, an opponent of abortion, and key science advisor to the Bush administration: “because both embryonic and adult stem cell research may contribute to significant medical and health advancement, research on both should be federally funded within a carefully regulated, fully transparent framework that ensures respect for the moral significance of the human embryo”.

Scientists argue that therapeutic cloning has tremendous medical potential. Early in life, for example, each individual could have their stem cells frozen to create their own “body repair kit” if they developed a disease or even lost a limb. There would be no organ shortages, no rejection problem, and no need for animal exploitation as the cells would be their own. Although there has of yet been no significant advances in human research, and the results so far confined to animals are not necessarily applicable to human beings, stem cell research nonetheless shows remarkable potential for revolutionary breakthroughs in medicine. Among their achievements with mice, rats, pigs, and fetal monkeys, scientists have di-
rected stem cells to produce insulin, to induce growth of brain cells, and to form new blood vessels in hearts, thereby suggesting immense contributions to curing diabetes, Alzheimer’s or Parkinson’s, and heart disease. Still, while industries and media often hype the research as producing immanent medical revolutions, many scientists believe breakthroughs in gene therapy and therapeutic cloning are likely decades away and that expectations have been unduly raised.

Another crucial distinction involves using embryonic stem cells from IVF discards and cloning embryos for the explicit sake of research. Whereas Britain allows both kinds of stem cell research, and thus condones embryo cloning for therapeutic purposes, the Bush administration highly restricts the use of IVF stem cell lines and condemns embryonic cloning. Yet many scientists argue that the ideal source of stem cells for regenerative medicine would not only be those derived from IVF embryos, but from embryos cloned from a patient’s own cells, as the derived stem cells would be one’s own and in theory far less susceptible to rejection. Thus, there is a medical justification for cloning human embryos and embryo cloning will be crucial to regenerative medicine.

On January 22, 2001, Britain became the first country to legalize human embryo cloning, with the proviso, perhaps impossible to enforce, that all clones would have to be destroyed after 14 days of development, and never implanted in a human womb. Britain thus endorsed therapeutic cloning, while banning reproductive cloning. On the whole, Britain seems to have more scientifically advanced and democratic political guidelines and policies on cloning than the US. While a ban on human reproductive cloning is pending, therapeutic cloning is allowed under rigorous guidelines. Britain was ahead in the process of IVF since the birth of Louise Brown in England in 1978. Moral philosophers have been debating bioethical issues and there has been much public discussion. Parliament set up an agency on Human Fertilization and Embryology Authority that license fertility clinics and research institutions that study human embryos. The agency has kept detailed statistics of the number of human embryos created, planted and destroyed in fertility clinics. The UK is establishing a stem cell bank that would be run as a public resource, in a way similar to the Human Genome Project. Hence, existing stem cell lines and techniques are available to any qualified researcher, and Britain has passed progressive laws banning genetic discrimination and mandating that therapies and medical advances that come out of genetic research will be available to and benefit everyone through its National Health Service.

Many religious groups and hard-core technology critics vituperate against stem cell research as “violating” the “inherent sanctity of life”. To be sure, there is an ethical issue at stake in creating embryos for research purposes, or even using IVF cells, as living matter is being used as a means to some end other than its own existence. Clearly, using IVF cells that are going to be destroyed regardless is less objectionable than cloning an embryo for the sake of “harvesting” its cells then terminating it, but many religious groups and conservatives nonetheless vehemently oppose all forms of stem cell research and any manipulation of life, no matter what profound medical consequences may result. “Anyone truly serious about preventing reproductive human cloning must seek to stop the process from...”
the beginning”, Leon Kass, later to be Bush’s cloning czar, proclaimed before a House judiciary subcommittee in June 2001.40

To challenge stem cell research, many conservatives (and some liberals) are recycling philosophical arguments from earlier debates over abortion. The Pope and critics of stem cell research argue that once a sperm and egg are mixed into an embryo, no matter what the medium, there is a human life with all of its rights and sacredness. Others claim that a human life exists only when the embryo is implanted in a mother and has undergone the beginnings of the maturation process. Some medical experts assert that 14 days is the crucial dividing line when a backbone and organs begin to develop, while many pro-choice proponents argue that a fetus itself is not yet fully a human being. These earlier philosophical arguments have been revived in the stem-cell debate to legitimate conflicting scientific and political positions.41 In the context of stem cell research, religious conservatives recycle the same question-begging argument: (1) a human embryo is a human being; (2) it is wrong to take a human life; (3) therefore, it is wrong to “destroy” an embryo. The most controversial claim of the argument, in premise (1), is either just assumed, or defended through dogmatic claims that “life begins at conception”, when, arguably, there is no real conception in a petri dish holding a 5-day-old cell mass.42

Ultimately, the debate comes down to the philosophical issue of what constitutes a human being. Opponents of therapeutic human cloning and embryonic stem cell research claim that “conception” takes place when an embryo is produced, even in a petri dish. Critics of this notion of human life argue that an embryo is a merger of sperm and egg that takes place in five or six days and is called a blastocyst, which scientists distinguish from a fetus. Scientists further claim that an embryo only attains fetus-status at around 14 days when it develops a “primitive streak”, the beginnings of a backbone. Up until that point, a single embryo can divide into identical twins, and two embryos can merge into one, leading Ronald Green, a Dartmouth bioethicist to conclude: “It is very clear that you cannot speak of a human individual in the first 14 days of development. How can one speak of the presence of an individual soul if the embryo can be split into two or three?”43

Clearly, it is difficult to say when human life begins, and claims that it emerges “at conception” are simplistic. So far human life has only been produced from fetuses that mature in the womb of a woman’s body, and thus we have trouble conceiving that 5 day-old embryos in a petri dish are human. It also might be pointed out that only about one in eight embryos implanted through IVF achieves fetal status, and few conservative critics worry over the doomed embryos or question the ethics of IVF as a whole, a technology that produces surplus cells for medical research. The fact that embryos typically used for stem cell research are leftover from couples using in vitro fertilization, and are marked for destruction regardless, strongly undercuts the force of the argument against embryonic stem cells.44

Indeed, the slippery slope argument beloved by conservatives (the direct and unavoidable path from stem cell research to fetus farms and a society peopled
by clones) is easily turned against them. In the age of cloning where possibly any cell can be replicated and turned into an embryo, one might argue that it is unethical even to scrape any skin cells as they too are potential human beings. Silly, perhaps, but this is also an indicator of the unreality of the postmodern adventure. In an amazing alchemy, scientists can directly transform cells of one kind into another. PPL Therapeutics succeeded in transforming a cow’s skin cell into a basic stem cell, and then refashioned it as a heart cell. Further, researchers are working on cultivating spermless embryos, studying how to prod unfertilized eggs to grow to produce stem cells. Geron has created heart cells that beat in a petri dish. Clearly, the implications of stem cell research are staggering.

One should not see the use or creation of human embryos for medical resources as a trivial issue, but the debate over therapeutic cloning involves competing values and conceptions of the nature of a human being. This is a conflict between a small clump of cells no bigger than the period at the end of this sentence, and full-fledged human beings in dire medical need. In a conflict between a tiny ball of non-sentient cells or fetuses that would be disposed of regardless, and full-fledged human beings suffering from diseases that lack a cure, most people would choose the latter category of human persons.

In June 2002, however, an attempt to ban all human cloning, supported by President Bush, was defeated in the US Senate, but then passed by the House in February 2003. Some conservatives are being won over because advocates of embryonic research reject the category of “therapeutic cloning” and even “embryo”. The argument is that it is not a question of “cloning”, but rather of “somatic cell nuclear transfer” or “regenerative medicine” that works on eggs in a test tube which have not been fertilized by sperm, and thereby cannot be considered research on human embryos. This change in terminology won over some conservatives who were being pressured to support potentially significant medical research, although critics decried the effort as use of “linguistic cloaking devices” and continued their polemic against all cloning.

By March 2003, a broad movement had emerged, however, to undertake embryo stem cell research in the US supported by state legislatures, universities, private foundations, hospitals and corporations, leading to a successful initiative in California in 2004 that legalized government funding for stem cell research. Thus, while many conservatives defend the “sanctity” of embryonic cells, thousands of people continue to suffer and die from Alzheimer’s, Parkinson’s disease, diabetes, paralysis, and other afflictions. This is a strange position for “pro-life” and “compassionate” conservatives to defend. The entire moral quandary may be blunted, however, as scientists are now discovering ways to use stem cells derived from umbilical cords, bone marrow, and even fat and brain cells, and have cloned and implanted kidneys in a cow.
DEFERRING THE BRAVE NEW WORLD: CHALLENGES FOR DEMOCRACY

Cloning is inefficient in all species. Expect the same outcome in humans as in other species: late abortions, dead children and surviving but abnormal children.
Ian Wilmut

Is there any risk too great or any reason too trivial for you not to attempt human cloning?
Alta Charo, University of Wisconsin bioethicist, speaking to Antinori and Zavos

The enormous collective project of conscious human evolution has begun.
Gregory Stock

By the turn of the new millennium, a technical and esoteric debate over stem cells, confined within the scientific community during the past years, had moved to the headlines to become the forefront of the ongoing science wars – battles over the cultural and political interpretations and implications of science (see Best and Kellner, 1997). The scientific debate over stem cell research in large part is a disguised culture war, and conservatives, liberals, and radicals have all jumped into the fray. In our own case, for example, coming from a perspective of critical theory and radical democratic politics, we reject conservative theologies and argue against confections of religion and the state. Likewise, we question neoliberals acceptance of corporate capitalism and underscore the implications of the privatization of research and the monopolization of knowledge and patents by huge biotech corporations. In addition, we urge a deeper level of public participation in science debates than do conservatives or liberals and believe that the public can be adequately educated to have meaningful and intelligent input into technical issues such as cloning and stem cell research.

As we have shown, numerous issues are at stake in the debate over cloning, having to do not only with science, but also with religion, politics, economics, democracy, and the meaning and nature of human beings and all life forms as they undergo a process of genetic reconstruction. Thus, our goal throughout this paper has been to question the validity of cloning project, particularly within the context of a global capitalist economy and its profit imperative, a modernist paradigm of reductionism, and a Western sensibility organized around the concept of the domination of nature. Until science is recontextualized within a new holistic paradigm informed by a respect for living processes, by democratic decision making, and by a new ethic toward nature, the genetic sciences on the whole are in the hands of those governed by the imperatives of profit. Moreover, they are regulated by politicians who do not have a good grasp of the momentous issues involved, requiring those interested in democratic politics and progressive social change to educate and involve themselves in the politics of biotechnology.

We have already entered a new stage of the postmodern adventure in which animal cloning is highly advanced and human cloning is on the horizon, if not
now underway. Perhaps little human clones are already emerging, with failures being discarded, as were the reportedly hundreds of botched attempts to create Louise Brown, the first test-tube baby, in 1978. At this stage, human cloning is indefensible in light of the possibility of monstrosities, dangers to the mother, burdens to society, failure to reach a consensus on the viability and desirability of cloning humans, and the lack of compelling reasons to warrant this fateful move. The case is much different, however, for therapeutic cloning, which is incredibly promising and offers new hope for curing numerous debilitating diseases. But even stem cell research, and the cloning of human embryos, as we have seen, is problematic, in part because it is the logical first step toward reproductive cloning and mass production of desired types, which unavoidably brings about new (genetic) hierarchies and modes of discrimination.

We thus need to discuss the numerous issues involved in the shift to a posthuman, postbiological mode of existence where the boundaries between our bodies and technologies begins to erode as we morph toward a cyborg state. Our technologies are no longer extensions of our bodies, as Marshall McLuhan stated, but rather are intimately merging with our bodies, as we implode with other species through the genetic crossings of transgenic species. In an era of rapid flux, our genotypes, phenotypes, and identities are all mutating. Under the pressure of new philosophies and technological change, the humanist mode of understanding the self as a centered, rational Subject has transformed into new paradigms of communication and intersubjectivity (see Habermas, 1984, 1987) and information and cybernetics (see Hayles, 1999).

Despite these shifts, it is imperative that elements of the modern Enlightenment tradition be retained, as it is simultaneously radicalized. Now more than ever, as science embarks on the incredible project of manipulating atoms and genes through nanotechnology, genetic engineering, and cloning, its awesome powers must be measured and tempered through ethical, ecological, and democratic norms in a process of public debate and participation. The walls between “experts” and “laypeople” must be broken down along with the elitist norms that form their foundation. Scientists need to enter dialogical relations with the public to discuss the complexities of cloning and stem cell research, to make their positions clear and accessible, as well as accountable and responsible, while public intellectuals and activists need to become educated in biotechnology in order to engage in debate in the media or public forums on the topics.

Scientists should recognize that their endeavors embody specific biases and value choices, subject them to critical scrutiny, and seek more humane, life-enhancing, and democratic values to guide their work. Respect for nature and life, preserving the natural environment, humane treatment of animals, and serving human needs should be primary values embedded in science. And when these values might conflict, as in the tension between the inherent value of animals and human “needs”, the problem must be addressed as sensitively as possible.

This approach is quite unlike how science so far has conducted itself in many areas. Most blatantly, perhaps, scientists, hand in hand with corporations, have prematurely rushed the genetic manipulation of agriculture, animals, and the
world’s food supply while ignoring important environmental, health, and ethical concerns. Immense power brings enormous responsibility, and it is time for scientists to awaken to this fact and make public accountability integral to their ethos and research. A schizoid modern science that rigidly splits facts from values must give way to a postmodern metascience that grounds the production of knowledge in a social context of dialogue and communication with citizens. The shift from a cold and detached “neutrality” to a participatory understanding of life that deconstructs the modern subject/object dichotomy derails realist claims to unmediated access to the world and opens the door to an empathetic and ecological understanding of nature (see Keller, 1983; Birke and Hubbard, 1995).

In addition, scientists need to take up the issue of democratic accountability and ethical responsibility in their work. As Bill Joy argued in a much-discussed Wired article (2000), uncontrolled genetic technology, artificial intelligence, and nanotechnology could create catastrophic disasters, as well as utopian benefits. Joy’s article set off a firestorm of controversy, especially his call for government regulation of new technology and “relinquishment” of development of potentially dangerous new technologies, as he claimed biologists called for in the early days of genetic engineering, when the consequences of the technology were not yet clear. Arguing that scientists must assume responsibility for their productions, Joy warned that humans should be very careful about the technologies they develop, as they may have unforeseen consequences. Joy noted that robotics was producing increasingly intelligent machines that might generate creative robots that could be superior to humans, produce copies of themselves, and assume control of the design and future of humans. Likewise, genetic engineering could create new species, some perhaps dangerous to humans and nature, while nanotechnology might build horrific “engines of destruction” as well as of the “engines of creation” envisioned by Eric Drexler.

Science and technology, however, not only require responsibility and accountability on the part of scientists, but also regulation by government and democratic debate and participation by the public. Publics need to agree on rules and regulations for cloning and stem cell research, and there need to be laws, guidelines, and regulatory agencies open to public input and scrutiny. To be rational and informed, citizens need to be educated about the complexities of genetic engineering and cloning, a process that can unfold through vehicles such as public forums, teach-ins, and creative use of the broadcast media and internet.

An intellectual revolution is needed to remedy the deficiencies in the education of both scientists and citizens, such that each can have, in Habermas’ framework, “communicative competency” informed by sound value thinking, skills in reasoning, and democratic sensibilities. A Deweyean reconstruction of education would have scientists take more humanities courses and engage ethical and political issues involved in the development and implementation of science and technology, and would have students in other fields take more science and technology courses to become literate in some of the major material and social forces of the epoch. C.P. Snow’s “two cultures” provides a challenge for a democratic reconstruction
of education to overcome in an increasing scientific and technological age that requires more and better knowledge of science and the humanities.

Critical and self-reflexive scrutiny of scientific means, ends, and procedures should be a crucial part of the enterprise. “Critical”, in Haraway’s analysis, signifies “evaluative, public, multiactor, multiagenda, oriented to equality and heterogeneous well-being” (Haraway, 1997, p. 95). Indeed, there should be debates concerning precisely what values are incorporated into specific scientific projects and whether these serve legitimate ends and goals. In the case of mapping the human genome, for instance, enormous amounts of money and energy are being spent, but almost no resources are going to educating the public about the ethical implications of having a genome map. The Human Genome Project spent only 3 to 5% of its $3 billion budget on legal, ethical, and social issues, and Celera spent even less.51

A democratic biopolitics and reconstruction of education would involve the emergence of new perspectives, understandings, sensibilities, values, and paradigms that put in question the assumptions, methods, values, and interpretations of modern sciences, calling for a reconstruction of science.52 At the same time, as science and technology co-construct each other, and both coevolve in conjunction with capitalist growth, profit, and power imperatives, science is reconstructing – not always for the better – the natural and social worlds as well as our very identities and bodies. There is considerable ambiguity and tension in how science will play out given the different trajectories it can take. Unlike the salvationist promises of the techoscientific ideology and the apocalyptic dystopias of some of its critics, we see the future of science and technology to be entirely ambiguous, contested, and open. For now, the only certainty is that the juggernaut of the genetic revolution is rapidly advancing and that in the name of medical progress animals are being victimized and exploited in new ways, while the replication and re-design of human beings is looming.

The human race is thus at a terribly difficult and complex crossroads. Whatever steps we take, it is imperative we do not leave the decisions to the scientists, anymore than we would to the theologians (or corporate-hired bioethicists for that matter), for their judgment and objectivity is less than perfect, especially for the majority who are employed by biotechnology corporations and have a vested interest in the hastening and patenting of the brave new world of biotechnology.53 The issues involving genetics are so important that scientific, political, and moral debate must take place squarely within the public sphere. The fate of human beings, animals, and nature hangs in the balance, thus it is imperative that the public become informed on the latest developments and biotechnology and that lively and substantive democratic debate take place concerning the crucial issues raised by the new technosciences.
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NOTES

1 This article draws on work from our 2001 book The Postmodern Adventure and is part of a larger project on cloning and stem cell research. Thanks to Sandra Braman for helpful comments on earlier drafts of our paper.

2 The much-cited figure of “277 failed attempts” at producing Dolly often is used indiscriminately to conjure up a gothic image of a dungeon of monstrosities. As Les Silver (1998, p. 120) explains, “The implication – sometimes stated explicitly – was that many lambs died or were born with genetic malformations. What [the number 277] stood for was the number of fusions that were initially obtained between donor cells and unfertilized eggs. Only 29 of these fused cells actually became embryos, and these 29 embryos were introduced into 15 ewes, of which one became pregnant and gave birth to Dolly”. Nonetheless, as we argue, cloning as a whole is plagued with failures and deformed or sickly creations. See Michael Woods, “Deaths, birth defects hover over cloning process”, Toledo Blade (August 15, 2001) and Gina Kolata, “In Cloning, Failure Far Exceeds Success”, New York Times, December 11, 2001.


7 See our discussion of Wells in Best and Kellner (2001).

8 See “In Test, Japanese Have No Beef with Cloned Beef”, http://www.washingtonpost.com/wpstory/ml/daily/sept99/japan10.htm. According to one report, it is more accurate to refer to this beef as being produced by “embryo twinning”, and not the kind of cloning process that produced Dolly; see “Cloned Beef Scare Lacks Meat”, http://www.wired.com/news/technology/0,1282,19146,00.html. As just one indicator of the corporate will to clone animals for mass consumption, the National Institute of Science and Technology has donated $4.7 million to two industries to fund research into cloning chickens for food. See “Cloned Chickens on the Menu”, New Scientist.com. August 15, 2001.


11 Cited in Heather Moore, “The Modern Day Island of Dr. Moreau”.

12 The MissyPLICITY Project boasts a strong code of bioethics; see http://www.missyliclity.com/.


15 See “Clones Contain Hidden DNA Damage”, www.newscientist.com/news/news.jsp?id=ns9999982; see also the study published in Science (July 6, 2001) which discusses why so many clone pregnancies fail and why some cloned animals suffer strange maladies in their hearts, joints, and immune system.


against copying people. How can anybody take the risk of cloning a baby when its outcome is so unpredictable?"


19 The Westhusin quote is at abcnews.go.com/cloninglaw010705.htm; the “misplaced carbons” quote is in Philip Cohen, “Clone Killer”, www.newscientist.com/news.

20 The fact that science regards so much of the human genome as “junk DNA” is grounds enough for being suspicious of an arrogant attitude that claims science can distinguish between what is essential and inessential, when, in fact, the “inessential” or “junk” DNA may have important functions science is unaware of. Similarly, while negative eugenics seems unqualifi ably promising in its bid to rid the genome of “bad genes” that “cause” certain diseases, it is not clear what the impact may be of deleting such genes from the human genome through something like germ-line therapy that makes permanent alterations in the genetic code.


22 Given this attitude, it is no surprise that in September, 2001, Texas A&M University, the same institution working on cloning cats and dogs, showed off newly cloned pigs, who joined the bulls and goat already cloned by the school, as part of the “world’s first cloned animal fair”. In 2002, Texas A&M claimed to have cloned a cat but in 2003 asserted that “Genetic Savings and Clone has withdrawn its funding from the university, halting the school’s efforts to clone cats and dogs”. See “Texas A&M Halts Companion Animal Cloning”, January 1, 2003 at http://www.avma.org/onlinenews/javma/jan03/030101h.asp.


24 For pro-cloning manifestoes, see also www.secularhumanism.org/library/ff/cloning_declaration_17.3.html; www.humancloning.org and www.reason.com/biclone.html. For the case against cloning, see articles in the special World Watch issue “Beyond Cloning” (July/August 2002) and the discussion below.

25 See http://www.humancloning.org/.

26 Investigative reporter Joe Lauria found a secret cloning lab supposedly carrying out Raetian human cloning experiments, but it appeared abandoned and there are suspicions that the whole effort was a fraud to exploit a desperate family that wanted its child cloned; see London Times, August 12, 2001. Arguments for human cloning are found at www.humancloning.org and www.reason.com/biclone.html. On predictions that human cloning experiments are already underway, see www.wired.com/wired/archive/9.02/project/xpr.html.

27 In August, 2001, some scientists found that humans have two copies of a gene known to cause mutations in cloned non-primate mammals, and so claimed that human cloning may actually be safer than animal cloning. Ian Wilmut, Lee Silver, and others, however, disputed this claim, arguing that the researchers misinterpreted their data and that there are genes other than the one identified that can cause potential problems when expressed in a human clone. See “Study: Human Cloning Is Safer”, www.wired.com, August, 2001.

28 See Harding (1998) for a discussion of how modern science and capitalism co-evolved in the context of colonialism, whereby they underpinched each other in the bid to control other peoples and exploit their knowledges.


30 Cited in Nancy Gibbs, “Baby, It’s You! And You, and You ...”, Time, February, February 19, 2001, p. 50. In March 2001, to great media fanfare, Zavos, Israeli biotechnologist Avi Bin Abraham, and Italian fertility specialist Severino Antinori announced that the group had signed up more than 600 infertile couples and were undertaking human cloning experiments to provide them with children; see “Forum on Human Cloning Turns Raucous”, Los Angeles Times (March 10, 2001). When Zavos and his partner went to Israel to seek permission to do human cloning there, ABC News (March 25, 2001) reported that they received the blessing of an old rabbi, but the Israeli justice minister said that he was against cloning “on moral and ideological grounds”, A University of Pennsylvania ethicist said that Zavos had no medical training, had published no articles in the field, had no qualifications, and that one
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of the dangers of cloning was that frauds were operating in the dangerous minefield of human cloning and exploiting people with false promises. There were also numerous discussions of the failures of animal cloning that were suggesting that human cloning would be highly dangerous and disturbing; see Aaron Zitter, “Perpetual Pets, Via Cloning”, Los Angeles Times (March 16, 2001), Gina Kolata, “Researchers Find Big Risk of Defect in Cloning Animals”, New York Times (March 25, 2001), and the examples that we provide below.

32 Once again, Fukuyama’s neo-liberal politics are smuggled into his concept of human nature as he sees no other social system but capitalism to be compatible with “human nature”. His claim that only capitalism can create a political system that does not interfere with “natural patterns of behavior” (p. 14) takes no account of either past cooperative social systems that fostered healthy bonds among people or the destructive aspects of competitive individualism and class structures under capitalism.

33 Fukuyama is not so generous when it comes to deciding the moral status of nonhuman animals. Unlike Darwin, he defines human animals in sharp opposition to all nonhuman animals and posits “a very important qualitative, if not ontological, leap that occurred at some point” (p. 170) in the evolutionary process that led to human beings. Our “factor X” amounts to everything that distinguishes us in “essence” from all other animals. Consequently, Fukuyama defines human dignity as “the idea that there is something unique about the human race that entitles every member of the species to a higher moral status than the rest of the natural world” (p. 160). The nature and moment of the evolutionary “leap” and the concept of dignity that rests on it are left unexplained, as therefore remain crypto-religious notions often embellished with references to God.

34 Ceci Connolly, “Embryo Cells’ Promise Cited in NIH Study”, Washington Post, July 18, 2001: A01. The NIH notes the preliminary status of the report, the many uncertainties around stem cells, and the need for more research.


37 One key problem is that scientists as of yet have been unable to get stem cells to grow into the specialized types they seek, rather than clumps of different cells. For an important article that punctures much of the hype surrounding stem cell research, see “A Thick Line between Theory and Therapy, as Shown With Mice”, Gina Kolata, www.nytimes.com/2001/12/18/science/life/18MICE.html.

38 See “Britain Oks Human Embryo Cloning”, www.msnbc.com/news/520058.asp and Kristen Philipskis, “U.S. to Clone Brit Policy?”, Wired News, January 24, 2001. In April, 2001, however, Britain prepared to pass laws criminalizing human cloning, and to make sure that genetic treatment was available to everyone through their national health service. See Marjorie Miller, “Britain Proposes Law against Cloning of Humans”, Los Angeles Times (April 20, 2001: A10). After the November 2001 ACT announcement that they had cloned human embryos, however, a loophole was discovered in the law that would allow reproductive cloning despite the fact that the Human Fertilization and Embryology Act sought to ban human cloning. After a High Court judge ruled it was in fact legal to clone embryos, the British House of Lords proposed emergency legislation in late November 2001 to explicitly ban human cloning and have now explicitly banned human reproductive cloning.


41 The philosophical debate over when human life starts is a long-standing one. The Greek philosopher Aristotle choose 40 days into pregnancy, and the 40 day rule was long followed by Jewish and Muslim traditions. The Catholic Church followed this line until 1588 when Pope Sixtus V declared that contraception and abortion were mortal sins; the ruling was reversed, however, three years later until 1859 when Pope Gregory XIV brought the church back to the view that the human embryo has a

42 For a thorough problematization of attempts to define the “beginning point” of life, see Silver (1998).


44 In Britain, “the Human Fertilization and Embryology Authority has reported that some 50,000 babies have been born through in vitro fertilization since 1991, and 294,584 surplus human embryos have been destroyed”. While no official records have been kept in the US, “According to the American Society for Reproductive Medicine, about 100,000 children have been born in the United States by in vitro fertilization, or twice the number in Britain, implying that some 600,000 embryos would have been destroyed if American clinics followed the same five-year storage limit used in Britain. Only a small fraction of the discarded embryos would provide as many stem cells as researchers could use”. See Nicholas Wade, “Stem Cell Issue Causes Debate over the Exact Moment Life Begins”, *New York Times*, August 15, 2001.


50 See the collection of responses to Joy’s article in Wired 8.07 (July 2000). Agreeing with Joy that there need to be firm guidelines regulating nanotechnology, the Foresight Institute has written a set of guidelines for its development that take into account problems such as commercialization, unjust distribution of benefits, and potential dangers to the environment. See www.foresight.org/guidelines/current.html. We encourage such critical dialogue on both the benefits and dangers of new technologies and hope to contribute to these debates with this book.

51 See www.wired.com/news/0.1294.36886.00.html.


53 For a sharp critique of how bioethicists are bought off and co-opted by corporations in their bid for legitimacy, see “Bioethicists Fall under Familiar Scrutiny”, http://www.nytimes.com/2001/08/02/health/genetics/02BioE.html).

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